



Accounting Office report on the basis of special approval
by the Director of Congressional Relations,

4-28-75

**REPORT TO THE SUBCOMMITTEE
ON HEALTH AND HOSPITALS
COMMITTEE ON VETERANS' AFFAIRS
UNITED STATES SENATE**



Comparing Cost And Time
Overruns On Selected
Hospital Construction And
Air-Conditioning Contracts

Veterans Administration

**BY THE COMPTROLLER GENERAL
OF THE UNITED STATES**

MWD-75-50

APRIL 28, 1975

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

B-161994

The Honorable Alan Cranston
Chairman, Subcommittee on Health
and Hospitals
Committee on Veterans' Affairs
United States Senate

Dear Mr. Chairman:

As you requested on August 24, 1973, and as agreed upon in a later discussion with your office, we have reviewed cost and time overruns on selected Veterans Administration (VA) hospital construction and air-conditioning contracts. You were particularly interested in information on contracts awarded to Blackhawk Heating and Plumbing Company, Inc., and National Construction Company and in a comparison of data on Blackhawk with similar data on several other contractors listed in enclosures to your letter.

At VA headquarters we reviewed change orders, time extension authorizations, progress reports, intermediate inspection reports, and final settlement documents related to these contracts. We also discussed these matters with VA officials. The results of our review are contained in appendixes I through IX.

We are preparing separate reports for you on matters relating to the VA contracts awarded to Big 4 Construction Company and on several other matters relating to VA's overall construction program. We are continuing to monitor VA's efforts to comply with section 301 of Public Law 93-245, enacted on January 3, 1974, as it applies to the final settlement VA attempted to reach with the joint venture of Blackhawk and Donovan Construction Company on the Northport, Long Island, New York, VA hospital construction contract.

We will keep your office advised of VA's progress in this regard. It should be noted, however, that the joint venture filed suit against the Government in the U.S. Court of Claims on October 7, 1974 (Case No. 364-74), for \$4.3 million plus interest to which the joint venture believes it is entitled under a settlement agreement of November 1, 1973.

As agreed by your office, we submitted a draft of this report to VA for review and comment on December 19, 1974. By letter dated February 7, 1975 (app. X), the Administrator of Veterans Affairs stated, among other things, that:

"The report is oriented towards simple compilation of data, and, with respect to contracts participated in by the Blackhawk Construction Company, little attempt was made towards subjective analysis. This methodology provides an objective approach to effectively indicate the existence of problems. It does not, however, lend itself to a determination of causal relationships and the danger exists that the reader may infer deficient agency performance due to the negative nature of most of this information. Appropriate caution should be expressed to avoid such inferences."

We agree that the report is entirely a factual compilation of data comparing cost and time overruns for the specific contracts listed in the enclosure to your August 24, 1973, letter. We did not try to identify causal relationships between the overruns and the contractors' performances or VA's supervision of the projects. We also wish to point out that we obtained all of the data contained in the appendixes directly from VA's files and did not, to our knowledge, exclude any available data which would reflect favorably on performance under the contracts.

The Administrator stated also that:

"Since the data show wide discrepancies between the various projects included in the report, we think it is important to point out that the procurement of construction by formal advertising is a highly complex and difficult process. Almost any major construction project involves many change orders and delays, often resulting in additional costs and time. * * *

"There has never been a precise formula or set of rules which can totally prevent the cost overrun problem in construction contracting. However, appropriate steps have been taken by the VA to reduce the incurrence of costs in

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excess of obligated funds. A control system utilizing the Critical Path Method (CPM) in major VA construction programs is now mandatory. * * * We have sound expectations of positive results from the use of this system."

VA's recent implementation of the CPM control system for monitoring should facilitate prompt identification of problems which, if not acted upon, may result in cost overruns. We plan to evaluate this system's effectiveness at some future date.

We did not discuss any of the material in this report with the various construction contractors, nor did we visit any of the construction sites noted herein. Moreover, at the specific request of your office, we did not obtain formal comments on the report from any of the contractors involved. Normally we would do so. Although the information in this report is a matter of record in VA's construction contract files, public disclosure of the report without the benefit of contractor comments, in our opinion, could adversely affect the private interests of some of the contractors involved. We therefore suggest that these circumstances be considered and weighed in the Committee's use of the report.

We plan no further distribution of this report unless you agree or publicly announce its contents.

Sincerely yours,



Comptroller General
of the United States

VA CONTRACTS INCLUDED IN OUR
COST, TIME, AND PERFORMANCE
COMPARISONS

HOSPITAL CONSTRUCTION CONTRACTS

1. Blackhawk Heating and Plumbing Company, Inc., and Donovan Construction Company--joint venture (V1006C-652). To construct a 1,200-bed general medical and surgical hospital and to alter existing buildings at Hines, Illinois.
2. Blackhawk Heating and Plumbing Company, Inc., and Donovan Construction Company--joint venture (V1006C-673). To construct a 480-bed medical, surgical, and neurological hospital and to modernize existing facilities at Northport, Long Island, New York.
3. J. W. Bateson Company, Inc. (V1006C-617). To construct a 1,062-bed medical, surgical, and neurological hospital at Miami, Florida.
4. J. W. Bateson Company, Inc. (V1006C-701). To construct an 811-bed general hospital at San Diego, California.
5. Henry C. Beck Company (V1006C-613). To construct a 984-bed general medical and surgical hospital at Memphis, Tennessee.
6. J. A. Jones Construction Company (V1006C-692). To construct a 720-bed medical, surgical, and neurological hospital at Tampa, Florida.

HOSPITAL AIR-CONDITIONING CONTRACTS

1. Blackhawk Heating and Plumbing Company, Inc., and Klefstad Engineering Company, Inc.--joint venture (V1006C-601). To install an air-conditioning system in eight buildings and to construct an addition to a ninth building and a cooling tower at the VA hospital on Leech Farm Road, Pittsburgh, Pennsylvania.
2. Blackhawk Heating and Plumbing Company, Inc. (V1006C-629). To install an air-conditioning system in Building 1 and to construct a refrigeration plant and a cooling tower at the VA hospital in New York, New York.
3. Blackhawk Heating and Plumbing Company, Inc. (V1006C-658). To install an air-conditioning system in two buildings at the VA hospital in Brooklyn, New York.

4. Klefstad Engineering Company, Inc. (V1006C-579). To install an air-conditioning system in Building 1 at the VA hospital on University Drive, Pittsburgh, Pennsylvania.
5. W. A. Landers Company (V1006C-637). To install an air-conditioning system at the VA hospital in Oklahoma City, Oklahoma.
6. H. Sand & Company, Inc. (V1006C-589). To install an air-conditioning system in four buildings at the VA hospital in Bronx, New York.
7. Associate Engineering Company (V1006C-575). To install an air-conditioning system in 13 buildings at the VA hospital at Jefferson Barracks in St. Louis, Missouri.
8. C. N. Flagg and Company, Inc. (V1006C-591). To install an air-conditioning system in seven buildings at the VA hospital in West Haven, Connecticut.

COST OVERRUNS ON SELECTED
VA HOSPITAL CONSTRUCTION CONTRACTS

Contractor, contract number, and location	1	2	3	4	5	6	7	8
	Amount of contract award	Net additional cost authorized other than by settlements (note a)	Contract cost exclusive of settlements (col. 1 + col. 2)	Additional cost authorized by settlements	Total contract cost (col. 3 + col. 4)	Total contract cost overrun (col. 5 - col. 1)	Percent of cost overrun (col. 6 ÷ col. 1)	Additional amounts in dispute
<u>Blackhawk-Donovan (C-652)</u>								
Hines, Ill.	\$20,862,000	\$1,382,581.67	\$22,244,581.67	\$ 5,750,000	\$27,994,581.67	\$ 7,132,581.67	34	-
<u>Blackhawk-Donovan (C-673)</u>								
Northport, N. Y.	16,289,000	1,636,019.00	17,925,019.00	^b 10,300,000	28,225,019.00	11,936,019.00	73	-
<u>J. W. Bateson (C-617)</u>								
Miami, Fla.	17,552,000	687,447.06	18,239,447.06	-	18,239,447.06	687,447.06	4	-
<u>J. W. Bateson (C-701)</u>								
San Diego, Calif.	34,523,000	751,162.12	35,274,162.12	-	35,274,162.12	751,162.12	2	^c \$2,929,079.86
<u>H. C. Beck (C-613)</u>								
Memphis, Tenn.	16,242,000	917,023.34	17,159,023.34	-	17,159,023.34	917,023.34	6	-
<u>J. A. Jones (C-692)</u>								
Tampa, Fla.	19,557,300	2,127,548.02	21,684,848.02	-	21,684,848.02	2,127,548.02	11	-

^aIncludes change orders, reclaim vouchers, and bond premium adjustments.

^bFinal disposition of \$10.3 million settlement is being withheld pending an audit of all construction claims. As of October 7, 1974, \$6 million had been paid to the contractor. On October 7, 1974, the contractor filed a suit in the United States Court of Claims for payment of the balance of the settlement plus interest.

^cAbout \$2.9 million is for a pending claim based on increased costs alleged to have been caused by, among other things, design deficiencies, changed conditions, practical impossibility of performance and contract changes, work suspensions, and the introduction of a research and development concept into a construction contract.

TIME OVERRUNS ON SELECTED
VA HOSPITAL CONSTRUCTION CONTRACTS

Contractor, contract number, and location	Contract award date	Date of notice to proceed	Estimated completion date	Estimated days required to complete	Actual completion date	Total days expended	Total days' time overrun	Percent of time overrun	Analysis of time overrun		
									Days authorized by change orders and time extensions	Days authorized by final settlement	
<u>Blackhawk-Donovan</u> <u>(C-652)</u> Hines, Ill.	3-11-66	4-06-66	6-14-68	800	6-08-70	1,524	724	91	451	273	-
<u>Blackhawk-Donovan</u> <u>(C-673)</u> Northport, N. Y.	6-29-67	7-20-67	11-16-69	850	6-01-72	1,776	926	109	411	515	-
<u>J. W. Bateson (C-617)</u> Miami, Fla.	6-26-64	7-27-64	11-24-66	850	7-28-67	1,097	247	29	247	-	-
<u>J. W. Bateson (C-701)</u> San Diego, Calif.	3-20-69	4-07-69	9-24-71	900	12-17-71	983	83	9	123	-	-
<u>H. C. Beck (C-613)</u> Memphis, Tenn.	6-22-64	7-22-64	11-19-66	850	4-14-67	996	146	17	297	-	-
<u>J. A. Jones (C-692)</u> Tampa, Fla.	10-09-68	10-24-68	4-12-71	900	3-23-72	1,246	346	38	346	-	-

CONTRACTOR PERFORMANCE ON SELECTED
VA HOSPITAL CONSTRUCTION CONTRACTS
(AS RATED BY VA)

Contractor, contract number, location, and performance evaluation factors	Number of progress reports			Percent rated unsatisfactory (note a)
	Total	Not rated	Rated satisfactory	
<u>Blackhawk-Donovan (C-652)</u>				
Hines, Ill.	47			
Equipment status		2	2	43
Material status		2	3	42
Work progress		2	2	43
Submissions overdue		8	0	39
<u>Blackhawk-Donovan (C-673)</u>				
Northport, N. Y.	60			
Equipment status		5	42	13
Material status		5	40	15
Work progress		4	^b 17	39
Submissions overdue		5	0	55
<u>J. W. Bateson (C-617)</u>				
Miami, Fla.	35			
Equipment status		1	34	0
Material status		1	34	0
Work progress		1	32	2
Submissions overdue		1	33	1
<u>J. W. Bateson (C-701)</u>				
San Diego, Calif.	33			
Equipment status		1	32	0
Material status		1	32	0
Work progress		1	32	0
Submissions overdue		1	32	0
<u>H. C. Beck (C-613)</u>				
Memphis, Tenn.	31			
Equipment status		0	31	0
Material status		0	31	0
Work progress		0	31	0
Submissions overdue		0	30	1
<u>J. A. Jones (C-692)</u>				
Tampa, Fla.	39			
Equipment status		0	39	0
Material status		0	39	0
Work progress		0	39	0
Submissions overdue		0	38	1

^aComputed by dividing the number rated unsatisfactory by the total number of progress reports.

^bSeven reports had unqualified satisfactory ratings, two indicated work progress was "falling behind," and eight indicated work progress was "slow."

COST OVERRUNS ON SELECTED
VA HOSPITAL AIR-CONDITIONING CONTRACTS

Contractor, contract number, and location	1 Amount of contract award	2 Net additional cost authorized other than by settlements (note a)	3 Contract cost exclusive of settlements (col. 1 + col. 2)	4 Additional cost authorized by settlements	5 Total contract cost (col. 3 + col. 4)	6 Total contract cost overrun (col. 5 - col. 1)	7 Percent of cost overrun (col. 6 ÷ col. 1)	8 Additional amounts in dispute
<u>Blackhawk-Klefstad</u> (C-601) (note b)								
Pittsburgh, Pa.	\$2,291,800	\$423,117.09	\$2,714,917.09	\$1,740,688.00	\$4,455,605.09	\$2,163,805.09	94	-
<u>Blackhawk (C-629)</u> (note c)								
New York, N. Y.	3,796,500	555,088.69	4,351,588.69	3,858,100.00	8,209,688.69	4,413,188.69	116	-
<u>Blackhawk (C-658)</u>								
New York, N. Y.	4,888,000	669,782.00	5,557,782.00	3,099,000.00	8,656,782.00	3,768,782.00	77	-
<u>Klefstad</u> (C-579) (note d)								
Pittsburgh, Pa.	2,369,800	323,122.26	2,692,922.26	-	2,692,922.26	323,122.26	14	-
<u>W. A. Landers (C-637)</u>								
Oklahoma City, Okla.	1,517,250	9,026.16	1,526,276.16	-	1,526,276.16	9,026.16	1	-
<u>H. Sand (C-589)</u>								
New York, N. Y.	3,725,400	292,587.29	4,017,987.29	475,000.00	4,492,987.29	767,587.29	21	-
<u>Associate Engineering</u> (C-575)								
Saint Louis, Mo.	2,198,258	33,598.67	2,231,856.67	-	2,231,856.67	33,598.67	2	-
<u>C. N. Flagg (C-591)</u>								
West Haven, Conn.	2,700,000	169,837.40	2,869,837.40	-	2,869,837.40	169,837.40	6	-

^aSee footnote a, p. 6.

^bVA terminated contract on July 17, 1968, and completed construction at an additional cost of about \$125,600.

^cVA terminated contract on September 30, 1968, and completed construction at an additional cost of about \$403,000.

^dKlefstad was awarded the contract; however, under an agreement between Klefstad and Blackhawk dated August 2, 1963, Blackhawk was to complete most of the required construction on behalf of Klefstad.

TIME OVERRUNS ON SELECTED
VA HOSPITAL AIR-CONDITIONING CONTRACTS

Contractor, contract number, and location	Contract award date	Date of notice to proceed	Estimated completion date	Estimated days required to complete	Actual completion date	Total days expended	Total days' time overrun	Percent of time overrun	Analysis of time overrun			
									Days authorized by change orders and time extensions	Days authorized by final settlement	Unau- thorized days	
<u>Blackhawk-Klefstad (C-601)</u>												
Pittsburgh, Pa.	2-07-64	3-11-64	4-15-65	400	(a)	1,580	1,180	295	622	558	-	
<u>Blackhawk (C-629)</u>												
New York, N. Y.	1-06-65	1-28-65	12-29-66	700	(b)	1,461	761	109	641	120	-	
<u>Blackhawk (C-658)</u>												
New York, N. Y.	9-29-66	10-18-66	7-14-69	1,000	12-20-71	1,889	889	89	421	468	-	
<u>Klefstad (C-579) (note c)</u>												
Pittsburgh, Pa.	6-25-63	7-30-63	9-02-64	400	9-23-65	786	386	97	413	-	-	
<u>W. A. Landers (C-637)</u>												
Oklahoma City, Okla.	5-20-65	6-09-65	9-02-66	450	9-01-66	449	-	0	-	-	-	
<u>H. Sand (C-589)</u>												
New York, N. Y.	6-27-63	7-17-63	12-13-65	880	9-28-67	1,534	654	74	357	297	-	
<u>Associate Engineering (C-575)</u>												
Saint Louis, Mo.	5-17-63	6-06-63	1-26-65	600	6-11-65	736	136	23	178	-	-	
<u>C. N. Flagg (C-591)</u>												
West Haven, Conn.	6-27-63	7-15-63	7-14-65	730	10-20-65	828	98	13	121	-	-	

^aContract terminated by VA July 17, 1968.

^bContract terminated by VA September 30, 1968.

^cSee footnote d, p. 9.

CONTRACTOR PERFORMANCE ON SELECTED
VA HOSPITAL AIR-CONDITIONING CONTRACTS
(AS RATED BY VA)

Contractor, contract number, location, and performance evaluation factors	Number of progress reports			Percent rated unsatisfactory (note a)
	Total	Not rated	Rated satisfactory	
<u>Blackhawk-Klefstad (C-601)</u>				
Pittsburgh, Pa.	41			
Equipment status		2	39	0
Material status		2	39	0
Work progress		6	4	31
Submissions overdue		9	17	15
<u>Blackhawk (C-629)</u>				
New York, N. Y.	43			
Equipment status		0	14	29
Material status		0	24	19
Work progress		0	13	30
Submissions overdue		1	6	36
<u>Blackhawk (C-658)</u>				
New York, N. Y.	65			
Equipment status		7	41	17
Material status		7	36	22
Work progress		4	2	59
Submissions overdue		32	0	33
<u>Klefstad (C-579)</u> (note b)				
Pittsburgh, Pa.	26			
Equipment status		14	12	0
Material status		14	12	0
Work progress		15	6	5
Submissions overdue		21	5	0
<u>W. A. Landers (C-637)</u>				
Oklahoma City, Okla.	15			
Equipment status		2	13	0
Material status		2	13	0
Work progress		2	11	2
Submissions overdue		15	0	0
<u>H. Sand (C-589)</u>				
New York, N. Y.	40			
Equipment status		1	39	0
Material status		1	39	0
Work progress		2	26	12
Submissions overdue		2	38	0
<u>Associate Engineering (C-575)</u>				
Saint Louis, Mo.	24			
Equipment status		2	22	0
Material status		2	22	0
Work progress		2	22	0
Submissions overdue		22	2	0
<u>C. N. Flagg (C-591)</u>				
West Haven, Conn.	28			
Equipment status		4	24	0
Material status		5	19	4
Work progress		4	18	6
Submissions overdue		4	24	0

^a See footnote a, p. 8.

^b See footnote d, p. 9.

SUMMARY OF TIME AND COST OVERRUNS
ON CONTRACT WORK PERFORMED BY
BLACKHAWK HEATING AND PLUMBING COMPANY, INC.

VA awarded five contracts to Blackhawk Heating and Plumbing Company, Inc., as either the sole contractor or as part of a joint venture. The contracts were for constructing, altering, and air-conditioning VA hospitals and were awarded from February 1964 through June 1967.

At the time of award, the five contracts totaled about \$48.1 million with a total of 3,750 days required to complete the work. However, the contract costs ultimately totaled about \$77.5 million and the work consumed a total of 8,230 days, representing a total cost overrun of 61 percent and a total time overrun of 119 percent. The overruns for the five contracts averaged 79 percent for cost and 139 percent for time.

Under a sixth contract--V1006C-579, totaling about \$2.4 million--awarded to Klefstad Engineering Company, Inc., on June 25, 1963, Blackhawk did most of the construction work as a subcontractor. This contract was for installing an air-conditioning system in Building 1 at the University Drive VA hospital in Pittsburgh, Pennsylvania. A 14-percent cost overrun (\$323,122) and a 97-percent time overrun (386 days) were incurred.

HINES, ILLINOIS HOSPITAL

Blackhawk and Donovan Construction Company, in a joint venture, were awarded VA contract V1006C-652 to construct a 1,200-bed hospital and to alter 3 buildings at the VA hospital, Hines, Illinois. The original contract cost was \$20.9 million. The contract was to be completed in 800 calendar days.

The joint venture received notice to proceed from VA on April 6, 1966. The project was completed on June 8, 1970, in a total of 1,524 calendar days and at a final cost of about \$28 million. All cost and time overruns were authorized by change orders and time extensions or were accepted by VA at final settlement.

VA rated work progress unsatisfactory on 43 of the 47 progress reports. All other factors--equipment status, material status, and submissions overdue--were also generally rated unsatisfactory in at least 39 of the reports. VA's reasons for citing poor performance by the joint venture included

- poor organization and management,
- insufficient labor, and
- slow delivery of construction materials to the site.

NORTHPORT, LONG ISLAND, NEW YORK,
HOSPITAL

Blackhawk and Donovan, in a joint venture, were awarded VA contract V1006C-673 to construct a 480-bed hospital and to modernize existing facilities at the VA hospital, Northport, Long Island, New York. Notice to proceed was acknowledged by the joint venture on July 20, 1967. The contract allowed 850 calendar days--until November 16, 1969--for completion at a cost of about \$16.3 million. The project was completed June 1, 1972--in 1,776 calendar days. Initial cost overruns of about \$1.6 million were authorized by VA change orders. Of the 926 days of overrun, 411 were authorized by change orders or time extensions and 515 were authorized by a settlement agreement.

On September 19, 1972, the joint venture submitted a consolidated claim against VA for an additional \$16.5 million. This figure was increased in August 1973 to \$18.5 million. VA and Donovan (acting for the joint venture) negotiated a final settlement of \$10.3 million and signed a final settlement agreement on November 1, 1973.

Final disposition of the \$10.3 million settlement (against which a \$6 million advance payment has been made) is being withheld pending VA compliance with section 301 of Public Law 93-245, which requires an independent audit of all construction contract claims exceeding \$1 million and approval through the appropriation process. The joint venture has refused, however, to submit to an independent audit.

On October 7, 1974, the joint venture filed suit against the Government in the U.S. Court of Claims (Case No. 364-74) for the \$4.3 million balance plus interest at the rate of 9.75 percent.

Work progress on 39 out of 60 progress reports was rated unsatisfactory by VA. However, it generally rated equipment status and material status satisfactory. VA's reasons for citing unsatisfactory performance were

--insufficient labor and

--poor organization and management.

PITTSBURGH, PENNSYLVANIA (UNIVERSITY
DRIVE), HOSPITAL

On June 25, 1963, Klefstad Engineering Company was awarded VA contract V1006C-579 for about \$2.4 million. The contract called for installing an air-conditioning system in Building 1 at the University Drive VA hospital in Pittsburgh, Pennsylvania. The contractor received a formal notice to proceed from VA on July 30, 1963. The work was to be completed in 400 calendar days--by September 2, 1964.

Although this contract was awarded to Klefstad, Blackhawk assumed responsibility for most of the construction under an agreement with Klefstad.

The work was completed on September 23, 1965. Total cost for the contract was about \$2.7 million. Thus, a time overrun of 386 days and a cost overrun of about \$323,000 were incurred. VA approved the overruns, however, through change orders and time extensions.

We reviewed 26 progress reports by VA which showed work progress rated satisfactory on 6 reports and unsatisfactory on 5 reports. VA did not rate work progress on the other 15 reports. The unsatisfactory progress reports and VA-prepared intermediate inspection reports attributed the cost and time overruns to

- the contractor's poor management practices and
- physical interferences during construction.

VA rated the other items on the progress reports satisfactory; namely, equipment status, material status, and submissions overdue.

PITTSBURGH, PENNSYLVANIA (LEECH
FARM ROAD), HOSPITAL

The joint venture of Blackhawk and Klefstad was awarded VA contract V1006C-601 on February 7, 1964. The contract was for about \$2.3 million and involved installing air-conditioning systems in eight buildings and constructing an addition to Building 15 and a cooling tower at the VA hospital, Leech Farm Road, Pittsburgh, Pennsylvania. VA gave the joint venture notice to proceed on March 11, 1964. Work was to be completed in 400 calendar days--by April 15, 1965.

VA terminated the contract on July 17, 1968, because of claims, disputes, and appeals that had arisen between VA and the joint venture. Before settlement the days authorized by VA totaled 1,022, the contract price had increased to about \$2.7 million, and construction had not been completed. As a result of negotiations, VA paid the joint venture an additional \$1.74 million at final settlement and authorized 558 additional days to reflect the July 17, 1968, termination date. Overruns of 1,180 days and about \$2.2 million were thereby incurred. On June 28, 1973, Coopers & Lybrand, a public accounting firm under contract with VA, completed an audit of the joint venture's claims, as stipulated in the settlement agreement. The agreement was not changed, however, as a result of the audit.

After terminating the contract, VA completed the project by the purchase-and-hire method at a cost of about \$125,600. Under this method

VA purchased the materials and hired the labor force necessary to complete the construction.

VA rated the joint venture's work progress unsatisfactory on 31 out of 41 progress reports. Available VA intermediate inspection reports attributed its unsatisfactory ratings to

- late delivery of major equipment to the construction site,
- failure to obtain VA approval of material and equipment, and
- failure to complete installation of some equipment.

NEW YORK, NEW YORK (MANHATTAN),
HOSPITAL

VA contract V1006C-629 was awarded to Blackhawk on January 6, 1965, for about \$3.8 million. Blackhawk was to construct a refrigeration plant and a cooling tower and to install an air-conditioning system in Building 1 at the Manhattan VA hospital, New York, New York. The formal notice to proceed was issued on January 28, 1965. The contract gave Blackhawk 700 calendar days--until December 29, 1966--to complete the work.

On September 30, 1968, VA terminated the contract. At that time Blackhawk had incurred about \$4.4 million in construction costs and had used 1,341 calendar days.

At final settlement VA agreed to pay Blackhawk \$3.9 million for all claims and appeals pending against VA. In addition VA authorized another 120 days. Blackhawk agreed in return to let VA audit and verify the cost and pricing data submitted by the company for final settlement. The audit was completed on June 28, 1973, by Coopers & Lybrand under contract with VA. The settlement agreement was not changed as a result of the audit.

The overruns totaled about \$4.4 million and 761 calendar days. Of the \$4.4 million cost overrun, about \$555,000 was authorized by change orders and about \$3.9 million by final settlement. Of the 761 days of time overrun, 641 were authorized by change orders and time extensions and 120 were authorized at final settlement.

VA completed the project by using the purchase-and-hire method at a cost of about \$403,000 after terminating Blackhawk's contract.

VA rated work progress unsatisfactory on 30 out of 43 progress reports. Other factors--equipment status and submissions overdue--were also rated unsatisfactory in a majority of cases. Material status, however, was rated satisfactory in a majority of cases.

The primary reasons VA inspection reports gave for unsatisfactory ratings were

- insufficient labor at the construction site,
- minimal effort to complete various segments of construction promptly, and
- poor contractor organization and management.

BROOKLYN, NEW YORK, HOSPITAL

On September 29, 1966, Blackhawk was awarded VA contract V1006C-658 for \$4.9 million to air-condition two buildings at the VA hospital, Brooklyn, New York. Time allowed for the project was 1,000 calendar days, with an estimated completion date of July 14, 1969.

Through change orders and time extensions, the contract completion date was extended 421 days to September 8, 1970. However, actual project completion took 1,889 days--until December 20, 1971. During final settlement negotiations, VA authorized an additional 468 days to extend the contract completion date to December 20, 1971. Blackhawk had submitted a \$7.6 million claim against VA for time overruns and other additional costs. Through negotiations VA agreed to pay Blackhawk \$3,099,000 in full settlement of its claim.

Under contract with VA, Coopers & Lybrand completed a limited audit of Blackhawk's payrolls and job office overhead claims on June 28, 1973. The audit found \$22,122.54 in unsubstantiated overhead costs. The settlement agreement, however, was not affected as a result of the audit.

VA rated work progress unsatisfactory on 59 progress reports and satisfactory on 2 reports. The reasons cited by VA for the unsatisfactory work progress and the number of reports each reason involved were

- insufficient labor (45 reports),
- poor organization and management (41 reports),
- slow delivery of construction materials to site (36 reports),
- contractor was awaiting VA approval of shop drawings (6 reports),
- contractor was awaiting VA approval of construction materials (4 reports),

SUMMARY OF WORK DONE BY
NATIONAL CONSTRUCTION COMPANY
AT THE BEDFORD, MASSACHUSETTS, VA HOSPITAL

National Construction Company, as low bidder, was awarded a \$2.2 million construction contract on July 8, 1966, for work at the Bedford, Massachusetts, VA hospital. Contract V1006C-655 called for remodeling four buildings and constructing a sewage treatment plant. The contract required completion of all work in 600 calendar days--by March 18, 1968. Notice to proceed was given on July 27, 1966.

TIME AND COST OVERRUNS

Work on the project was completed on June 7, 1971--1,176 days late--which represented an overrun of 196 percent. The contract cost totaled about \$2.9 million, which represented an overrun of about \$700,000, or 32 percent.

All cost and time overruns were authorized by change orders, time extensions, or settlement agreements as shown in the following table.

<u>Action</u>	<u>Time overruns</u>	<u>Cost overruns</u>
Authorized by change orders	397	\$ 80,409
Authorized by time extensions	106	-
Authorized by settlement agreement of November 16, 1970	621	325,000
Authorized by settlement agreement of July 31, 1973	<u>a52</u>	<u>300,000</u>
Total	<u>1,176</u>	<u>\$705,409</u>

^aNo specific number of days' extension was indicated in this settlement agreement; however, the agreement stated that the completion date would be extended so that no liquidated damages would be assessed. Work was completed June 7, 1971--52 days after the April 16, 1971, completion date established by the prior settlement agreement.

Twenty of the 154 change orders issued by VA involved extensions of time and increases in cost totaling about \$46,300.

National's work progress on this project was generally rated unsatisfactory by VA (in 46 out of 56 reporting periods) because National had insufficient labor and poor organization and management at the job

site. In addition, material samples required to be submitted for VA approval were determined to be overdue in 42 periods. However, the other two areas rated by VA--equipment status and material delivery status--were usually rated satisfactory. VA intermediate inspection reports indicated that National was slow in submitting required sample materials for approval. However, they also indicated that National had complained of exceedingly slow action by VA in approving the submitted samples and in responding to requests for information and clarification.

CONTRACT SETTLEMENTS

Two settlements were made with National--the first on November 16, 1970, for \$325,000 and the second on July 31, 1973, for \$300,000.

First settlement

National, on July 21, 1970, submitted a claim for \$519,000, primarily because of inadequate and inaccurate plans and drawings furnished by VA. Negotiations between National and VA in August 1970 resulted in a proposed compromise settlement of \$325,000. The settlement was signed November 16, 1970.

In its September 1970 analysis of the contractor's claim and the proposed compromise settlement, VA concluded that the proposed settlement would be in the best interest of the Government for the following reasons:

- National was entitled to an estimated 100 additional days beyond the 397 days previously provided by change orders because local VA officials had denied the company access to the elevators in Building 2--contrary to the contract--thereby necessitating alternate and more costly means of moving material and personnel to the work area on the second and third floors.
- National was entitled to more than 100 additional days for other changed conditions and delays caused by VA.
- The life of the project, therefore, had been extended by about 600 days--excluding time extensions--due to the 397 days authorized by change orders and the 200 days mentioned above.
- The effect of extending the life of the project was that it increased the direct costs and overhead costs of maintaining supervisory and office labor forces at the site. VA estimated that National's overhead costs alone during the extension period would total \$667,200.
- VA estimated that, if a total cost approach were used, National could claim about \$538,000.

In the settlement agreement of November 16, 1970, VA authorized an additional 621 days, extending the contract to April 16, 1971. About 200 of these days represented the additional days to which VA believed National was entitled due to the adverse situation in Building 2 and other changed conditions and delays caused by VA. VA records indicated that the other 421 days were authorized to induce the contractor to accept the settlement agreement. As a further inducement, VA agreed not to assess liquidated damages against National for failure to complete the project before the extended completion date of April 16, 1971.

Second settlement

By letter dated October 12, 1971, the contractor claimed additional compensation of about \$888,000 for cumulative income tax losses for 1967-70. The contractor contended that:

- It was doing the work for the convenience of the Government.
- The Government had interfered with the contractor's work.
- The Government's plans and specifications were deficient.

A Defense Contract Audit Agency examination subsequently verified contractor costs of about \$727,000.

Although the November 16, 1970, settlement was intended to fully satisfy all claims under the contract, National claimed it had been coerced by VA into signing it.

VA's Associate General Counsel, upon reviewing the claims, stated:

"It was apparent from the beginning of work on this project that there was bad feeling between the National Construction people and some of the VA personnel at the job site. This, of course, could be brought up by the Contractor as being the basis for questioning the motive and good faith of the VA people with whom he dealt. The Contractor could claim that he had to operate in an atmosphere of fear and apprehension throughout performance only to be heightened by the ever present possibility of termination of the contract. Under such circumstances it would not be difficult for the Board of Contract Appeals or a court to conclude that the Contractor's subjective fear of termination aggravated by lack of rapport with some VA personnel could have resulted in a belief in the Contractor's mind that signing the settlement agreement was the price he had to pay for not being terminated."

Accordingly, during negotiations, the parties reached agreement on a \$300,000 settlement. Effective on July 31, 1973, the settlement stipulated that the contract completion date would be extended so that no liquidated damages would be assessed against the contractor.



VETERANS ADMINISTRATION
OFFICE OF THE ADMINISTRATOR OF VETERANS AFFAIRS
WASHINGTON, D.C. 20420
FEBRUARY 7 - 1975

Mr. Gregory J. Ahart
Director, Manpower and
Welfare Division
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Ahart:

We have reviewed the draft report "Comparison of Cost and Time Overruns on Selected Hospital Construction and Air Conditioning Contracts" (B-161994) with keen interest and awareness of some of the field conditions involved in the circumstances that led to the cost overruns. The report is oriented towards simple compilation of data, and, with respect to contracts participated in by the Blackhawk Construction Company, little attempt was made towards subjective analysis. This methodology provides an objective approach to effectively indicate the existence of problems. It does not, however, lend itself to a determination of causal relationships and the danger exists that the reader may infer deficient agency performance due to the negative nature of most of this information. Appropriate caution should be expressed to avoid such inferences.

Since the data show wide discrepancies between the various projects included in the report, we think it is important to point out that the procurement of construction by formal advertising is a highly complex and difficult process. Almost any major construction project involves many change orders and delays, often resulting in additional costs and time. In Federal Contracts Report No. 499, Bureau of National Affairs, October 1, 1973, it was reported that a study by the General Accounting Office described a considerable degree of cost overruns in 20 projects of the National Aeronautics and Space Administration, the General Services Administration, the Atomic Energy Commission, the Department of Transportation, and the Corps of Engineers.

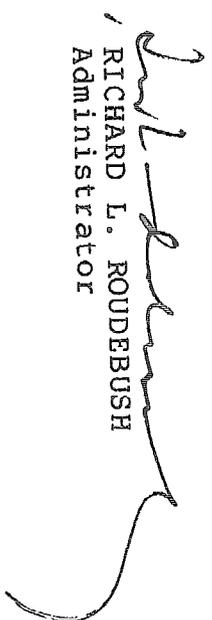
There has never been a precise formula or set of rules which can totally prevent the cost overrun problem in construction contracting. However, appropriate steps have been taken by the VA to reduce the incurrence of costs in excess of obligated funds. A control system utilizing the Critical Path Method (CPM) in major VA construction

programs is now mandatory. The CPM networks display the interrelationships between all critical elements of the construction project. With the information so generated, both the Government and the contractor can identify present and projected trouble spots which could potentially involve additional costs, time or both. The extent of these trouble areas as to time or money can be ascertained. If they appear to be excessive, critical decisions can be made at an early date as to whether the additional costs or delay are the fault of the Government or the contractor; and as to whether termination in whole or in part is indicated. We have sound expectations of positive results from the use of this system.

[See GAO note, p. 24.]

We hope these comments are helpful to you in preparation of the final report.

Sincerely,



RICHARD L. ROUDEBUSH
Administrator

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GAO note: The deleted material referred to suggested technical changes to the draft report which have been recognized in this final report.