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UNITED STATES GENERAL ACCOUNTING OFFICE  
REGIONAL OFFICE  
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CHICAGO, ILLINOIS 60607

MAY 17 1972

General Peter G. Olenchuk  
Deputy Commanding General  
U. S. Army Munitions Command  
Joliet, Illinois 60436

Dear General Olenchuk:

The General Accounting Office has reviewed the pricing of two negotiated fixed-price contracts for the M423 fuze awarded by the U. S. Army Ammunition Procurement and Supply Agency (APSA) to Westclox, Division of General Time Corporation, A Talley Industry Company, LaSalle, Illinois. Westclox is a base producer for the M423 fuze and has produced this fuze since 1965.

Our examination was made as part of a continuing review of the pricing of contracts subject to the provisions of Public Law 87-653, effective December 1, 1962, as implemented by the Armed Services Procurement Regulation (ASPR).

The contracts included in our review are shown below.

<u>Contract</u>		<u>Units</u>	<u>Unit price</u>	<u>Contract price (note a)</u>
<u>Number</u>	<u>Award date</u>			
DAAA09-69-C-0105	9/19/68	920,000	\$4.349	\$4,527,040
DAAA09-70-C-0064	10/10/69	773,441	4.35	3,781,360

<sup>a</sup>A chronology of procurement actions is shown in appendix I; amounts include delivery incentive payments and other minor adjustments.

We reviewed the cost estimates in support of prices negotiated for these contracts to determine the reasonableness of the estimates in light of information available to Westclox prior to negotiations.

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## BACKGROUND

Westclox used several methods in estimating costs for the contracts reviewed. Direct material was based on a standard bill of material priced at current prices or quotations received from vendors, and direct manufacturing labor was based on current labor standards priced at actual hourly labor rates adjusted for wage increases. Manufacturing overhead was based on annually developed budgeted rates and was computed on the basis of budgeted expenses at a projected level of activity. Estimated costs for direct inspection labor, rework, and spoilage were based on experience from the prior completed contract. In regard to these latter costs, prior contract DAAA09-67-C-0100, awarded in December 1966 with final delivery in January 1968, was used in estimating costs for contract -0105, and prior contract DAAA09-68-C-0128, awarded in October 1967 with final delivery in December 1968, was used in estimating costs for contract -0064.

Westclox experienced a profit of 48 percent under contract -0105, as shown in appendix II. The experienced profit of \$1,467,570 was attributable, in part, to delivery incentive payments of \$528,670 and a cost underrun of \$463,380. A substantial portion of the underrun occurred in manufacturing overhead and in other costs. We did not make a similar analysis for contract -0064 because Westclox had not developed experienced manufacturing overhead rates for the production period.

Westclox used 1969 budgeted rates to estimate manufacturing overhead for contract -0105. The Defense Contract Audit Agency (DCAA) reviewed these rates prior to negotiations. While we did not make a detailed overhead study we found that the 1969 budgeted rates were significantly higher than actual for the production period because Westclox experienced (1) a higher level of activity than anticipated, and (2) recorded costs for physical inventory losses and inventory revaluation which were less than budgeted. Hence, Westclox experienced a cost underrun of \$233,410 in manufacturing overhead as shown in appendix II.

A DD Form 633 and certificate of current cost or pricing data were submitted by Westclox covering both actions under contract -0105 and contract -0064. The defective pricing clause was inadvertently omitted from contract -0105; however, we believe that the clause required by ASPR is in fact incorporated into the contract as a matter of law. The defective pricing clause was incorporated into contract -0064.

The Chicago Branch Office of the DCAA has audit responsibility at Westclox. DCAA reviewed the contract -0105 proposal but was not requested to review the contract -0064 proposal.

## FINDINGS

We found that estimated costs for contracts -0105 and -0064 were higher than indicated by cost information available before negotiations by \$219,020 because Westclox did not use the most current information available and because certain costs were duplicated. We believe that these findings represent costs which increased contract prices and which are subject to price adjustments within the provisions of Public Law 87-653 as implemented by ASPR.

The cost elements which were higher than indicated by cost information available before negotiations are detailed in appendix III and are summarized below.

	<u>Contract</u>		<u>Total</u>
	<u>-0105</u>	<u>-0064</u>	
Special rework and spoilage	\$ 89,240	-	\$ 89,240
Normal rework	-	\$37,900	37,900
Inspection labor	9,200	6,190	15,390
Tests and samples	<u>18,400</u>	<u>15,160</u>	<u>33,560</u>
Subtotal	<u>\$116,840</u>	<u>\$59,250</u>	\$176,090
Overhead, G&A, and profit			<u>49,080</u>
Subtotal			225,170
Less: Adjustment for wage increase overlooked by Westclox on Contract -0064			<u>6,150</u>
Increase in contract prices			<u>\$219,020</u>

### SPECIAL REWORK AND SPOILAGE

The negotiated price for contract -0105 included a provision for special rework and spoilage of \$0.097 per unit, in addition to, normal rework and spoilage of 4.5 percent, or \$0.147 per unit. The normal rework and spoilage rate was based on contract -0100, i.e., the prior completed contract. The special rework and spoilage, on the other hand, was based on contract -0128, which was currently in production. The special rework and spoilage provision was intended to cover (1) anticipated double rework of a lot that might fail the Government acceptance test and (2) the scrapping of the safety and arming device during this process. We believe that, at the time of negotiations, the experience on the prior completed contract and the

ongoing contract indicated that the proposed normal rework and spoilage of 4.5 percent was sufficient to cover all rework and spoilage anticipated under the contract.

Prior to contract -0105 negotiations on November 26, 1968, we noted that Westclox had experienced a rework and spoilage rate of 3.8 percent on contract -0128 through October 1968 when shipments were 80 percent complete. This rate included special rework equivalent to the rework of two lots but did not include special spoilage.

The Westclox records available prior to negotiations revealed that Westclox planned to scrap only certain parts of the safety and arming device in the rework process rather than the entire device. In order to allow for special spoilage relating to the scrapping of certain parts of this device, we computed a revised rework and spoilage rate on contract -0128 of 4.4 percent.

We found no indication that the contractor disclosed that it had included special rework and spoilage in its experienced rework and spoilage cost under the ongoing contract -0128 nor did it disclose that it had anticipated scrapping only certain parts of the safety and arming device. Hence, we have identified the proposed special rework and spoilage of \$0.097 per fuze, or a total of \$109,080, after add-ons, as being higher than that indicated by information available before negotiations.

#### NORMAL REWORK

The negotiated price for contract -0064 included a provision for normal rework at 4.1 percent or \$0.075 per fuze. Westclox based this rate on the experienced rework costs under contract -0128 which was completed in December 1968. Our review showed that experienced rework on contract -0128 included about 1.2 percent representing special rework, i.e., reworking of lots which failed acceptance tests.

Westclox records showed that under contract -0105 it experienced a normal rework rate of about 1.4 percent through August 1969 when about 65 percent of the units were shipped and about 2.1 percent through contract completion. We recognize that the final rework cost on contract -0105 was not available when the parties negotiated contract -0064 in October 1969. However, on the basis of the experienced rate of 1.4 percent available before negotiations but not disclosed by Westclox, we computed that the normal rework was higher than indicated by about \$45,540, after add-ons.

INSPECTION LABOR

Westclox estimated the cost of inspection labor for contracts -0105 and -0064 on the basis of the average hours experienced under contracts -0100 and -0128 which were completed in January and December 1968, respectively. At the time of negotiations, Westclox had more current inspection experience, which was not considered nor disclosed. Our computation of the amount by which inspection labor was higher than indicated by information available before negotiations is shown below.

	<u>Contract</u>	
	<u>-0105</u>	<u>-0064</u>
Estimated hours included in negotiated prices	<u>0.04047</u>	<u>0.03521</u>
Less, hours experienced prior to negotiations:		
Through October 1968	0.03570	
Through August 1969		0.03160
Add estimated increase in inspection requirements	<u>0.00047</u>	<u>-</u>
Total	<u>0.03617</u>	<u>0.03160</u>
Difference in inspection hours	<u>0.00430</u>	<u>0.00361</u>
Estimated cost of difference, including add-ons	\$17,540	\$12,300
Less, adjustment for wage increase overlooked by Westclox, including add-ons	<u>-</u>	<u>6,150</u>
Increase in contract prices	<u>\$17,540</u>	<u>\$ 6,150</u>

TESTS AND SAMPLES

Westclox was required to perform acceptance tests including destructive and non-destructive tests of production samples. The cost of tests and samples was included as a separate line item in the prices negotiated for -0105 and -0064. Additionally, Westclox included the estimated cost of labor and fuzes destroyed during the tests elsewhere in the contract pricing.

We found that the cost of the fuzes destroyed during the tests was recorded as scrap and included in the computation of the experienced scrap rate used in the proposals. We also found that cost of technicians and analysts performing the acceptance testing of the fuzes was included in the inspection overhead pool. The estimated cost of acceptance tests which we identified as being duplicated is shown below.

	<u>Contract</u>		<u>Total</u>
	<u>-0105</u>	<u>-0064</u>	
Fuzes destroyed	\$ 8,280	\$10,360	\$18,640
Labor	<u>10,120</u>	<u>4,800</u>	<u>14,920</u>
Total duplicated cost	18,400	15,160	33,560
G&A	1,420	1,210	2,630
Profit	<u>2,680</u>	<u>1,840</u>	<u>4,520</u>
Increase in contract price	<u>\$22,500</u>	<u>\$18,210</u>	<u>\$40,710</u>

PREAWARD EVALUATION

In its evaluation of contract -0105, DCAA accepted the proposed normal rework and spoilage rate of 4.5 percent, since that rate was experienced on a recently completed contract. DCAA reported that Westclox had no data supporting the spoilage portion of the proposed special rework and spoilage. We found no evidence in APSA's records to indicate why the contracting officer accepted the special rework and spoilage questioned by DCAA. Furthermore, as discussed earlier, our review indicated the contractor did not disclose certain additional information available prior to negotiations. DCAA did not question the amounts proposed for inspection direct labor or tests and samples cost.

CONTRACTOR COMMENTS

We discussed our findings with Westclox officials and furnished them with copies of pertinent workpapers. The officials agreed with the facts presented and indicated agreement with our conclusion relating to tests and samples. However, they disagreed with our conclusions on the remaining areas stating that they have consistently used the prior completed contract method in estimating these costs.

CONCLUSION AND RECOMMENDATION

Our examination disclosed that estimated costs for contracts -0105 and -0064 were higher than indicated by cost information available before negotiations by \$219,020 because Westclox did not use the most current information available and because certain costs were duplicated. We believe that these findings represent costs which increased contract prices and which are subject to price adjustments within the provisions of Public Law 87-653 as implemented by ASPR.

We recommend that you consider our findings, as well as any additional information available to you, to determine the extent to which the Government is legally entitled to a price adjustment with respect to these procurements.

We would appreciate a written reply within 30 days expressing your views and comments on the matters discussed in this letter.

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Copies of this letter are being sent to the Secretary of the Army; the Commanding General, U. S. Army Materiel Command; the Director, Defense Contract Audit Agency; the Regional Manager, Defense Contract Audit Agency, Chicago; the Commander, Defense Contract Administration Services Region, Chicago; and to Westclox, Division of General Time Corporation, LaSalle, Illinois.

Sincerely yours,

*M. R. Wolfson*  
M. R. Wolfson  
Regional Manager

## CHRONOLOGY OF PROCUREMENT ACTIONS

Contract -0105

September 18, 1968	Letter contract (735,000 units at ceiling price of \$4.618)
October 7, 1968	Modification P001 (Added 75,000 units)
October 30, 1968	DCAA Proposal Evaluation Report
November 25, 1968	APSA Cost Analysis Report
November 26, 1968	Negotiations
November 26, 1968	DD Form 633 and Certificate of Current Cost or Pricing Data (810,000 units @ \$4.349)
December 31, 1968	Modification P003 - Definitized contract (810,000 units @ \$4.349)
June 24, 1969	Modification P008 - Option exercised (110,000 units @ \$4.349)

Contract -0064

September 29, 1969	DD Form 633 and Certificate of Current Cost or Pricing Data (660,000 units @ \$4.35)
September 29, 1969	APSA Price Analysis Report
October 2, 1969	Negotiations
October 10, 1969	Contract (660,000 units @ \$4.35)
January 12, 1970	DD Form 633 and Certificate of Current Cost or Pricing Data (109,593 units @ \$4.35)
January 21, 1970	APSA Price Analysis Report for option
February 11, 1970	Modification P006 - Option exercised (109,593 units @ \$4.35)



SCHEDULE SHOWING COST UNDERRUN AND  
ANALYSIS OF EXPERIENCED PROFIT

CONTRACT DAAA09-69-C-0105

	<u>Contract price</u>	<u>Actual cost</u>	<u>Cost underrun (overrun)</u>
Material	\$1,413,120	\$1,415,050	\$ (1,930)
Manufacturing Labor	612,240	616,720	(4,480)
Inspection Labor	86,480	59,080	27,400
Manufacturing Overhead	844,970	611,560	233,410
Inspection Overhead	47,840	32,290	15,550
Other Costs:			
Spoilage and Rework	224,440	79,500	144,940
Tests and Samples	25,760	-	25,760
Engineering and Tools and Gages	<u>17,740</u>	<u>24,220</u>	<u>(6,480)</u>
Total cost before G&A, profit, and contract adjustments	\$3,272,590	\$2,838,420	\$434,170
G&A	<u>252,020</u>	<u>221,050</u>	<u>30,970</u>
Total cost before profit and adjustments	\$3,524,610	<u>\$3,059,470</u>	<u>\$465,140</u>
Profit @ 13.5%	475,520		
Contract adjustments:			
Reductions due to waivers	(1,760)		
Delivery incentive payments	<u>528,670</u>		
Contract price	<u>\$4,527,040</u>		
 Contract price	 \$4,527,040		
Less, actual cost	<u>3,059,470</u>		
Total profit	<u>\$1,467,570</u>		
 Analysis of profit:			
Negotiated profit	\$ 475,520		
Delivery incentive payments	528,670		
Cost underrun (\$465,140-\$1,760)	<u>463,380</u>		
Total profit	<u>\$1,467,570</u>		
 Ratio total profit to actual cost	 <u>48%</u>		

## SUMMARY OF INCREASE IN CONTRACT PRICES

	<u>Special rework and spoilage</u>	<u>Normal rework</u>	<u>Inspection labor</u>	<u>Tests and samples</u>	<u>Total</u>
<u>CONTRACT -0105</u>					
Cost	\$ 89,240	\$ -	\$ 9,200	\$18,400	\$116,840
Inspection overhead	-	-	5,150	-	5,150
Subtotal	89,240	-	14,350	18,400	121,990
G&A 7.7%	6,870	-	1,100	1,420	9,390
Subtotal	96,110	-	15,450	19,820	131,380
Profit 13.5%	12,970	-	2,090	2,680	17,740
Total Contract -0105	<u>109,080</u>	<u>-</u>	<u>17,540</u>	<u>22,500</u>	<u>149,120</u>
<u>CONTRACT -0064</u>					
Cost	-	37,900	6,190	15,160	59,250
Inspection overhead	-	-	4,050	-	4,050
Subtotal	-	37,900	10,240	15,160	63,300
G&A 8%	-	3,030	820	1,210	5,060
Subtotal	-	40,930	11,060	16,370	68,360
Profit 11.25%	-	4,610	1,240	1,840	7,690
Total Contract -0064	<u>-</u>	<u>45,540</u>	<u>12,300</u>	<u>18,210</u>	<u>76,050</u>
Total	109,080	45,540	29,840	40,710	225,170
Less, adjustment for wage increase over- looked by Westclox (on contract -0064)	-	-	6,150 <sup>a</sup>	-	6,150
Increase in contract prices	<u>\$109,080</u>	<u>\$45,540</u>	<u>\$23,690</u>	<u>\$40,710</u>	<u>\$219,020</u>

<sup>a</sup>Offset consists of \$3,090 labor plus add-ons consisting of inspection overhead, G&A, and profit of \$3,060.