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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

MISSION ANALYSIS AND
SYSTEMS ACQUISITION DIVISION

MARCH 11, 1981

B-202301



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The Honorable Caspar W. Weinberger
The Secretary of Defense

Attention: Assistant for Audit Reports

Dear Mr. Secretary:

Subject: [Use of Cost-Deferred-Fee Contracts Can Be
Costly to the Government] (MASAD-81-10)

We reviewed the Navy's use of cost-deferred-fee (CDF) contracts at FMC Corporation's Northern Ordnance Division (FMC/NOD), Minneapolis, Minnesota, to determine the appropriateness of the type of contract and their effect on contract prices. The Navy had not definitized 1/ the CDF contracts in a timely manner. These delays sometimes compromised the Government's negotiating position and increased costs. We believe the Navy's and the contractor's failure to reach agreement on price at the outset of a contract is directly related to the contractor's cost accounting system's inability to provide needed pricing data.

We also reviewed the performance of a Navy technical representative (TECHREP) at FMC/NOD where the Defense Contract Administration Services (DCAS) is the designated representative for the administration of contracts. The Navy had assigned certain contract administrative duties to TECHREP that overlap DCAS' responsibilities, thus violating the Department of Defense's policy of "one face to industry."

NAVY'S CONTRACTING PRACTICES NEED IMPROVEMENT

In our opinion, the contractor's unique position as the sole source for certain Navy gun mounts and guided missile

1/To formalize a CDF contract by setting forth all the terms and conditions of the agreement.

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launching systems, coupled with a cost accounting system that does not generate unit production costs on a current basis, forced the Navy into using a contract type that was not in the Government's best interest. While these contracts remain undefinitized, the contractor has little incentive to control costs. Also, the Government's negotiating position typically deteriorates the longer a contract remains undefinitized.

We reviewed procurement records at the Naval Sea Systems Command (NAVSEA) and FMC/NOD for the eight CDF contracts the Navy awarded to FMC/NOD. (See enc. I.) The contracts were issued between September 1975 and January 1980 and represent follow-on procurements of missile launchers and gun mounts for the shipbuilding program. The MK-26 guided missile launcher system costs about \$10 million. These systems require about 3 years leadtime from the time work is started under the contract until deliveries begin. The MK-75 gun mounts cost about \$2.4 million each and have a production leadtime of more than 2 years.

CDF contracts are the least desirable method of contracting for supplies and services due to the unfavorable cost effect they may have on the Government. They are temporary contracts issued to begin the work and are to be converted to and superceded by a fully definitized contract. CDF contracts are not recognized in Defense regulations and must be issued following a deviation procedure. CDF contracts bear a great similarity to letter contracts. Although Defense regulations require that letter contracts be definitized in a timely manner and also enable the contracting officer to unilaterally determine a reasonable price if agreement cannot be reached, CDF contracts are not subject to such requirements. 1/

BACKGROUND

The FMC/NOD facility is a Naval Industrial Reserve Ordnance Plant operated under facilities use contracts for successive 5-year periods. The Navy owns about 80 percent of the buildings and equipment, and the contractor owns the other portion. The facility is the country's most capable and complete plant for producing Navy armament. Over the past

1/If the contracting officer finds it necessary to unilaterally determine the price to definitize a letter contract, the contractor may challenge the determination under the disputes clause of the contract.

several years, Government sales of products produced by this facility have accounted for about 94 percent of total sales. The facility is used primarily for the design, development, and production of shipboard armament for NAVSEA.

FMC/NOD has been the only domestic supplier for the various systems purchased under the CDF contracts. Since the program's inception in 1958, FMC/NOD has been the sole-source supplier for the MK-13 missile launcher. Similarly, FMC/NOD has been the sole source for MK-26 missile launchers since that program was begun in 1968. Although the MK-75 gun mount was designed and developed by an Italian firm, the Navy selected FMC/NOD in 1975 to build the systems in this country.

CDF CONTRACTS NOT DEFINITIZED IN A TIMELY MANNER

Since 1975, the Navy has issued FMC/NOD a series of eight CDF contracts that have not been definitized in a timely manner. It required from 13 to 31 months from the date the CDF contracts were issued for the parties to negotiate a target price for six of these contracts. Additional delays averaging 6 months were experienced before a definitized contract was issued. Moreover, three contracts were not definitized until over 60 percent of the costs had already been incurred. The four CDF contracts that were issued in 1975 and 1977 were converted to and superceded by cost-plus-incentive-fee (CPIF) contracts. The remaining four CDF contracts issued in 1978 and 1980 have been or will be superceded by fixed-price-incentive contracts.

Issuing CDF contracts is attributed to the urgent need to begin production and the parties' inability to agree on price. The contractor has adamantly refused to accept letter contracts which would allow the Government unilateral rights of price determination. The Navy is contractually required to meet the dockside delivery requirements of the shipbuilder or be subject to costly claims which are estimated at \$65,000 a day of delay. However, the negotiation of a definitized contract is made difficult by the large differences between the costs proposed by the contractor and those accepted by the Government. The Defense Contract Audit Agency questioned from 22 to 37 percent of the costs proposed for the systems where work was begun under a CDF contract. For example, the Defense Contract Audit Agency questioned \$33.2 million of the \$89.7 million proposed for the acquisition of 10 MK-26 guided missile launching systems. The magnitude of these cost differences virtually precludes a timely negotiated settlement.

Navy assumes cost risk during delays

CDF contracts, until definitized, operate like cost-reimbursement-type contracts under which the Government is responsible for essentially all costs the contractor incurs in performing the contract. Moreover, the Navy assumes some or all of this cost risk regardless of whether the CDF contract is eventually converted to a CPIF or a fixed-price-incentive contract. Actual costs incurred under a CDF contract are used by the parties in establishing a target cost for the definitized contract. In this environment, the contractor has little incentive to be efficient and minimize costs. On the contrary, it is to the contractor's advantage to be inefficient. Under the weighted guidelines method used by Government negotiators to establish profit objectives, higher costs typically lead to a higher negotiated fee. Further, these higher costs may be used as the basis for the negotiation of subsequent contracts.

For example, the contractor's estimated costs to perform CDF contract NO0024-77-C-7016 increased about \$16.4 million or about 38 percent during the period the contract was undefinitized. In November 1977 FMC/NOD proposed to furnish 27 MK-75 gun mounts at a target cost of \$43,413,000. The contractor subsequently experienced certain unfavorable cost variances attributed in part to poor performance by shop employees and subcontractors. In December 1979 the parties were finally able to reach an agreement to furnish the equipment at a target cost of \$59,792,000. We were unable to determine what portion, if any, of these additional \$16.4 million in costs could have been avoided if the contractor had been working under the incentives of a fully definitized contract. We have determined, however, that the delay in definitization increased the fee that may ultimately be earned by the contractor by about \$3.2 million. About \$1.3 million of this amount is attributable to the application of fee to a higher target cost. Also, the contractor avoided having to absorb a \$1.9 million reduction in fee due to the sharing provisions relating to cost overruns.

Lengthy delays may lead to concessions by Navy

Generally, the Government's negotiating position deteriorates the longer a contract remains undefinitized and the greater the cost incurred. The contracting officer is under increasing pressure to reach a settlement with the contractor. This weakening negotiating position may result in Government concessions on price, terms, or conditions.

According to the latest data available at the time of our review, FMC/NOD has been able to significantly underrun the target costs eventually negotiated for the CPIF contracts, thus increasing fees under the incentive provisions. DCAS has characterized these as "negotiated underruns" rather than indicators of good performance. The estimated underruns range from \$2.6 million to \$5.7 million each. These underruns have occurred even though three of the contracts were about half complete at the time of price agreement. For example, under contract N00024-75-C-5132 the underrun was about 21 percent in relation to contract costs incurred after price agreement was achieved. The total estimated underrun for the four contracts on which data is available is \$17.7 million. Since FMC/NOD shares 50/50 on these underruns, it is estimated the contractor would earn an additional \$8.9 million in fees.

Contractor does not bear an equitable share of contract cost risk

The Navy has continued to award FMC/NOD limited-risk contracts for follow-on production work. The Navy stated in June 1975 that there was a general unwillingness by the contractor to accept any type of fixed-price contract on sole-source procurements. On a competitive procurement, however, the contractor's attitude was quite different. In that solicitation the contractor took no exception to a firm-fixed-price contract, nor did it require provisions that would minimize its risk that it insisted be included in the sole-source procurements.

Starting in 1975, the issued CDF contracts have been converted to both CPIF and fixed-price-incentive contracts. The definitized contracts, however, have been structured in such a way that FMC/NOD assumes relatively little cost risk. FMC/NOD in its unyielding stance in negotiations has been able to negotiate very favorable incentive sharing arrangements in the definitized contracts. DCAS in its review of proposals has charged that an imbalance exists in the structuring of these incentives with the contractor given the opportunity to profit greatly without a corresponding cost risk.

For example, the four CDF contracts that have been converted to and superceded by CPIF contracts have been structured so that the Navy is responsible for 75 to 98 percent of the overruns, but underruns are divided evenly. Although Defense regulations limit fees to 10 percent under CPIF production contracts, the Navy issued deviations enabling the contractor to earn a maximum fee of 15 percent. Defense regulations also state that when contracts provide for a high

maximum fee the contract shall also provide for a low minimum fee, which may even be a "zero" fee or, in rare cases, a "negative" fee. Nevertheless, the parties established a 4-percent minimum fee for the CPIF contracts, thus sheltering the contractor from exposure to any significant cost risk. In one contract the Navy tried to negotiate a 1-percent minimum fee. FMC/NOD was given orders from its corporate headquarters not to accept less than a 4-percent minimum fee. The Navy in this take it or leave it negotiating environment accepted the 4-percent fee.

The fixed-price-incentive contracts used for the third, fourth, and fifth buys of the MK-13 Mod 4 missile launcher are also structured in a manner that provides the contractor minimal risk. The Navy is responsible for up to 85 percent of the overruns, but the underruns are shared on a more even basis. Price ceilings were established during negotiations at 129 or 130 percent of cost. The Navy negotiator on one contract stated, "Frankly, I would be hard pressed to explain how a 30% overrun could occur without an epidemic outbreak of Murphy's Law * * *." The contractor could overrun by 20 percent and still earn a profit of about 8.5 percent. In its review, DCAS questioned the establishment of a 130-percent price ceiling for the fourth and fifth in a series of follow-on production contracts. Despite this, the Navy negotiated a price ceiling of 129 percent for the fourth contract and 130 percent for the fifth contract.

NAVY'S CONTINUED DEPENDENCE ON FMC/NOD
AS SOURCE FOR MISSILE LAUNCHERS

The Navy has continued to rely on FMC/NOD as its sole source for the urgently needed MK-13 and MK-26 guided missile launching systems from the time these programs were begun in 1958 and 1968, respectively. This dependence places the Navy at a significant disadvantage during negotiations with the contractor. The contractor as sole source is not subject to any competitive pressures either to be efficient in its operations or to make concessions during negotiations. However, the Navy may feel compelled to make concessions to reach an agreement with the contractor.

In 1976 the Navy made a study to determine the possibility of introducing competition into the MK-13 launcher program for future year procurements. The Navy met with another contractor and obtained cost and schedule estimates of what such a program would entail. It was noted that the ship programs and their quantitative requirements for the missile launcher continue to remain a question. Also, there was the promise of

a new class of launchers that would depart significantly from the current systems. The Navy concluded that it would be imprudent to allocate management effort and funds to establish a second source.

Another alternative available to the Navy is to replace FMC/NOD as the contractor of the Naval Industrial Reserve Ordnance Plant facility. The Navy explored this option and assessed some of the difficulties that might be encountered in beginning such an action. The cost effect was seen as one of the more serious obstacles that would have to be overcome.

We agree with the Navy that, at this late stage in the program, it would probably be unwise to establish other sources for the missile launchers. In our opinion, however, the Navy should make every effort in the early phases of a program to introduce competition and thus avoid dependence on a sole source to provide urgently needed weapon systems. The Navy would derive benefits from a competitive environment that would likely offset any negative factors.

Contractor's cost accounting system does not provide needed pricing data

The contractor's cost accounting system does not provide adequate information to negotiate reasonable prices for follow-on contracts. Although an individual guided missile launcher system may cost over \$15 million and take 3 years to build, the contractor's cost system does not provide information on the manufacturing costs or labor hours incurred in its manufacture. If this data were available, the parties would be better able to predict future costs based on the contractor's experience in building each system.

Instead, the contractor accumulates cost and labor-hour data by contract. There is no attempt to assign these costs and hours to the individual systems being manufactured under the contract. Thus, the data represents an average for all systems and provides only limited insight on important trends relating to learning and scrap experience.

Also, complete cost data is not available in a timely manner. The contracts are usually active for periods of 3 to 4 years from the start of production until deliveries are ended. During that period, the weapon systems being manufactured under the contract are in various stages of completion. The contractor does not know the actual costs until all weapon systems have been completed. Therefore, interim

projections are necessarily based on estimates to complete the unfinished units.

In the absence of data on the costs and labor hours incurred in manufacturing individual systems, the contractor places heavy reliance on projections, mathematical models, and estimates in preparing its proposals. The Defense Contract Audit Agency frequently takes strong exception to the methods and values used by the contractor. Since neither party can clearly establish the accuracy and validity of their estimates in the absence of an adequate cost system, agreements on price are frequently delayed.

CONCLUSIONS

The Navy has entered into unpriced CDF contracts with a sole-source supplier to meet the urgent need for weapon systems for the shipbuilding program. These contracts have been left undefinitized for periods up to 37 months largely because of the great differences in cost estimates between the contractor and the Government. These cost estimate differences appear to be directly traceable to the inadequacies in the contractor's cost accounting system that does not generate unit costs of items produced. These delays can increase costs to the Government due to (1) the contractor's lack of motivation to control costs while the contracts remain undefinitized and (2) the Government's deteriorating negotiation position. Therefore, the Navy's continued use of CDF contracts to purchase gun mounts and guided missile launching systems from FMC/NOD was not in the best interests of the Government.

RECOMMENDATIONS

We recommend that the Navy make every effort to persuade FMC/NOD to establish a cost accounting system that will provide the information needed by the parties to reach an agreement on price.

We also recommend that the Navy take steps in its acquisition programs to ensure that contractors who supply urgently needed weapon systems have incentives to negotiate fair and reasonable contracts in a timely manner.

CONTRACTOR'S COMMENTS

FMC/NOD disagrees that a delay in contract definitization necessarily results in the negotiation of higher costs. It suggests that it might be equally true that a delay in negotiations would result in the negotiation of lower costs because

of the availability of more actual cost data. We continue to believe that higher prices are the more likely probability whenever a contractor is permitted to perform the contract under cost reimbursement conditions for a long period pending negotiation of the price.

FMC/NOD takes exception to any suggestion that it would perform less efficiently under a CDF contract than under a firm-price contract. It states that shop employees have no way of knowing the form of contract under which they are working. Equally important, the Navy is FMC/NOD's principal customer and it says it would be extremely shortsighted of FMC/NOD to deliberately arrange for inefficient performance to increase fee or profit. We believe that fixed-price-incentive contracts generally provide a greater incentive to contractor efficiency and cost control than cost-reimbursement contracts. There is ample evidence of reduced contract costs when prices are fixed or profit incentives are introduced.

FMC/NOD takes exception to the use of the phrase negotiated underrun. In its view, the phrase suggests either impropriety on the part of FMC/NOD or that NAVSEA was not fully responsive to its duty to negotiate effectively which it denies was the case. The phrase negotiated underrun was used by DCAS to characterize the establishment of liberal target costs negotiated under CPIF contracts. We believe the characterization is especially appropriate when contracts are about half complete at the time target costs are negotiated and the contractor is subsequently able to significantly underrun costs.

FMC/NOD disagrees with the statement that it is not subject to competitive pressures. NAVSEA has conducted competitive procurements on a number of FMC/NOD's major product lines, and, furthermore, FMC/NOD's product lines can be completely supplanted by new types of weapon systems. The contracts discussed in this report, however, were not subject to any competitive pressures. The introduction of new types of weapon systems would generally hinge on the increased effectiveness of the new system over the old rather than FMC/NOD's prices for the older system.

NAVY HAS VIOLATED DEFENSE'S POLICY
OF ONE FACE TO INDUSTRY

The Navy has failed to adequately implement Defense's policy on maintaining a single face to industry in administering contracts. The policy was adopted because conflicting instructions to contractors provided through multiple in-plant

offices adversely affected Government-industry working relations. The lack of uniformity in implementing Defense regulations may be costly and confusing.

DCAS has been assigned the responsibility for performing the contract administration services at FMC/NOD. According to Defense regulations, DCAS should be the sole representative with the contractor on these matters. If the project manager has determined that the technical requirements cannot be satisfied by DCAS, the project manager is permitted to attach TECHREPs to the DCAS office at the contractor's plant to perform technical functions.

Although the Navy has issued guidance on the assignment of TECHREPs, these requirements do not clearly limit the duties of TECHREPs to technical functions. They suggest a broader and more comprehensive role for TECHREPs. According to Naval Material Command Instruction 5300.5C, there is a need to formally establish a strong, dedicated project manager organizational line of responsibility at the contractor's site when major contracts are administered by DCAS. The instruction further states that TECHREP shall be delegated responsibility and authority to represent and act on behalf of the project manager in technical and management matters with DCAS and contractor personnel.

Under the authority of the Navy instruction, NAVSEA assigned duties to TECHREP at FMC/NOD that duplicated DCAS' contract administration responsibilities. The duties included (1) maintaining, with the assistance of DCAS, production and delivery status on major programs and submitting periodic status reports and (2) keeping NAVSEA apprised of program/contract status and possible future problems in cost, schedule, technical, and quality assurance areas. DCAS has stated, and we concur, that the duties assigned by NAVSEA extend TECHREP's responsibilities to areas that exceed the technical advisory and surveillance level normally associated with the position and are not in compliance with Defense regulations.

TECHREP at FMC/NOD has interfaced with the contractor on various contract administration matters that are normally DCAS functions. For example, TECHREP has had extensive discussions with the contractor over a 9-month period on the accounting procedures employed in transferring inventories between contracts and a symposium on that subject was held at his request to discuss related procedural problems. He has made inquiries on the storage and use of residual materials and production status. He has also requested copies of the monthly reports on production delinquencies. In addition,

TECHREP has requested that the contractor furnish him manufacturing cost data for the weapon systems.

RECOMMENDATIONS

We recommend that the Naval Material Command Instruction 5300.5C be clarified to limit the duties of Navy TECHREPs to technical functions in accordance with Defense's policy on maintaining a single face to industry in the administration of contracts.

We also recommend that NAVSEA's assignment of duties to TECHREP at FMC/NOD be amended to eliminate those activities that are already covered by DCAS' contract administration responsibilities.


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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this letter to the Director, Office of Management and Budget, and the Secretary of the Navy. We are also sending copies to the chairmen of the House and Senate Committees on Appropriations and Armed Services, the House Committee on Government Operations and the Senate Committee on Governmental Affairs.

We would appreciate receiving your comments on these matters and would be pleased to discuss them with you or your representatives.

Sincerely yours,


W. H. Sheley, Jr.
Director

Enclosure

CDF CONTRACTS ISSUED TO FMC/NOD (note a)

Contract number	Description	Quantity	Date of CDF contract issuance	Number of months to		Percent of work complete at		Contract type upon definitization	Target price/system	Total target cost	Estimate of underrun
				Agreement on price	Contract definitization	Price agreement	Contract definitization				
N00024-75-C-5019	GMLS MK-26 Mods 0, 1 (note b)	10	9-75	31	37	49	66	c/CPIF	\$9.3	\$84.7	\$5.5
N00024-C-5132	GMLS MK-13 Mod 4	11	10-75	29	33	49	61	CPIF	6.1	59.1	5.7
N00024-77-C-5101	GMLS MK-13 Mod 4	8	4-77	13	19	17	32	CPIF	6.4	47.3	2.6
N00024-77-C-7016	Gun Mount MK-75 Mod 0	27	6-77	29	34	48	64	CPIF	2.4	63.2	4.0
N00024-78-C-5110	GMLS MK-13 Mod 4	10	3-78	17	26	16	43	d/FPI	7.3	64.7	(e)
N00024-79-C-5100	GMLS MK-13 Mod 4	11	11-78	17	(f)	11	(g)	FPI	8.4	81.8	(e)
N00024-80-C-5105	GMLS MK-13 Mod 4	6	1-80	4	(f)	-	(g)	FPI	10.0	53.2	(e)
N00024-80-C-5103	GMLS MK-26 Mod 1	2	1-80	(f)	(f)	(g)	(g)	h/FPI	i/15.3	30.5	(e)

------(millions)-----

a/Cost-deferred-fee contracts.

f/Not done as of July 31, 1980.

b/Guided missile launching system.

g/Not applicable.

c/Cost-plus-incentive-fee.

h/Although contract was not definitized, an FPI contract was anticipated.

d/Fixed-price incentive.

i/Estimate.

e/No estimate available.