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Economics of defense procurement and small business

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Chas. A. Harris

ECONOMICS OF DEFENSE PROCUREMENT AND SMALL BUSINESS

A Thesis

Presented to

The Faculty of the Graduate School

University of Richmond

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science in Business Administration

by

Charles Sayre Harris

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This paper could not have been completed without the assistance of my wife, Sara. I extend to her my deepest appreciation for her patience, understanding, and encouragement given me in the preparation of this manuscript and in the total graduate program leading to this degree. To my children, Derek William, Melanie Ann, and Christopher Sayre, I extend my apologies for neglecting them during this period of study and promise to do better in the future.

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PREFACE

ECONOMICS OF DEFENSE PROCUREMENT AND SMALL BUSINESS

Since the end of World War II and particularly since the Korean incident, military procurement has achieved a peacetime volume never before contemplated in our history. This high level of activity and the likelihood that it will continue for a long time gives defense spending a new importance in the national economy. It is therefore desirable that small business should seek participation in this new and large opportunity, since it always has been in competition to serve other kinds of economic demands.

This thesis will examine the magnitude and nature of military procurement and the special commercial considerations involved. The analysis will concentrate on specialized military equipment and will give only passing attention to the problems of doing business with the military in such commodities as shoes, clothing, typewriters, meat and vegetable products, furniture, and a multitude of other items the services buy that are similar to or identical with standard articles of commerce.

The main concern of this study, therefore, will center on the method of procurement of weapons and the related and specialized equipment essential to their operation. It will, of necessity, include

components, materials, special products, and services required for weapons and their directly related equipments.

This leads to consideration of the weapons system concept of procurement management which has grown up in the last five years. Although the emphasis will be on the procurement of weapons, it is also essential to take into account the national security consideration which compels a distinction between the market for these goods and that which prevails in normal commercial contracts.

Special contract and legal considerations will not be included here. Instead, this thesis will deal only with the economic and national security considerations and will not treat with either the legal or moral issues involved.

It is the expressed intent of Congress, the President, and the Secretary of Defense that small business firms should receive a greater share of government procurement dollars. They have repeatedly expressed their belief that there exists in this country a constant need for emphasis on the importance of small business--first, in the over-all economy; second, in the over-all defense effort; third, in specific areas of the defense effort; and, fourth, in the pattern of industry as a whole. Large business has long recognized the value of small business in their production program, and over-all operational make-up, and particularly in the areas of costs, quality, ingenuity, and dependability. Congress and the President have both stated that they also recognize these

qualities of small business and that they are endeavoring to keep and increase qualified small business firms in the Government's procurement program by affording small business a more equitable opportunity to compete for the supplies and services bought daily by the Government.

Section 2(a) of Public Law 536, Small Business Act titled, "Policy of Congress" states in part as follows:

The essence of the American economic system of private enterprise is free competition. Only through full and free competition can free markets, free entry into business, and opportunities for the expression and growth of personal initiative and individual judgment be assured. The preservation and expansion of such competition is basic not only to the economic well-being but to the security of this Nation. Such security and well-being cannot be realized unless the actual and potential capacity of small business is encouraged and developed. It is the declared policy of the Congress that the Government should aid, counsel, assist, and protect, insofar as is possible, the interests of small business concerns in order to preserve free competitive enterprise, to insure that a fair proportion of the total purchases and contracts or subcontracts for property and services for the Government (including but not limited to contracts or subcontracts for maintenance, repair, and construction) be placed with small business enterprises. . .

On February 6, 1961, the President sent a one paragraph memorandum to the Secretary of Defense which reads as follows:

I note that Congress has once again criticized the Department of Defense for not giving more contracts to small business. This is an old complaint. I think it would be useful for you to have someone look into exactly how this is handled and whether it is possible for the Defense Department to put more emphasis on small business. If it isn't possible for us to do better than has been done in the past I think we should know about it. If it is possible for us to do better we should go ahead with it and I think we should make some public statements on it. Would you let me know about this?

Secretary McNamara answered the President on March 14, 1961, as follows:

The Secretaries of the Military Departments have been instructed by the Deputy Secretary of Defense to take steps to assure increased awards of prime contracts to small business firms immediately.

Specifically, the Military Departments have been asked to set a goal, increasing individually, in Fiscal Year 1963 small business participation by ten per cent over the figures for Fiscal Year 1960. Total small business participation in Department of Defense prime contracting in Fiscal Year 1960 amounted to \$3.440 billion, or sixteen and one-tenth per cent of the overall total of all contract awards.

In addition, actions to increase over Fiscal Year 1960 figures small business participation in research and development contracts are called for. During that year this category of contracting accounted for only one hundred eighty million dollars, or three and four-tenths per cent of the total.

Immediate improvement of the small business picture is called for in the second half of the current fiscal year. During the first half of the year \$1.337 billion, or fifteen and five-tenths per cent of total prime contracting went to small businesses.

Deputy Secretary of Defense Roswell L. Gilpatric pointed out that a review of the Department's small business policies indicates they are sufficiently broad to allow additional awards to small business firms, but if the need should arise for revised policies or procedures, such revisions will be incorporated in the Armed Services Procurement Regulation.

On April 25, 1961, testimony was given by the Secretary of Defense at a hearing held by the Government Procurement Subcommittee of the Senate Small Business Committee. A resume of this statement is as follows:

The Department of Defense is determined to devote more attention to the small business program than it has previously received, and to raise the percentage of defense contract dollars awarded to small firms.

Department of Defense statistics reveal that the decline in percentage awarded to small business directly correlates with the increased percentage of resources being spent for major weapons systems. The emphasis on major weapons systems is expected to continue. From 1956 to 1960 the money spent on missile systems rose from one billion dollars to five billion dollars. In the missile field only four to five per cent was awarded to small business and not much improvement can be expected at the prime contract level.

Department of Defense believes the downward trend can be reversed by giving more attention to awarding prime contracts to small firms for goods and services other than major weapons.

The overall Department of Defense goal is a ten per cent increase during Fiscal Year 1962 over the percentage of small business awards made during Fiscal Year 1960. Quotas are being assigned to every Army Technical Service, Navy Bureau, and Air Force Command, with a further breakdown of quotas being made to individual installations, activities, and bases.

CHAPTER I

MAGNITUDE OF DEFENSE PROCUREMENT SINCE 1940

The national annual volume of business has expanded fourfold since 1940. During this same period, national security expenditures have expanded at a much more rapid rate. From a level of one hundred billion dollars in 1940, the gross national product has grown to five hundred fifty-four billion dollars in 1962. During this same period, national security expenditures which amounted to only two billion dollars in 1940 had grown to fifty-three billion dollars in 1962, or more than 25 times the 1940 level. The annual changes in gross national product and in national security expenditures over this 23 year period are shown in Table I on page 2 and more strikingly portrayed in Chart I on page 3.

National security expenditures today represent a greater economic force than any other single major activity. This spending which accounts for fifty-nine and three-tenths per cent of the Government's entire budget expenditures and consumes more than nine per cent of our gross national product has become a highly significant determinant in the functioning of the economy. From 1950 to 1962 while the nation's volume of business expanded 81.5%, Department of Defense expended 258.4%. Only residential housing and public construction even approach in economic significance the military total. As a consequence of this magnitude of business, it is very important to see what effect this has on the small business community.

TABLE I

GROSS NATIONAL PRODUCT AND NATIONAL SECURITY EXPENDITURES

1940-1962

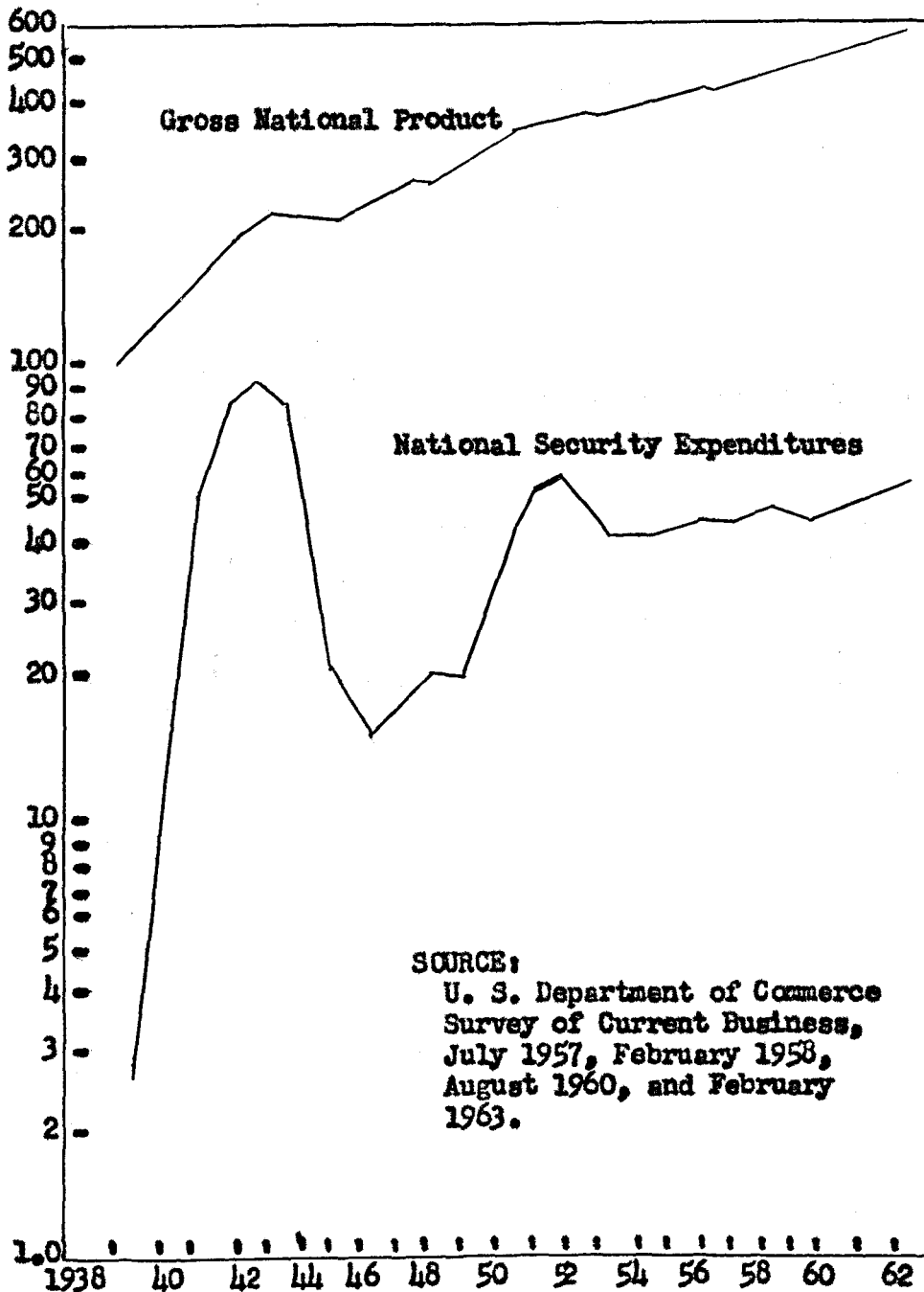
(Billions of Dollars)

Year	Gross National Product	National Security Expenditures
1940	\$100.6	\$ 2.2
1941	125.8	13.8
1942	159.1	49.6
1943	192.5	80.4
1944	211.4	88.6
1945	213.6	75.9
1946	209.2	21.2
1947	232.2	13.3
1948	257.3	16.0
1949	257.3	19.3
1950	285.1	18.5
1951	328.2	37.3
1952	345.4	48.8
1953	363.2	51.5
1954	361.2	43.1
1955	391.7	41.3
1956	414.7	42.4
1957	434.4	45.7
1958	444.2	44.8
1959	482.1	46.9
1960	503.4	45.7
1961	518.7	49.0
1962	553.9	53.4

SOURCE: United States Department of Commerce, Survey of Current Business, July 1957, page 9; February 1958, page 8; August, 1960, page 7; and February 1963, page 5.

CHART I

Gross National Product
and
National Security Expenditures (Unadjusted)*
1940-1962
Billions of Dollars



*In order to compare the rates of change, the data are presented on a semilogarithmic or ratio scale.

CHAPTER II

DOING BUSINESS WITH THE MILITARY

Although at first glance it might seem that doing business with the military would be no different from commercial transactions with other customers, closer scrutiny will indicate some highly specialized conditions which make considerations of success or failure quite different in the military market from those in normal trade. These involve, for example, the kinds of goods and specifications for them required by the services, the multiple decision processes involved in placing orders, and the violent fluctuations in total volume resulting from changes in the thinking of the President or the Congress regarding the level of expenditures that should be permitted in support of the armed forces.

KINDS OF GOODS AND SPECIFICATIONS REQUIRED BY THE MILITARY

Knowing what the military wants usually involves more than just contacting the buyers and looking at periodically published lists of contracts to be let. In order to be equal to or ahead of our potential enemies, the military demands continually press against the outer perimeter of both the current and the expected state-of-the-art made possible by science and technology. The growth in importance and cost of research and development in recent years has meant that very few

companies can themselves undertake the financial risks involved and, as a result, that most of the research and development is financed by the Government.

Although there is a tendency to think of such machine marvels as color television and automatic gear shifts as new, if we stop and think for a moment we will note that twenty years or more elapsed between the first projection of these ideas and their introduction on the commercial market. The military cannot wait twenty years for the performance reliability and reasonable cost which are more or less normal in the commercial realm. Even though the businessman must think of the possibility of a competitor getting the jump on him, he does not have to think of the devastating and horrifying results of an error in decision which confront the Joint Chiefs of Staff when they are for the first time presented with the scientific possibility of creating a revolutionary new weapon. Although there are conditions under which this new capability can be achieved just a few steps beyond the existing state-of-the-art, in most cases, the projection means moving in a few years to a point to which normal commercial evolution would have brought us in twenty or more years.

Partly because of the very advanced ideas, but to a larger extent because of the nature of the legal and administrative procedures established by the Government and the military, selling to the armed services is not a simple and straightforward task. The military cannot

know the quantity of an item it wants until it has reasonable assurance of its performance. Since the capability is based upon the realization of an as yet unestablished state-of-the art, no one can know how good or worthwhile the proposal is until after an extensive test program. Under these circumstances, decisions to buy are a mixture of optimism, knowledge, and willingness to take numerous types of risks. As research and development becomes more and more expansive, cost considerations have become increasingly important. In any event, it is not easy to get a yes-or-no decision with respect to either the item or its quantity.

MULTIPLE DECISION PROCESSES INVOLVED

BEFORE RECEIVING PURCHASE ORDERS FROM THE MILITARY

Military requirements for an item will be changed continuously, as hopes are tempered by experience. Quantities will go up and down as the pragmatic estimate of the value of the final product changes. This process would make life commercially difficult even if it occurred at only one point. However, in the case of the military, this process takes place in at least four or five places, and often more.

For example, decisions affecting the eventual procurement of military equipment may be first drawn up and reviewed at one or more levels in the using command, bureau, or corps. Decisions thus made are referred first to the military staff of the appropriate headquarters in Washington and then to the Departmental Secretary's office. Those that survive are referred to the Department of Defense, and, if approved there,

to the Bureau of the Budget. It is apparent that this process will ordinarily require numerous interactions among the offices and agencies concerned, with resulting delays and extensive time lags, and that the final procurement decision will often bear little resemblance to the original proposal.

THE INCREASE IN THE RELATIVE IMPORTANCE
OF RESEARCH AND DEVELOPMENT IN MILITARY PROCUREMENT

Against this multiplicity of military decision-making points, one can formulate his own estimate of the cost of representation and presentation which must be borne by the vendor in his search for military equipment business. When this is coupled with the other financial considerations involved and the necessity for having the mechanical and human capabilities to perform the job, it becomes apparent that substantial resources are required to do business with the armed services. Some measure of the magnitudes involved and particularly the changes which have occurred in recent years may be obtained by considering the changes in relative importance of research and development and procurement outlays for major weapons. Research and development costs for most types of World War II aircraft were ordinarily measured in hundreds of thousands or hundreds of millions of dollars with follow-on procurement outlays in tens or hundreds of millions. Research, development, and test on equipment such as the B-52 ran into millions, followed by procurement costs of billions. For the ballistic missile program,

development costs (including test) are measured in billions and (depending on quantities of operational missiles procured) may even approach the ultimate procurement outlays.

Under present institutional arrangements, the real payoff to the vendor tends to occur only if the research and development effort can be converted into a procurement contract for the finished article. Three things are especially noteworthy: (1) the size of the research and development effort, is, of itself, large; (2) the volume of procurement is so large as to require very substantial resources; and (3) the growth in research and development, together with the decline in the relative importance of procurement, makes the financial ability to enter into research and development a matter of prime importance.

The increase in the relative importance of the cost of research and development is impressive and overwhelming from a commercial point of view. Although unclassified data on research and development costs for individual weapons currently under development are not available, the Patman Committee published a list¹ of the companies and institutions receiving the largest amounts of military research and development contracts in fiscal year 1956-1958. Table II on page 9 shows these data for major companies whose business is primarily military, together with

¹House Select Committee on Small Business, final report, House of Representatives Report Number 2970, 84th Congress, Second Session 171-73 (1959).

TABLE II

TWENTY COMPANIES WITH LARGE PROPORTIONS OF MILITARY BUSINESS

MILITARY RESEARCH AND DEVELOPMENT CONTRACTS AND NET WORTH

(Millions of Dollars)

Company	Military Research and Development Contracts Fiscal Years 1956-1958	Net Worth 1958
North American Aviation	\$421	\$153
Boeing Airplane Company	212	149
General Dynamics	169	143
Martin Company	136	64
Bell Aircraft Corporation	134	39
Aerofjet General	115	16
Northrop Aircraft, Inc.	105	28
Curtiss-Wright Corporation	98	183
Lockheed Aircraft Corporation	84	107
Sperry-Rand Corporation	83	254
Raytheon Manufacturing Company	71	43
United Aircraft Corporation	67	219
Douglas Aircraft Company, Inc.	39	153
Bendix Aviation Corporation	34	177
McDonnell Aircraft Corporation	32	28
Chance Vought Aircraft	32	29
Republic Aviation Corporation	30	46
Fairchild Engine and Airplane Corp.	25	37
Thiokol Corporation	21	6
Ryan Aeronautical	17	11

SOURCES: Research and Development contract totals from House Select Committee on Small Business, Final Report, (House of Representatives Report Number) 2970, Eighty-fourth Congress, Second Session (1959); Net Worth from Moody's Manuals of Investments.

Parent corporations and subsidiaries are not consolidated in all cases.

the companies' net worth in 1958. The magnitude of the research and development figures indicates that in many cases, the effort would be beyond the capability of a small firm and that in others, if they were, indeed, undertaken and proved unsuccessful, the result would be financial catastrophe.

There may be some who will experience a feeling of dismay toward these high costs of research and development, especially when they may tend to drive smaller concerns out of the market as prime contractors. It should be recognized, however, that unlike production, where timing and volume can be calculated fairly well in advance, research and development is very often an attempt to exploit a chain of reasoning which rests in part on proved scientific principles, in part on plausible hypotheses, and in part on intuition or informed opinion on the part of specialists. Added to this usually are requirements for retention of high strength of materials under increasingly high temperature, finer and finer tolerances of fit, and the highest attainable level of reliability. The combination of all these means, in economic terms, the need to build and staff highly specialized laboratories and to support them for periods of unpredictable length, while a high-priced scientific and engineering staff, supported by skilled craftsmen, run down one promising lead after another. There is very little that is predictable in this process. There is no way of guaranteeing results.

ADVANTAGES ACCRUING TO THE BUSINESSMAN
FROM DEFENSE CONTRACTING

The effect of a military procurement contract on the contractor's status varies widely. In the main there accrue several benefits to the contractor from defense contracting on a reasonably sustained basis.

These benefits may include:

Profits. Within the framework of present types of defense contracts and renegotiation procedures, a contractor is expected to make a reasonable profit on the goods and services supplied. This is the basic benefit of contracting.

Reduced overhead. The performance of defense contracts may permit continuous use of production facilities otherwise idle, minimizing possible slack seasons or reduced business activity. This may serve to lower overhead expenses, reducing unit costs of goods for the civilian as well as for the military market. Indirectly, therefore, such contracts can serve to increase profits on civilian goods in comparison with competitors.

Personnel. Uninterrupted production, assisted by defense procurement contracts, assures the continuity to attract administrative, technical and production personnel. The size and responsibilities of the related operations can be a powerful attraction to qualified personnel.

Technology. Since much of military hardware is of highly complex

types, specialized techniques are required in performance of procurement contracts. Whether worked out by the producer himself or in cooperation with the military authorities, this know-how can be highly valuable for production of similar goods for the civilian economy. Particularly in the new or improved civilian products which are the probable outgrowth of military technology advances, this head start may be one of the greatest sources of profit from the contract.

Defense procurement's impact not only is apparent within a particular industry, but it may also reorient industry lines. Major companies in one industry obtain contracts for production of a basic item within that industry, embodying auxiliary equipment normally produced by other industries. Acquisition of the technology in the new field may lead the company toward new lines. Aircraft manufacturers, for example, in shifting to missile business, have developed capabilities in electronics that may make them significant factors in that field.

This particularly seems a result of weapons system procurement, giving broad responsibility for development, design, and production of a whole complex weapon to one company. Such a company will, of course, widely subcontract much of the work on component parts. However, though mitigated by military supervision, "make or buy" decisions may make possible the invasion of new industrial fields by affording opportunity for the production of profitable components under the contractor's own roof.

DISADVANTAGES OF DEFENSE CONTRACTING TO THE BUSINESSMAN

To balance this picture, however, it should be recognized that to some the benefits of defense contracting are outweighed by disadvantages. There are companies which shy away from this business altogether, and others, after handling it for a period, are discouraged from seeking future defense work. Some find that the precontract expenses incident to preparing bids or proposals, often running into thousands of dollars, are more than they can prudently expend upon the mere contingency of getting a contract. Other companies believe that renegotiation procedures, after completion of the contract, deprive them of profits to the extent originally contemplated. Still others state that the complexities of handling defense business -- administrative redtape, changes in specifications, and inspection procedures -- tend to eat up a disproportionate share of the profit. Again, since so many items in defense procurement are nonstandard, the necessity for establishing individualized production lines may involve greater expense and time-consuming trouble than would appear warranted by the profits reasonably expected. In production of some items presently unrelated to commercial markets, the profit anticipation may be small.

The increasing possibility that new technological development will outmode complex new products before production has begun lends further uncertainty. Thus, some of the latest weapons will be required

only in experimental quantities, and almost custom-produced. There will be no opportunity for assembly-line production in volume before newer replacements are devised, and production efficiency and maximum profits depend upon volume output. Accordingly, though it is infrequent, the military services may have to seek out firms to produce a particular item.

Thus, defense contracts vary widely in rates of return to the recipient, and consequently in impact. Both direct and indirect benefits, whether tangible or intangible, are realized accordingly to the circumstances surrounding each contract and the efficiency and ability of the contractor.

VIOLENT FLUCTUATIONS IN TOTAL VOLUME OF MILITARY SPENDING

In addition to the types of problems involved in selling the military which have been discussed above, there is another and perhaps more potent condition arising from the nature of our annual budget-making process. In times of crisis, as in World War II and Korea, there is a tendency for Congress and the Executive to make high sums of money available to the military. When the crisis is over, there is a very real desire to cut taxes and move towards balancing the budget, and, therefore, to cut back on military expenditures. The change in weapons procurement from 1940-1945, as compared to 1945-1950, is striking. In terms of what we can expect in the cold war, the changes that have

occurred since 1950 are probably even more significant. (See Chart I on page 3.)

From a commercial point of view, the important thing is the large volume of business and numbers of vendors that are brought in during the crisis expansion. When the cutback takes place, this naturally hits not only the established vendors, but more particularly the new vendors who have just gotten started. This means then that the usual changes in executive and congressional policy with respect to expenditures for military weapons produce a feast-or-famine condition which makes commercial survival extremely difficult.

SUMMARY

The sum of all these conditions means that it is not easy to do business with the military. This is reflected in the attitude of the bankers and the investment fraternity towards financing military vendors. Perhaps equally noteworthy is the oft-repeated attitude of companies who can employ their resources for non-military purposes. After one or two sessions of doing business with the military some will say "never again".

CHAPTER III

BACKGROUND MATERIAL ON ECONOMIC ASPECTS OF MILITARY PROCUREMENT

From July 1, 1950 to June 30, 1962, the dollar value of the more than forty-two million military procurement actions for work in the United States totaled some \$282 billion. Order placements have fluctuated from year to year as shown in Table III on page 17.

Many congressional investigations have been made since 1951 on various aspects of Department of Defense's procurement operations. During the past session of Congress several committees of both Houses looked into different aspects of the problems growing out of military procurement. For example, a subcommittee of the Senate Armed Services Committee held extensive hearings on the following bills.

Senate Bill Number 500. Introduced by Senator Saltonstall, this bill would amend title 10, United States Code for the purpose of removing obstacles to improving the management of military weapon systems procurement.

Senate Bill Number 1383. Introduced by Senator Williams, this bill would require the use of competitive bidding to the greatest practical extent through the establishment by the Secretary of Defense of specific standards governing the use of negotiated contracts.

TABLE III

NET VALUE¹ OF MILITARY PROCUREMENT ACTIONS WITH BUSINESS FIRMS
FOR WORK IN THE UNITED STATES

Fiscal Years 1951-1962

Fiscal Year	Total Net Value (Millions)
1951	\$ 30,823
1952	41,482
1953	27,822
1954	11,448
1955	14,930
1956	17,750
1957	19,133
1958	21,827
1959	22,744
1960	23,431
1961	24,126
1962	26,481
Total 1951-1962	\$281,997

SOURCE: Department of Defense, Military Prime Contract Awards to Small Business and Other Contractors, July-December 1961, 12 (1962) Supplemented for 1962. Small Business Administration, Office of Procurement and Technical Assistance, Washington, D. C. March 1963.

¹Net value refers to the net change in the amount of obligations resulting from debit and credit procurement actions recorded during the fiscal year. Debit procurement actions are all new contracts plus contract changes that increase the amount of obligations by ten thousand dollars or more. Credit procurement actions are contract modifications that decrease the amount of obligations by ten thousand dollars or more.

Senate Bill Number 1875. Introduced by Senator Javits and Senator Keating, this would amend title 10, United States Code for the purpose of encouraging competition in the procurement by the armed services. Among other things, this bill sets forth a congressional declaration of policy to the effect that procuring agencies shall consider the strategic and economic desirability of allocating purchases to different geographic areas of the Nation, and to eligible suppliers from whom relatively smaller proportions of procurement have been made, as well as to small business and to labor surplus areas.

These bills are still under consideration by the United States Senate.

THE ARMED SERVICES PROCUREMENT ACT

Advertising is historically the favored method of government contracting. At one time it was virtually the only legal way of entering into a government contract. The Armed Services Procurement Act of 1947, Public Law 413, 80th Congress, liberalized the use of negotiation by allowing the following seventeen exceptions²:

Section 2(c). All purchases and contracts for supplies and services shall be made by advertising, as provided in section 3, except that such purchases and contracts may be negotiated by the agency head without advertising if --

²Circumstances Permitting Contracting by Negotiation Under the Armed Services Procurement Act of 1947, Public Law 413, 80th Congress.

1. determined to be necessary in the public interest during the period of a national emergency declared by the President or by Congress.

2. the public exigency will not admit of the delay incident to advertising.

3. the aggregate amount involved does not exceed one thousand dollars (increased to \$2,500 by Public Law 85-804).

4. for personal or professional services.

5. for any service to be rendered by any university, college, or other educational institution.

6. the suppliers or services are to be procured and used outside the limits of the United States and its possessions.

7. for medicines or medical supplies.

8. for supplies purchased for authorized resale.

9. for perishable subsistence supplies.

10. for supplies or services for which it is impracticable to secure competition.

11. the agency head determines that the purchase or contract is for experimental, developmental, or research work, or for the manufacture or furnishing of supplies for experimentation, development, research, or test: Provided, that beginning six months after the effective date of this Act, and at the end of each six-month period thereafter, there shall be furnished to the Congress a report setting forth the name of each contractor with whom a contract has been entered into pursuant to this subsection since the date of the last such report, the amount of the contract, and, with due consideration given to the national security, a description of the work required to be performed thereunder.

12. for supplies or services as to which the agency head determines that the character, ingredients, or components thereof are such that the purchase or contract should not be publicly disclosed.

13. for equipment which the agency head determines to be technical equipment, and as to which he determines that the procurement thereof without advertising is necessary in order to

assure standardization of equipment and interchangeability of parts and that such standardization and interchangeability is necessary in the public interest.

14. for supplies of a technical or specialized nature requiring a substantial initial investment or an extended period of preparation for manufacture, as determined by the agency head, when he determines that advertising and competitive bidding may require duplication of investment or preparation already made, or will unduly delay procurement of such supplies.

15. for supplies or services as to which the agency head determines that the bid prices after advertising therefor are not reasonable or have not been independently arrived at in open competition: Provided, that no negotiated purchase or contract may be entered into under this paragraph after the rejection of all bids received unless (a) notification of the intention to negotiate and reasonable opportunity to negotiate shall have been given by the agency head to each responsible bidder, (b) the negotiated price is lower than the lowest rejected bid price of a responsible bidder, as determined by the agency head, and (c) such negotiated price is the lowest negotiated price offered by any responsible supplier.

16. the agency head determines that it is in the interest of the national defense that any plant, mine, or facility or any producer, manufacturer, or other supplier be made or kept available for furnishing supplies or services in the event of a national emergency, or that the interest either of industrial mobilization in case of such an emergency, or of the national defense in maintaining active engineering, research, and development, are otherwise subserved: Provided, that beginning six months after the effective date of this Act and at the end of each six-month period thereafter, there shall be furnished to the Congress a report setting forth the name of each contractor with whom a contract has been entered into pursuant to this subsection (16) since the date of the last such report, the amount of the contract, and, with due consideration given to the national security, a description of the work required to be performed thereunder; or

17. otherwise authorized by law.

GROWING USE OF NEGOTIATION METHOD
IN GOVERNMENT PROCUREMENT

In enacting the Armed Services Procurement Act, Congress incorporated a number of earlier statutory exceptions to formally advertised procurement and extended them uniformly to all three military departments, the Coast Guard and the National Advisory Committee for Aeronautics (now National Aeronautics and Space Administration). These and other exceptions introduced for the first time, it was believed, would add procurement flexibility in limited situations to obtain greater benefit for the Government. However, it was still contemplated that the great volume of purchases and contracts would be made by advertising for bids.

Subsequent experience, however, has not borne this out. In terms of dollar value, by far the largest volume of procurement actions has been negotiated. Negotiated contracts have represented more than eighty-two per cent of procurement actions each year since the outbreak of the Korean emergency. The comparison of negotiated and formally advertised procurement since 1951 is shown in Table IV on page 22.

Over seventy per cent of the dollar value of procurement by negotiation was attributed to three exceptions to formal advertised bidding.

1. For technical or specialized supplies requiring substantial

TABLE IV

NET VALUE OF MILITARY PROCUREMENT ACTIONS
WITH BUSINESS FIRMS FOR WORK IN THE UNITED STATES
CLASSIFIED BY METHOD OF PROCUREMENT

Fiscal Years 1951-1962

Fiscal Year	Total Net Value (Millions)	Formally Advertised Procurement		Negotiated Procurement	
		Millions	Per cent	Millions	Per cent
1951	\$ 30,823	\$ 3,720	12.1	\$ 27,103	87.9
1952	41,482	4,479	10.8	37,003	89.2
1953	27,822	3,089	11.1	24,733	88.9
1954	11,448	1,789	15.6	9,659	84.4
1955	14,930	2,386	16.0	12,544	84.0
1956	17,750	2,815	15.9	14,935	84.1
1957	19,133	3,321	17.4	15,812	82.6
1958	21,827	3,115	14.3	18,712	85.7
1959	22,744	3,089	13.6	19,655	86.4
1960	23,431	3,361	14.8	20,076	85.2
1961	24,126	4,098	16.2	20,028	83.8
1962	26,481	3,914	14.2	22,567	85.8
Totals	\$281,997	\$34,303	12.4	\$247,694	87.6

SOURCE: 1951-1962: Department of Defense, Military Prime Contract Awards to Small Business and Other Contractors, July 1961-June 1962, pages 24, 27; 1962. Small Business Administration, Office of Procurement and Technical Assistance, March 1963.

initial investment or extended period of preparation for manufacturers, thirty-three per cent.

2. For experimental development and research contracts, eighteen and nine-tenths per cent.

3. As impractical to secure competition by formal advertising, eighteen and six-tenths per cent.

It is significant that an imperceptible proportion had been negotiated after advertising failed. Table V on page 24, shows the breakdown of negotiated procurement by the services in fiscal year 1962 and the assigned reasons for using this method.

ARGUMENTS FOR ADVERTISED PROCUREMENTS

As the agent of the United States Congress responsible for determining how well the executive agencies are handling their affairs, the General Accounting Office has favored advertised procurement and has been critical of the military services for resorting to negotiated procurement as much as they do. The underlying reasons for the preference for advertising are the assumption that advertising will generally bring the lowest price, and the desire to allow everyone in the country to compete for the Government business involving public funds. On the other hand, negotiated contract prices must be based largely on estimated costs of production, and the Government generally does not have the assurance of fair and reasonable pricing normally afforded by free

TABLE V

NET VALUE OF MILITARY PROCUREMENT ACTIONS UNDER NEGOTIATED CONTRACTS

Fiscal Year 1962

(Dollar Amounts in Thousands)

Negotiated authority ¹	Total Net Value		Net Value		
	Amount	Per Cent	Army	Navy	Air Force
Total negotiated contracts ²	22,567,193	100.0	4,829,088	6,596,061	11,142,044
1. National emergency (total)	627,974	3.0	251,896	177,468	198,610
a. Labor surplus area and industry set-aside	121,486	.6	85,759	18,785	16,942
b. Small business set-aside (unilateral)	61,280	.3	30,606	4,655	26,019
c. Disaster area set-aside ³	-	-	-	-	-
d. Experimental, developmental or research less than \$100,000.	250,090	1.2	89,024	74,359	86,707
e. Nonperishable subsistence ⁴	63,337	.3	62,760	4	573
f. Modifications authorized by existing contract negotiated prior to January 1, 1956	40,750	.2	-63,112	55,345	48,517
g. Actions more than \$1,000 but not more than \$2,500 ⁵	91,031	.4	46,859	24,320	19,852
2. Public exigency	199,218	.9	41,140	81,283	76,795
3. Purchases not more than \$2,500	676,292	3.2	293,395	183,495	201,402

¹10 U.S.C. 2304(a) includes modifications pursuant to terms of existing negotiated contracts; however, statutory negotiation authority was not required nor used. Modifications are classified according to the statutory authority applicable to the existing contracts which they modify.

²Excludes intragovernmental procurement.

³No disaster areas were designated for procurement purposes during 1962.

⁴Public Law 85-800 provided that such purchases could be negotiated under exception 9, which previously had been limited to perishable subsistence.

⁵Public Law 85-800 provided that such purchases could be negotiated under exception 3, which previously had been limited to actions of not more than \$1,000.

TABLE V
(Continued)

Negotiated authority	Total Net Value		Army	Net Value	
	Amount	Per Cent		Navy	Air Force
4. Personal or professional services	81,665	.4	42,387	13,492	25,786
5. Services of educational institutions	335,818	1.6	84,799	89,814	161,205
6. Purchases outside the U.S.	1,117,228	5.2	594,554	319,539	203,135
7. Medicines or medical supplies	33,959	.2	408	33,018	533
8. Supplies purchased for authorized resale	128,555	.6	99,514	11,769	17,272
9. Perishable or nonperishable subsistence	416,759	1.9	411,381	1,982	3,396
10. Impracticable to secure competition by formal advertising	3,966,992	18.6	481,342	1,298,439	2,187,211
11. Experimental, developmental, or research	4,027,675	18.9	487,228	503,657	3,036,790
12. Classified purchases	630,148	3.0	100,733	517,293	12,122
13. Technical equipment requiring standardization and interchangeability of parts	12,897	.1	5,515	7,286	96
14. Technical or specialized supplies requiring substantial initial investment or extended period of preparation for manufacture	7,022,201	33.0 ⁶	284,379	2,308,903	4,428,919
15. Negotiation after advertising	2,268		187	939	1,142
16. Purchases to keep facilities available in the interest of national defense or industrial mobilization	1,345,573	6.3	944,096	362,521	38,956
17. Otherwise authorized by law	670,814	3.1	278,067	267,126	125,621

⁶Less than 0.1 of 1 per cent.

SOURCE: Small Business Administration, Office of Procurement and Technical Assistance, Washington, D. C. March, 1963.

competitive conditions. The General Accounting Office recognizes-- indeed the law makes provision for it--that negotiation is both necessary and desirable under certain circumstances, such as procuring complex weapons, but that even in such cases, the Department of Defense should provide effective competition through the design, research, and development stages in weapon systems contracting. If competitive conditions are not allowed to prevail through design and development stages, the General Accounting Office believes there is little likelihood of effective competition for subsequent production contracts.

The General Accounting Office further contends that while negotiation might be the accepted method of procurement in some segments of private industry and business, equal opportunity to all businesses to supply the needs of our Government is important in the Nation's free enterprise economy; that full and free competition is important to economical procurement by the Government. Exceptions to these principles, in the form of authority to negotiate contracts with limited competition, should be granted only when it is impractical or against the public interest to submit the needs of the Government to all qualified suppliers by formal advertising for bids.

ARGUMENTS FOR NEGOTIATED PROCUREMENTS

The Department of Defense takes the position that in view of the swift changes in world events and the constant acceleration of technological developments, the vast majority of the military procurement dollars

must be contracted for by the negotiated method. In addition, the sociological aims fulfilled by military procurement can only be met by a departure from straight formal advertising. The Department of Defense contends that it can procure better by negotiation of aircraft, aircraft engines, complex electronics items, and weapons systems. Frequently the military services invite proposals for the manufacture of an item about which they know little more than the desired performance characteristics. Proposals to such invitations are as much suggestions of how work can be performed as they are price quotations. These proposals must be evaluated technically to determine which will best accomplish the job. In such situations, negotiation is the method of procurement. On the other hand, the Department of Defense believes that for standard commercial-type material, based on clear-cut specifications, as well as for construction, advertising is preferable.

The Department of Defense maintains that it is a mistake to assume that negotiation means lack of competition. In addition, it claims that competition can be just as effective in negotiation as it is in advertising. Unless the item to be bought is available only from a single source, the procedure in negotiation is to solicit proposals from a number of sources. After the proposals are received and evaluated, it is the practice of many procuring units to call in all or some of the potential contractors and to negotiate with them on price as well as on other factors. The Department of Defense indicates that while techniques of negotiation may vary from unit to unit, they make an effort

to obtain the lowest price from each proposer, so that each is negotiating in an atmosphere of awareness that others are competing for the same contract.

Another blending of the two methods is found in the "two-step formal advertising" procedure recently adopted experimentally by the Air Force for procurement³. When the service does not have detailed performance specifications--or is unable to prepare them accurately enough--to define precisely the desired product "package", negotiating procedures are utilized to obtain technical proposals without prices from a number of defense contractors. The proposals are reviewed in Air Force laboratories to determine the technical acceptability of the products offered and to evolve from them the precise performance characteristics desired. Those contractors whose proposed products are acceptable are given the opportunity to bid under normal advertising procedures for award to the lowest responsive bidder.

An additional reason, according to the Department of Defense, for the large amount of negotiation is that the administrative costs of advertised procurement are likely to be considerably higher than those of negotiated procurement. The greater the number of invitations to bid and of plans and specifications, the greater the time and efforts

³Eightieth United States Congress, First Session, House of Representatives, Committee on Appropriations, Subcommittee on Defense Appropriations, Hearings for 1960, Part 5, pages 493, 521-522.

of more people involved in the preparation of bid sets, the ancillary problems of filing and record keeping, all contribute to making the administrative cost of advertising higher than negotiation. This cost is justifiable where the item is of such nature that an overall economic advantage to the Government can be expected. Almost five million procurement actions annually for \$2,500 or less are made through negotiation which is permitted by law to save administrative costs. The Assistant Secretary of Defense (Supply and Logistics) favored an increase in this exemption to ten thousand dollars.⁴

THE UNITED STATES GOVERNMENT'S SMALL BUSINESS PROGRAM

There are certain statutory and administrative controls which have the effect of diverting contracts from one contractor to another on bases other than price and performance. They are policy determinations for purposes other than procurement objectives and include such legislation as the Small Business Act.

Participation by small business concerns in Defense Department procurement is a declared objective of Congress. The basic policy is that small business shall obtain a "fair proportion" of the total purchases and contracts for supplies and services for the Government. In addition to stating this basic policy in the Armed Services Procurement

⁴United States Congress, Senate Subcommittee of the Armed Services Committee, Hearings on Senate Bill 500, Senate Bill 1383, and Senate Bill 1875, July 13, 15, 21, 24, 28, and 31, 1962, page 79.

Act, Congress has assigned the Small Business Administration the function of seeing to it that the policy is carried out. The Small Business Administration performs a number of functions calculated to assist small-business concerns. Among them is the screening of all Department of Defense procurements in excess of ten thousand dollars and entering into joint determinations with the contracting officer that some portion of each procurement deemed suitable for small business be set aside for small business. What constitutes a "fair proportion" has never been defined and as a result there appears to be a wide difference of opinion on whether small business is receiving a "fair proportion" of total Department of Defense procurements. The small business proportion of the total military procurements has, however, been declining in recent years. In fiscal year 1957, small business accounted for nineteen and eight-tenths per cent of military procurement, in fiscal year 1958, seventeen and one-tenth per cent, in fiscal year 1959, sixteen and six-tenths per cent, in fiscal year 1960, sixteen and one-tenth per cent, in fiscal year 1961, fifteen and nine-tenths per cent, and in fiscal year 1962, seventeen and seven-tenths per cent.⁵

Table VI on page 30, shows that small business obtained only five and nine-tenths per cent of the procurement awards of ten thousand dollars or more in the heavy equipment and weapons program and

⁵Office of the Assistant Secretary of Defense for Installations and Logistics, "Small Business Program Fiscal Year 1962 Report, page one.

TABLE VI

SMALL BUSINESS PROCUREMENT PROGRAM

JULY 1961 - JUNE 1962

Fiscal Year 1962

(Amounts in Millions)

	All Business Firms Net Value	Small Business Firms Net Value	Per cent
<u>Major Hard Goods:</u>			
Actions of \$10,000 or more	\$17,637.6	\$1,107.0	5.9
Aircraft	6,801.0	374.1	2.7
Guided Missiles Systems	5,043.3	96.2	1.4
Ships	1,887.8	118.0	8.2
Tank-automotive	437.1	71.8	16.8
Weapons	234.4	44.1	13.9
Ammunition	445.0	54.0	12.6
Electronics and communications equipment	2,790.0	352.8	10.3
<u>Services:</u>			
Services Program Awards	2,314.5	372.0	34.2
<u>All Other:</u>	6,528.9	3,143.0	49.9
Subsistence	494.8	307.5	54.1
Textiles, Clothing & equipage	185.7	156.5	70.1
Fuels and lubricants	988.4	219.2	21.4
Miscellaneous hard goods			
construction	893.7	378.6	38.8
Construction	1,939.8	1,031.1	65.1
Actions of less than \$10,000	2,026.5	1,050.4	65.4
Total	\$26,481.0	\$4,622.0	17.7

SOURCE: Small Business Administration, Office of Procurement and
Technical Assistance, Washington, D. C. March 1963.

thirty-four and two-tenths per cent of the service awards, but received forty-nine and nine-tenths per cent of certain other procurements, which accounts for only approximately one-fourth of total procurements. This latter category also includes all awards of less than ten thousand dollars.

Small business received some awards in all of the major hardgoods program, ranging from one and four-tenths per cent of the missile funds to sixteen and eight-tenths per cent of the tank-automotive awards. However, in the aggregate, small business was able to compete successfully for only five and nine-tenths per cent of the total awarded contracts for hard goods.

Small-business opportunities also are limited in the services program awards, which in fiscal year 1962 represented eight and seven-tenths per cent of all the military awards. The small-business share in this category was thirty-four and two-tenths per cent. One reason for this is that experimental, developmental, and research contracts accounts for about half of this services category. Contracts for utilities, usually available only to large companies, also are included in this category.

In some soft-goods areas, such as for subsistence and textiles, small-business concerns are accounting for well over half the volume of awards. Small business is also participating in sixty-five per cent of construction awards. Almost two-thirds of all contracts valued at

less than ten thousand dollars are going to small business concerns.

THE GOVERNMENT'S LABOR SURPLUS AREA PROGRAM

Under defense manpower policy, there is a procedure whereby contracts may be channeled into distressed labor areas where the Secretary of Labor determines that there is widespread unemployment.

The procedure is quite similar to that under the small business provisions. It entails a determination by the contracting officer of the optimum quantity of a given item to be purchased which would probably result in the most favorable price, considering the manufacturing processes involved and the quantity required for an economical production run. Unrestricted procurement is then initiated for at least this amount and a set-aside to surplus-manpower areas may be made for not less than that amount. The set-aside portion of the contract is awarded only if the offer meets the price at which the unrestricted portion is awarded. In a tie-bid preference, awards are made to bidders in labor-surplus areas whose bids match those of competing firms outside labor-surplus areas. Normally in a tie-bid situation a drawing is held to determine which bidder is to receive the award.

In addition, the Office of the Civil Defense Mobilization has offered incentives in the form of accelerated amortization of emergency facilities to defense contractors who locate their plants in surplus labor areas. However, the effectiveness of the entire program has been negligible. The Department of Defense procurement actions involving

set-asides or tie-bid preferences in labor surplus areas amounted to only one hundred seventy-nine million dollars in fiscal year 1962⁶.

SUMMARY

In summary of this background discussion on military procurement, it is apparent that the complexity and urgency of military needs appear to override other considerations. There is the possibility of large supply needs for defense for years to come, despite hopes of settlement of the world's disputes. The defense share of the national product is already considerable. The Armed Services Procurement Act emphasizes the importance of utilizing existing competition to the extent possible to obtain the best value to defense in military supply. But when the necessity of situations permit negotiated contracting, there is a concomitant responsibility to prudently utilize all relevant cost data of prime contractors and subcontractors in such price determinations. More consideration, it appears, should be given to the Department of Defense to complying with the intent and spirit of the law by utilizing procurement authority to preserve the basis of future competition to the extent present military needs permit.

⁶Office of the Secretary of Defense, Awards in Labor Surplus Areas and Industries Report, October 5, 1962.

CHAPTER IV

WEAPON-SYSTEM CONCEPT

Within the last few years, beginning notably with the Air Force procurement of the B-58 bomber in 1954, the so-called weapon-system concept has become important. The change here is particularly noteworthy since it means placing the total system responsibility (excluding only power plant in the case of the B-58) in the hands of a single source. Prior to this time, the major components--such as airframe, bombardment-navigation system, or communications equipment--were bought from separate sources and were Government furnished equipment to be incorporated in the final product by the airframe producer. Under the weapon-system concept, these items become contractor furnished equipment, and a single vendor assumes complete responsibility for the total system. In varying degree, this concept has now been applied to other major air force procurements such as the B-70, the F-108, TFX planes, and the Atlas, Titan, and Thor missiles.

There are two major reasons for this new way of buying weapons.

First, the mating or system integration problem--that is, the combining of the various components into the final assembly--becomes more and more severe as weapon-system complexity increases. Obviously, when separate producers are developing each of the component items, in the course of the years that elapse from initial projection to delivery,

the search for high performance may lead to departures from specification and configuration that will make mating wellnigh impossible. This becomes particularly important in airborne vehicles, where the search for weight and space savings is extremely important and the configuration of the final structure has a marked effect on total performance.

Second, there are operational problems which cannot be taken fully into account in evaluating the separate articles. It is only as a total system that the equipment is operational and all the problems involved in both its airborne and ground handling activities become apparent. Let us develop these two points.

As the military moved toward the more and more advanced equipment they have repeatedly encountered situations in which one component meets or exceeds the original specifications and another falls behind by a wide margin. Under these circumstances, the final system integration usually produces an article which suffers from the lowest level of component achievement. To deal with this problem and to ensure greater comparability of the components, the weapon-system concept has developed with the hope of insuring capability of the final assembly. There has been considerable discussion and negative criticism of this approach because it reduces the number of prime contractors and places a great deal of economic power in the hand of the successful bidder.

It is recognized, of course, that inherent in the use of the weapons-system method of procurement are certain features which may

operate to the detriment of small manufacturers. For example, Congress has passed laws and procurement regulations have been designed to carry out the mandate that small business receive a fair share of the military procurement dollar. Examples are the small business set-aside program, the Certificate of Competency Program,⁷ and the existing Department of Defense small business programs and regulations, and the free and open competition brought about by the basic requirement of the procurement laws that contracts be let through advertising. Not all of these can be extended, nor can they be imposed on prime contractors in dealing with their subcontractors. Thus, it may be said that the weapons-system method of procurement can be utilized to avoid not only the effect of these programs and laws, but also the responsibility for carrying out the small business program established by Congress.

⁷Certificates of Competency are authorized by Section 8(b)(7) of the Small Business Act. In accordance with this Act, government contracting officers are responsible for referral to the Small Business Administration of the proposed rejection of the bid proposal of a small business concern because of lack of capacity or credit. This Certificate of Competency Program is in effect an appeal procedure available to a small business firm whose bid or proposal for a contract by a government agency is to be rejected under the aforementioned circumstances. A Certificate of Competency is a written instrument issued by the Small Business Administration. It is addressed to a government contracting officer certifying that after examination of all pertinent facts the small company cited therein possesses the capacity and credit to perform a specific government contract. If the Small Business Administration denies issuance of the Certificate of Competency, then the contracting officer can award the contract in question to the next low qualified bidder.

The weapons-system method, if extended, could have serious effects on competition. The number of companies capable of efficient production of tanks, planes, and guided missiles are limited. Thus, the competition between these companies for the large prime contracts is limited, particularly if engineering, management, and production efficiency are the chief concern. But, perhaps more important from the small business point of view, the competition for the production of the many thousands of components of a tank, plane, or guided missile that can be produced by small as well as large concerns may also be limited if the prime contractor does not seek open competitive bids from his subcontractors.

Under the weapons-system, the prime contractor and not the Government determines what work will be performed in the facilities of the prime contractor and what work will be subcontracted to small business. Thus, the decisions of the prime contractor and not the Government may have a profound effect upon the small business share of the procurement dollar and be beyond the control of Congress.

There have been various definitions of the weapons system. Some of these definitions appear so broad that they may be said to encompass the bulk of military procurement. The need for the weapons-system method of procurement must be admitted for some types of items. However, the use of this method should be very closely related to the necessity for its use and such benefits as might accrue to the more

efficient defense contractors. Because of the difficulties inherent in a broad use of the weapons system, its use should be limited to those certain large and complex items on the Office of Defense Mobilization preferential planning list which cannot be produced by small business. Such a limitation will meet the needs of the military procurement agencies without operating to the detriment of the small business economy.

CHAPTER V

LACK OF COMPETITION IN MILITARY PROCUREMENT AND ITS IMPACT ON SMALL BUSINESS

Competition in military procurement is an ingredient which is absolutely necessary since it has been shown over and over again that competition results in savings to the Government, and, in most cases, results in the delivery of a better product. The statistics on Table IV on page 22 show that eighty-five and eight-tenths per cent of the total defense dollar awards in fiscal year 1962 were made through negotiation. A very large percentage of these negotiated contracts were negotiated with a sole source, hence effective competition was lacking.

Figures furnished by the Department of Defense show that in the past fiscal year new procurements, excluding intragovernmental and modifications of existing contracts, totaled \$18,789,936,000. Of this amount fifty-two and four-tenths per cent was negotiated with a sole source. Another report issued by the Department of Defense shows that in fiscal year 1962 of the \$26,480,987,969 net value of military contracts awarded, seventy-one and one-tenth per cent were awarded to one hundred companies. Breaking this down to an even more interesting figure, only twenty companies received fifty-one and two-tenths per cent of the total procurement dollar.

The explanation given for this trend is the complexity of new weapons and the exigencies of time. It is difficult to believe that the lessening of effective competition, which the negotiation method of procurement brings about is desirable, or that competition would lengthen the time of delivery in most cases of needed weapons. Rather, competition would stimulate delivery and also add incentive to competing companies to provide better products. The time should never come when this country will have to abandon the principle of full and free competition through equal opportunity.

SOLE SOURCE BUYING BY THE GOVERNMENT

Senator John Sparkman called public attention to savings to the Government resulting from the efforts of just one Navy Department buying office to invite competition on a long list of components which formerly had been purchased from sole sources of supply.⁸

It was shown that during 1958, nineteen small business concerns bid for the first time on thirty-eight of forty-two sole source items purchased by the Navy's ships parts control center at Mechanicsburg, Pennsylvania. Four large concerns also bid for the first time on four of these sole-source products. As a result of opening these bids to competition, the Navy saved \$92,153 or seventy per cent less than what

⁸Address before the United States Senate, April 1959, page 6225, 1959 Congressional Record--Senate.

these products would have cost had they continued to be bought from the former sole-source suppliers.

From this instance, and from subsequent experiments by various military purchasing offices to eliminate unnecessary sole-source buying, it is clearly evident that sole-source non-competitive purchasing has been costing the American taxpayer millions of dollars in unnecessary expenditures.

This concentration of Government procurement dollars in a mere handful of companies, and the tremendous use of sole-source negotiation by the Department of Defense is particularly harmful to our small business community since small business receives only ten and three-tenths per cent of all negotiated awards as compared to a very creditable fifty-four and seven-tenths per cent of advertised awards.⁹ Some of the large and more complex procurement contracts which the Department of Defense enters into cannot be performed by small business. However, there are many that small business can perform. If more small businesses were given knowledge of the items needed by the Government, they could successfully compete for more of these contracts. One of the best ways to provide the public with this information is to make sure that more procurements were published in the Commerce Business Daily published by the Department of Commerce. The Senate Banking and Currency Committee

⁹Office of the Secretary of Defense, Military Prime Contract Awards, report for July 1961 - June 1962.

has pending before it a committee bill which contains the provisions of a bill introduced last session by Senator Hart of Michigan. This provision would require the Secretary of Commerce to publish in the Commerce Business Daily all defense procurements of ten thousand dollars and above and all civilian procurements of one thousand dollars and above, except procurements involving perishables and procurements involving national security. If this bill is enacted, more procurements will be publicized and consequently more small businesses will know what the Government is buying.

Another method to secure more participation by small business in Government procurement and reduce the number of sole source procurements is to make more drawings and specifications available which are suitable for formal advertising. It is often the case at the present time that certain items are repeatedly procured from the same sole source mainly because of the failure of the procuring agencies to provide drawings and specifications. Procurement contracts should provide, wherever practical, that engineering drawings and manufacturing data should become the property of the Government. This would result in this data being used in subsequent reprocurement and it would serve to broaden the base of potential sources of supply for these items. When this base is broadened, more small businesses will be qualified to bid on these items and when the volume and cost of equipment acquired annually is considered, this could result in quite a significant increase in small business participation.

THE PROBLEM OF MOST GOVERNMENT TECHNICIANS'
AND BUYERS' NATURAL TENDENCY TO FAVOR
THE ESTABLISHED SOURCES OF SUPPLY

There is a basic conflict between the desire of the military departments to obtain the best equipment possible with the least effort and in the least time possible and, on the other hand, the desire of Congress that the greatest degree of competition be maintained. The engineers and technicians of the various procurement agencies, as well as the line officers responsible for the use of the equipment, know that if company A is in production of a particular piece of equipment, that company can probably supply good material faster than if the procurement is put out on bid and some small outfit that has never produced the item before gets the bid. They fear that perhaps the new company will not really understand all the technical problems involved, may not have sufficient trained personnel, and in general, they are loyal to their old brand. The bigger companies have enough technical personnel to furnish to the services to help them solve their problems. It is perfectly natural that the service personnel should be strongly disposed to use one of the many exceptions available under the Armed Services Procurement Regulations to ask for a contract negotiated with one or two companies.

No one would deny that often the best interests of the country can be served by routing orders to a well-established company who

thoroughly understands the needs to be met and has great experience in producing the needed equipment. But there is another side of the story.

Much of the advantage which these larger companies enjoy is the result of Government action in the first place. During World War II, and to some extent during the Korean conflict, the urgency of getting new kinds of equipment was even greater than it is today. The national emergency required that the services go to the companies who had the big research staffs and ask them to produce equipment to meet a particular need as quickly as possible and in as large quantities as possible. Even today the companies who have the means to do research must be relied upon heavily to meet defense needs. Once a company has developed a product, the experience it has gained gives it a tremendous edge in later production.

Small business representatives and even the contracting officers themselves are in a relatively weak position when they attempt to contest the recommendations of the technical personnel that equipment should be purchased from a particular source because of its superior quality.

The practice of the technical sections making recommendations as to what source should receive a contract is one which ought to be carefully looked at. There may be cases where this is necessary, but if the specifications are well written, if the contracting officers make use of their facilities for checking on the ability of companies to make the

products they bid on, the choice of sources could be left to competition to a much greater extent than is now the case.

Following is an excerpt from the Comptroller General's Report dated January 29, 1963, which aptly points out the prevailing adverse tendency of Government agencies failing to use drawings for advertised procurement:

Our review at the Aviation Supply Office disclosed that drawings frequently were not utilized to solicit competitive bids for follow-on procurement and that procurement was being made after negotiation with only one supplier in about seventy-six per cent of the cases examined. A comparison of a limited number of instances where identical items had been procured both through negotiation and through competitive bidding revealed that savings effected through competition exceeded forty per cent of the sole source prices.

At the Aviation Supply Office, Philadelphia, we examined three hundred thirty-nine procurement actions reported in the month of March 1962. We found that 259 of the actions (seventy-six per cent) were awarded after negotiation with only one supplier. In 233 cases (ninety per cent of the negotiated procurements or sixty-nine per cent of the total procurement actions reported) the Aviation Supply Office stated that negotiations were justified on the basis that it was impractical to secure competition because adequate data were not available on the items being procured. Drawings and technical data supplied by the original contractors ordinarily constitute the data upon which such determination should be based. However, our detailed review of thirty per cent negotiated procurement actions selected at random disclosed that, in twenty-five of the thirty cases, the Aviation Supply Office technical personnel had not determined if drawings were available for review and use for competitive procurement. In the remaining five cases, we were unable to determine whether or not drawings had been reviewed. Our review disclosed that identical items had been previously procured in all thirty instances--in twenty-four cases, under Bureau of Aeronautics contracts. Examination of the twenty-four Bureau of Aeronautics contracts further disclosed that twenty-three of the twenty-four contracts required the contractor to furnish drawings and also gave the Government

the right to use the drawings for Government purposes without limitation. Further examination of a number of these cases confirmed that drawings actually had been received and were readily available to the Aviation Supply Office. In several cases, we obtained copies of the drawings and requested the opinion of the Aviation Supply Office technical personnel as to the adequacy of the drawings for use in competitive procurement. In some cases, the Aviation Supply Office personnel indicated that the drawings could have been used in soliciting competition. In other cases, the technical personnel felt that the drawings could not have been so used because they did not contain a reference to the applicable material specifications or did not reveal proprietary information known only to the original manufacturer. In spite of the failure to review drawings, the unavailability of adequate data was cited by the Aviation Supply Office as justification for procurement by negotiation in seventy per cent of these thirty procurement actions.

A comparison of forty-five examples obtained from the Aviation Supply Office of instances in which identical items had been procured both through negotiation and through competitive bidding disclosed that, on an overall basis, the savings effected on competitive procurements exceeded forty per cent of the cost of procuring the same quantities at the sole source unit prices. In a number of instances, the competitive unit prices were less than forty per cent of the sole source prices previously paid. We believe these examples are indicative of the potential savings which can be achieved through competition.

The following schedule presents a comparison of the volume of negotiated and advertised procurement by the Aviation Supply Office for the past two fiscal years. It is noted that the value of negotiated procurement in 1962 was more than double that of 1961.

Fiscal Year	1961		1962	
Contracts:	Per cent		Per cent	
Negotiated	12,823	85	20,536	88
Advertised	2,273	15	2,828	12
Total	15,096	100	23,364	100
Value:				
Negotiated	\$244,633,748	88	\$520,863,056	95
Advertised	33,322,924	12	30,845,412	5
Total	\$277,956,672	100	\$551,708,468	100

Since the Aviation Supply Office procurement is generally in the nature of replenishment of stocks of items for which drawings and technical data have previously been procured and since these drawings are supposed to be stored at the neighboring naval aviation supply depot, we believe that the Aviation Supply Office should be in a favorable position to effect substantial savings through the use of competitive bidding.

During our review, we learned that the Aviation Supply Office had initiated an independent study of the use of drawings. We discussed the nature of the study and its results to date with the Aviation Supply Office official responsible for conducting the study and learned that this study confirmed our findings that drawings were not being properly used. The Aviation Supply Office study was still underway when we concluded our review. However, the study group had proposed several procedures designed to improve the utilization of drawings.

EXCEPTION 14 OF THE ARMED FORCES PROCUREMENT ACT OF 1947
WHICH LIBERALIZES THE USE OF NEGOTIATION

In the preceding discussion of the individual exceptions to advertised procurement, it was pointed out that over seven billion dollars or about thirty-three per cent of all negotiated military procurements for fiscal year 1962 were made under exception (14). Among other circumstances, this exception authorizes negotiation of a contract for technical or special property if the Secretary of the procuring department determines that production of such property requires a substantial initial investment and formal advertising might require duplication of investment or preparation already made. Armed Services Procurement Regulation 3-214.2 states that this exception will be used in situations where it is preferable to place a production contract with the supplier who had developed the equipment, and thereby assure to the Government

the benefit of the techniques, tooling, and equipment already acquired by that supplier. This authorization is no less than an open invitation to award production contracts to research and development contractors without competition.

Once a product has reached the production stage and it is possible to state all or a portion of the contract requirements in specification form, it is generally in the best interest of the Government to obtain the greatest competition possible.

Benefits in the form of lower prices, new ideas and techniques, and a broader industrial base may be expected from such procedure. To assume that capable and responsible producers cannot, or will not, be able to compete for a product they have not as yet produced simply because it will require a substantial initial investment to tool up and train employees to build the product is a fallacy.

Consideration should be given to amending exception (14) to either eliminate duplication of a "substantial initial investment" as a factor justifying negotiation, or to limit the application of this factor in substantial initial investments by the Government which would require duplication by the Government in the event of procurement from a new supplier.

THE CASE FOR TIGHTER CONTROL OF NEGOTIATED CONTRACTING

The United States Code and armed services procurement regulations

are such that wide latitude is given procurement personnel at fairly low echelons to enter into negotiated contracts. The writer has found that the personnel with whom he has had contact in various procurement agencies are for the most part honest, intelligent people who are trying to perform their missions to the best of their capabilities. However, they are working under a system where the course of least resistance is to negotiate rather than to advertise and under a system which has few check reins to promote advertising for bids.

The weapon-system concept, in effect, promotes the very thing just discussed in the above paragraph. The proponents of this procurement practice rightfully say that in the highly advanced missiles, aircraft, et cetra, of this day that components of these missiles and aircraft should be integrated through the grants of research and development funds to large corporations with engineering staffs capable of designing these items expeditiously. It is true that most small businesses cannot do the research and development on such items as missiles, aircraft, and tanks. But when research and development ends and foreign production begins, small business then should properly function to its capacity in manufacturing items for which specifications should be available.

During the research and development of any given item, drawings are made and paid with by public funds. Also working models are made before production begins. At the point where the research and development

ends and mass production begins, the specifications should be available for bidding by firms interested in participating in production of items and components. Practically, small business is not able to participate because even at this point accurate specifications are many times not available so that advertised bids can be let by procurement agencies. Because public funds are paying for the development of such data, specifications should properly be available in all cases after research and development ends and production is to begin. If such data is not available or is incorrect, responsible parties should be penalized just as would be the case when any inferior product is sold to the Government. Corrective legislation in this one area alone would save millions of dollars annually.

With present procurement regulations, personnel of rather low echelon, in various agencies have authority to initiate negotiated procurement either sole-source or with a very limited number of firms although in many instances many firms are actively qualified to produce items not obtained through negotiated procurements. Therefore, to control negotiated contracting, a Review Board should be established which would be responsible to Congress to decide whether or not negotiated procurements are in the best public interest. This Board would consist of qualified technical personnel who could readily ascertain by checking competent files whether several companies were capable of producing given parts. The Board would then give to the procurement agency a certificate of authorization to proceed with a negotiated procurement in

the event such negotiated procurement were found by the Board to be in the best interest of the public. A determination of best public interest would include availability of necessary specifications and data, availability of sources (small business firms particularly) for the production of such items, and a military need. The Board would review procurements involving ten thousand dollars or more. In the event of a negative determination by the Board, the Secretary of Defense, who would be able to delegate authority to no less than the Assistant Secretary level of the particular procurement agency, could issue a certificate of military necessity. Certificates of military necessity would be subject to future review by the General Accounting Office as to all the facts set forth within such a certificate for compliance thereto. The necessary mechanics of such a Board would be so established as to act within a comparatively short time on such requests for negotiated procurements.

SUMMARY

Small business is being denied its just share of the Government's procurement dollar by the increasing use by the Department of Defense of sole-source negotiations. If it could be possible for small businessmen to be more completely informed as to the nature of the products that the Government is buying, small business would be able to compete and more competition would result in large savings to the Government as better products would be secured.

There are items which for security reasons should not be advertised

and also items of such complexity that formal advertisement is unjustified; however, negotiation is being used in many instances where the interests of the Government could best be served by formal advertising. Even in these instances of sole-source procurements, the procuring agency should be alert to the possibility of having engineering data and drawings made available for the use by the Government. In this way many items could subsequently be made available under advertised procedures.

Too much emphasis is being placed by the Department of Defense on negotiation with a sole source, because it is the easiest method for them to use. They are not permitting small business to participate to the extent it rightfully should in our defense effort, consequently, both the country and the small business community suffer from this lack of full participation.

CHAPTER VI

SMALL BUSINESS PARTICIPATION IN DEFENSE SUBCONTRACTING

Historically, the subject of subcontracting in military procurement has been overshadowed by the emphasis placed on the award of prime contractors to small business firms. Congressional intent that small business receive a fair and just share of defense contracts has always been expressed in terms of prime contracts. However, closely related to the procurement program and the share of contracts awarded to small business is the general subject of subcontracting.

In times of all-out production such as was experienced in the period from 1942 through 1945 and the period from 1950 to 1953, the subject of subcontracting does not attract much attention. Obviously in such times small firms participate in the production effort with prime contracts. Subcontracting opportunities are numerous, and large concerns actively seek out efficient small producers to assist in producing component parts or subassemblies on a subcontract basis.

However, when military expenditures are reduced and purchasing is on the decline, this entire picture changes. A chain reaction sets in which has a serious impact on the small firm. Less prime contracts are available so that competition between small firms is more severe, and small business must compete with more large firms. At the same time, large business, in order to keep plants operating efficiently and

payrolls up, will offer less and less subcontract opportunities. This, in turn, results in a further reduction in work available to small business concerns. If no effort is made to counter these trends, many small producers are forced to close their doors. This has the effect of not only depressing our economy but also of depriving the Nation of an important link in defense production in times of emergency.

THE LACK OF AN ADEQUATE GOVERNMENT SUBCONTRACT DEFINITION
AND THE MEANS OF MEASURING TRUE SUBCONTRACTING VOLUME

Adequate provisions are not present in the Small Business Act to assure small business of fair participation in the defense procurement program through subcontracts from prime contractors. As a result, armed services procurement agencies are free from strict requirements to embody responsibility of the prime contractor in the contract to subcontract to small business. Most prime contracts contain a clause that the prime contractor must subcontract whatever portion of the contract that is feasible. However, this is a worthless provision and generally serves only as a removal of definite requirement for subcontracting.

From time to time, individual prime contractors publish figures on their volume of subcontracting, and these in turn are reflected in some Government statistics. This is what some authorities class as "subcontracts" or "subcontracting". This certainly provides the opportunity for hocus-pocus in preparing such figures. No less than

Webster's dictionary states, "subcontract. . .a contract by which one agrees to render services or to provide materials necessary for the performance of another contract".¹⁰ The Walsh-Healey Public Contracts Act also supports this omnibus inclusion of nearly all purchases in the classification of subcontracts¹¹. Similarly, the Armed Services Procurement Regulations, Article 3-808-5 indicates. . .subcontracts may be placed for work, raw materials, parts and components. All of this means that the actual volume of true subcontracts that are made available to small business on defense procurement is relatively small. A reasonable industry interpretation excludes from true subcontract totals all supply items, basic components, raw materials and outside services other than for actual manufacture of subassemblies. Direction of prime contractors to provide small business with subcontracts on a voluntary basis can be no more successful than were all wages and salaries paid to a few thousand select persons in this country and they were "directed" to voluntarily look after the rest of us.

THE CASE FOR EXTENDING PRESENT SMALL BUSINESS SET-ASIDE PROGRAM FOR PRIME CONTRACTS TO INCLUDE SUB-CONTRACTS

Only by provisions in the Small Business Act which will enable the Small Business Administration to insert in suitable defense procurement

¹⁰Webster's International Dictionary, Second Edition, Unabridged, 1958, page 2508. A. Merriam-Webster.

¹¹Walsh-Healey Public Contracts Act, Section 30, Rulings and Interpretations Number 3.

prime contracts definite requirements that the prime contractor subcontract to small business the fabricating of specific assemblies needed for fulfillment of the contract, can small business be assured of fair participation in the defense program, and their status as a national asset, be preserved. Frequently, defense prime contracts now contain clauses requiring that specific portions of the contract be subcontracted to named companies. However, this procedure is not used to protect small business. It is primarily employed to give the procuring agency control over sources of supply for whatever reason may apply.

The Small Business Act already provides for set-aside of prime contracts by the Small Business Administration. This was satisfactory to all concerned prior to the advent of weapon systems procurement. Extension of the set-aside authority and responsibility for the Small Business Administration to include assemblies and equipment within the prime contract would be well within the concept originally created by the Small Business Act. Though the procurement agencies may find fault with such plan, the personnel of the Small Business Administration will, no doubt, be competent to operate the set-aside of assemblies and equipment within the prime contract, as they have proven eminently successful in the program of set-asides for suitable prime contracts prior to the advent of weapons systems procurement.

Up to this time, because of the efforts of the Small Business Administration, the program of set-asides for suitable prime contracts has been an expanding one. For example, in 1955, \$386,610,589 was ear-

marked for small business. In 1962 this amount was increased to \$2,295,075,000. Since the time the agency was established in 1953, Government procurements valued at approximately nine and four-tenths billion dollars have been set-aside for competitive award to small business.¹²

GOVERNMENT CONTROL OVER THE MAKE OR BUY DECISION IN SUB-CONTRACTING

Several years ago, the Department of Defense adopted a subcontract program which, in effect, constituted a request to the major prime contractors to adopt voluntarily a meaningful subcontract program designed to benefit small firms. The program also included the establishment of a reporting procedure to provide statistics on the volume of subcontracting to small business. In addition, the large prime contractors were requested to designate a high level officer to act as liaison with small business concerns, officials of the prime contractors, and the various Government departments. Unfortunately, the company policies are of such a general nature that little or no specific assistance to small business is accomplished on a voluntary basis. In order to be effective, the company liaison officer should participate in the make or buy decisions of the company procurement officer as this

¹²Report of Hearing Before the Select Committee on Small Business, United States Senate, Second Session, United States Government Printing Office, Washington. September 12, 1962.

decision determines whether or not the contractor will perform the work or whether he will subcontract it out, usually to small companies. If the liaison officer is not participating in those decisions small business has no representation and, more often than not, it is resolved in favor of the prime contractor. The liaison officer should have sufficient authority to influence these decisions in favor of small business and to prevent wasteful duplication of small subcontractors' facilities by needless expansion of the prime contractors' facilities particularly if financed by the Government. In actual practice such is not the case.

Under the weapons system concept of procurement, cost-plus contracts are usually awarded after evaluation of all engineering proposals submitted. Thereafter the make or buy decisions most economically advantageous to the prime contractor are not necessarily most advantageous to the Government or to small business. It is at this point when the make or buy decisions of the prime contractor are being made that the interests of small firms are not protected. The average small company has no way of finding out what the prime contractor proposes to buy and thus does not get an opportunity to compete. As long as small business or the Government has no representation in these decisions, the prime contractors will continue to subcontract only that portion of any contract which expediency and economic advantages to the company dictate. Officials of the prime contractor, ambitious to increase their volume and to make a good record, will resolve most issues in favor of their company and against potential small business subcontractors. The

subcontractors will take the brunt of any cutback in order that the prime contractor may keep its work force intact in anticipation of future contracts. The prime contractor can and will take advantage of the subcontractor's know-how on the production of components developed by the subcontractor.

A specific case in point was recently brought to light by the Honorable Abraham Multer, Chairman of Subcommittee Number 2 of the House Select Committee on Small Business. This is his statement:

A subcontractor was selected over two years ago after competitive bidding among more than ten component manufacturers to build prototypes of more than thirty components for a missile. This was for that portion of electronic gear that the prime contractor was building in their facility.

The subcontractor worked faithfully with the prime contractor in the research and development stages and tooled for production of these parts. The subcontractor was told to tool and to gear up for approximately five thousand sets and was led to believe they would get these orders which would run for approximately two years or more. Many hours were spent on this project by the subcontractor's engineers, who worked closely with the prime contractor's engineers perfecting the designs of these parts. The prime contractor has just recently paid the subcontractor for the tooling which was authorized and which was completed by the subcontractor two years ago. Personnel of the prime contractor have repeatedly shown appreciation for the engineering and production services of the subcontractor as well as the quality of their product.

The subcontractor now learns that the prime contractor has elected to bring into their facility production machinery and personnel to make these parts themselves, notwithstanding the fact that the subcontractor, as low bidder, has the equipment and know-how geared to run the job.

AVERAGE SMALL BUSINESS SUBCONTRACTORS ARE IDEALLY SUITED
TO HANDLE SUBCONTRACT WORK FOR GOVERNMENT PRIME CONTRACTORS

The average small business subcontractor is looking for no special favors from the Administration, the Department of Defense or the prime contractors. This average subcontractor realizes that the weapons system management concept requires the managerial skill of a large corporation and does not aspire to compete in this field. However, the skilled small business subcontractors with established and acceptable quality control, shop procedures, and engineering know-how derived from years of experience and research at their own expense, believe they should be given an equal opportunity to bid on and provide such items in the weapons system concept when they can prove they can do the job faster, better, and at less cost to the Department of Defense.

What is perhaps even more important to the Department of Defense and the military budget, this small business subcontractor, who usually functions under fixed-price contracts, can produce these items for from fifteen per cent to forty per cent less cost than the prime contractor could produce the same item. If the Department of Defense would require that the large prime weapons concept contractors subcontract more work rather than reducing the amount subcontracted and stop the foolish hiring of non-essential people just because the prime contractor is operating under a cost plus type of contract, the military budget could be substantially reduced.

The following is a typical example of an everyday small business subcontractor complaint. It happened to the C. G. Hokanson Company, Inc., of Los Angeles, California. Below is a verbatim report by the firm's president.

The example I am about to give starts with a request for quotation received in March 1956.

1. Request for quotation received March 1, 1956, for special ground-support equipment airconditioner for military aircraft.

2. About March 15, 1956, our company submitted engineering proposal, complete design concept, complete cost breakdown, and fixed-price quotation.

3. Also submitted was the approximate delivery schedule of urgently required first unit for one hundred twenty days from date of order.

4. Both we and the prime contractor knew that the Air Force had let a research and development contract in December 1954 for the same requirements and a satisfactory unit had not as yet been developed.

5. About April 1, 1956, our company was invited to discuss design concept and feasibility with prime personnel including purchasing, ground-support equipment engineering, projects engineering people, and aerodynamicists and thermodynamicists.

6. About May 1, 1956, we received purchase order incorporating specification changes we had recommended at previous meeting.

7. May 15, customer sends resident expeditor to our plant.

8. Preliminary testing of unit is commenced over Labor Day weekend.

9. First unit was delivered to the customer September 19.

10. Tests conducted at customer's premises under ambient conditions identical with ambient design conditions of specifications for cooling.

It so happened that the temperature of the day during

the test was exactly the temperature required of the unit, so regular weather conditions were applied rather than using a testing laboratory.

11. Customer's engineering and project personnel accept unit. Tests showed unit to have capacity of eight to ten per cent above requirements.

12. About Winter 1957-1958, newspapers report prime (our customer) is to receive order for additional planes for Department of Defense.

13. Periodic calls to customer purchasing department indicate that the unit for the subsequent requirements will be redesigned and somewhat simplified and that when the specifications are completed we will have the opportunity to bid.

14. About June, July, or August 1958, we hear from the same suppliers who furnished us with materials used, such as aluminum, steel, copper, et cetera, and equipment and machinery suppliers that the prime, our customer, is going to build the units in their own plant.

15. I immediately check with the prime's purchasing department and subsequently with other sources within the prime company, and the statement was verified that the prime had space and manpower not gainfully employed at the moment, and so decided to manufacture the air conditioners with their own personnel.

16. Our suppliers told us the prime had placed orders for components that would indicate they were going to build about seventy air conditioners.

17. During October and November 1958, we heard unverified reports that customer was finishing or had finished three units that would be used for performance, acceptance, and environmental testing. Subsequently, further unverified reports were received to the effect that the units the customer had designed were not performing to expectations.

18. In February 1959, we received a request for quotation for five only air conditioners similar to the seventy units the customer was reportedly building in their own plant. The Request for Quotation also called for full and complete MIL-D-5028A drawings and complete with parts and parts source data.

19. Our company decided to submit a quotation, complete

engineering design concept and all other data requested to be submitted with the bid, which bid was submitted on the date due in March.

20. However, we decided, before submitting our proposal, to ask the customer's purchasing department if there was a possibility that the number of units involved might be increased to, say seventy total units. We explained that the cost of the first five units would be slightly higher, but that the next sixty-five would be built for a material labor reduction because we would make a complete set of patterns and jigs from the original prototype, saving labor expense on future production units.

21. The answer we received is shocking. We were told that definitely only five units would be purchased. Two units would be used to meet an emergency requirement and the other three units would be used as samples for the company's production department to copy in building the balance of their requirements.

The economic free-enterprise system that has produced in this country the highest standard of living the world has ever known should be safeguarded zealously by the lawmakers and law enforcement agencies of this Government especially from cases such as the above C. G. Hokanson Company fiasco. It is true that in the production of automobiles, refrigerators, et cetera, where the volume of units produced in a year will total in the millions, there is no place for small business for obvious reasons.

It is imperative that large business be encouraged and given free rein to increase productivity, thereby reducing the cost of the automobile, for example, which otherwise could not be manufactured in the price range that the average American could afford. American big business has certainly made a major contribution to the high standard of living we enjoy in this country today.

But this has no bearing on the subject of production costs in the field of military procurement where rarely is there a requirement for as many as one thousand units and more frequently on the average order of one hundred units.

Has the Department of Defense ever ordered one thousand of any one of the fighter series from the F-100 through the F-109? Even if one of these products proved so superior as to call for a requirement of one thousand units, it is doubtful that the design would be permanently frozen. It is more than likely that many major changes would be ordered during the manufacture of the thousand units.

It is in this field of small military purchases that the small business job shop type of operation excels in maneuverability, adjusting quickly to sudden changes in requirements; operates with much lower fixed labor burden and overhead, and is usually a specialist in his field, being required to engineer and design in order to bid on fifty to one hundred fifty different systems a year, whereas any single engineering group within a prime contractor organization will seldom need to consider the requirements of more than two or three different designs a year.

During the rest of the year these engineering groups, employed by the prime weapons system contractor, are occupied with many other responsibilities. The net result is that this type of engineer has never had the time or opportunity to delve deeply into the latest improvements and scientific advances in any specialized field, but is quite

capable of evaluating the comparative excellence of the engineering proposals submitted by the bidding small business subcontractor.

THE NEED FOR GOVERNMENT PROCUREMENT AGENTS TO DISCOURAGE
PRIME CONTRACTORS FROM BY-PASSING QUALIFIED
SMALL BUSINESS SUBCONTRACTORS

The prime weapons system contractor should not be permitted to eliminate subcontracting and henceforth build these products in their own or as is frequently the case in leased, Government-owned facilities, and shelve the experienced technical brains of the small business subcontractor.

The basic weapons system procurement concept is supported best and most economically when procurement agencies and prime contractors make maximum use of component specialists. Development work requires the use of specialists to attain the basic aim of the weapons system concept -- the best article in the shortest time for the best price. Efficient production requires skillful and intelligent assembly of components economically produced. In the initial development of a weapon, the prime contractor faces basically an engineering problem. He must meet performance specifications, so he must stipulate basic design perimeters and satisfactory performance characteristics; a task for his engineering force.

Engineers are curious and ambitious. They welcome challenging situations. They believe they can solve all the problems facing them in

any development program. They are prone to avoid farming out portions of their problems. Pride impels them to want to provide the whole solution.

When Government money is available, management has a natural inclination to keep it in the family. This is particularly true when there is an opportunity to expand the company's products. Thus, management has a tendency to ignore the possibilities of employing proven small business component specialists in the field.

Management depends upon its engineers for an evaluation of the initial problem. The usual result is that the engineers--confident, capable, and determined--put the prime contractor in a position of negative management incentive. The engineers foresee a large capable organization. Management sees additional profits from development and manufacture of major components while expanding its facilities and capabilities. It urges the procuring agencies to buy the idea with all of its persuasive power.

Too frequently the procuring agents do not recognize the underlying reasons for the suggested program and proceed to purchase it as presented. A frequent supporting argument is that a prime can be held responsible only for those components over which he has full control and that, therefore, only he can say what he should make or buy. The writer agrees, so long as the prime contractor remains cost conscious with the Government's money; however, rejects the premise as invalid when the

prime contractor ignores the superior performance and lower cost of independent small business specialists in order to feather his own nest. Such a procedure is unnecessary, wasteful, time consuming, and contrary to the basic principle of the weapons system concept.

RECOMMENDATIONS AIMED AT IMPROVING SMALL BUSINESS PARTICIPATION IN DEFENSE SUBCONTRACTING

To protect the interests of small business, a number of changes to the Armed Services Procurement Regulations would be recommended to the Department of Defense. The recommended changes listed below would be specifically aimed towards improving small business participation in defense subcontracting.

1. Regulations now provide that the major prime contractor be urged to develop and establish a defense subcontracting small business program. The establishment of such a program should be made mandatory by changing the word "urged" to "required".

2. Under current armed services procurement regulations, contracts contain the following clause: "The contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the contractor finds to be consistent with the efficient performance of the contract".

This regulation should be changed to require the maximum amount of subcontracting to small business that the contracting officer and the contractor jointly find to be consistent with the efficient performance of the contract.

3. Armed Services Procurement Regulation 1-701.3(11) provides that the prime contractor establish policies to assure that Small Business concerns will have an equitable opportunity to compete for subcontracts with particular regard to solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules suitable for small business participation.

This regulation should be changed to contain additional provisions necessary for an equitable opportunity as follows: In

order to assure that small business concerns will have an equitable opportunity to compete for subcontracts, all small firms requesting permission to bid and who have not been disqualified through actual survey, will be granted an opportunity. In the event the bidders list is so large as to preclude utilization of the entire listing, the rotation system will be used in the same manner as required under Armed Services Procurement Regulations for Government contracting officers; also the establishment of policy to assure that small business concerns have an equitable opportunity to compete, with particular regard to time for the preparation of bids, quantities, specifications, and delivery schedules, suitable to small business participation.

4. Regulations require submission of information on Form DD1140 on subcontracting to small business. This form should include the amount of subcontracting to small business by contract number, dollar volume, and item description, and such records on each individual contract be made available upon request to military representatives or the Small Business Administration.

5. There should be the requirement that the small business liaison officer of the prime contractor participate in this capacity in all decisions pertaining to make or buy as well as supervise the small business program of the procurement division of his company.

6. Provisions should be made that before facilities contracts are awarded either to prime or subcontractors, definite evidence be required that such facilities are not already in existence in small business firms.

7. The existing forms used by the military department, entitled Defense Subcontracting Small Business Checklist should be completely revised in a manner that permits factual reporting, covering all points of the defense subcontracting small business program; these reports to be submitted through the appropriate military department to the Office of the Assistant Secretary of Defense (Supply and Logistics) and information from these reports made available through these sources to the Small Business Administration.

8. The defense subcontracting small business program should include the provision that the Small Business Administration may assign on a full or parttime basis a Small Business Administration representative in appropriate plants of the large prime contractors as defined in Armed Services Procurement Regulation 1-707.

9. There should be a requirement that all potential

contractors submitting proposals on procurement anticipated to be one million dollars or more submit to the contracting official a list of all subcontracts and subcontractors by name, location, and size (large or small) and which subcontracts are anticipated to be half million dollars or more.

The copy of the list as submitted to be transmitted to the small business specialist of the appropriate military department (Armed Services Procurement Regulation 1-707.4) and the appropriate Small Business Administration regional office in the geographic area of the prime contractor.

10. The Armed Services Procurement Regulation now provides that consideration of the extent of subcontracting may be a factor in awarding negotiated contracts. This consideration should be limited only to subcontracts with small business and not be overall inclusive as now stated.

These above recommendations are made for the purpose of placing the subcontracting program of the major prime contractors on a similar basis as now required of the Government's contracting officers by regulations.

SUMMARY

In conclusion, the following suggestions and recommendations are made. Weapons, management, and operational system type contracts have absorbed prime contract opportunity formerly available to small business concerns directly from the Government and should be curtailed or administered in such a manner that the equities of capable small contractors will be observed. By "curtail", meaning that it should be limited to the specific type of weapon where they are useful, not explained without logic or without good reason to areas where that type of contracting is not essential to the best interests of the Government, and to the obtaining of the supplies and materials most efficiently and at the least possible costs. Some thought should be given to amending

the Small Business Act to include more specific authority in regard to subcontracts if the Small Business Administration or the procurement agencies are to be held accountable in any way for the subcontracting of Government work. The problem here is that there is no connection between the procuring officer or the Small Business Administration and the subcontractor unless it is made specific at the time of the letting of the contract, or unless by general regulations or law in some way there is some connection. The Small Business Administration should be afforded an opportunity to develop small business sources before there is Government approval for a prime contractor to acquire additional facilities at Government expense. It is realized that this is a broad recommendation, and it should be developed slowly to be certain that there is not any interference with effective and efficient procurement processes.

Lastly, necessary legislative changes should be made so that the Armed Services Procurement Regulations would apply to subcontracts as well as to prime contracts.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Defense procurement involves each year the placement of many thousands of contracts covering the supply of millions of total items ranging from off the shelf products, weapons, equipment, and supplies with widely varying degrees of standardization, follow-up contracts for the latest weapons just reaching operational use, initial production contracts for newly developed weapons, which when operational may make obsolescent the current new weapon, and research contracts to develop possible weapons to make obsolete all earlier types. This rate of obsolescence may be illustrated in jet aircraft and missiles. Hardly a production model aircraft on the buying list for fiscal year 1962 was found in the 1955 buying program. Similarly, almost no missiles contracted for in 1962 were being produced in operational quantities in the earlier year.¹³

The size and complexity of the defense commitments involve supply in fantastic complications of planning, programming and scheduling.

¹³Statement of W. J. McNeil, Comptroller of the Department of Defense. Hearings on January 1962 Economic report of the President before the House and Senate Joint Economic Committee, eighty-seventh congress, Second Session, Page 317 (1962)

Resources of money for supplies and industry capacity to produce them are necessarily limited. Decisions as to which items are to be procured, in which quantity, where and when--prerequisite to the letting of contracts--must be long preceded by policy decisions on future military tasks of the armed services. New defense obligations, changes in long-range strategy, annual appropriation levels and the ever increasing rate of technological development each may drastically alter supporting supply patterns.

Programming for procurement, then, begins with broad decisions of foreign policy and national security determining basic strategic missions for the Armed Forces. These decisions are then formed into more specific supply programs for each of the services. Within each military department these programs are further researched for translation into terms of specific need, the stage where actual procurement of specific new items can be requested.¹⁴

The contracting officer's operating procedures and exercise of discretion are governed by a variety of instructions from higher authority--the Armed Services Procurement Act, which is the basic statutory authority on defense procurement; the Armed Services Procurement Regulation issued by the Assistant Secretary of Defense (Supply and

¹⁴ See Millett, Government and Public Administration, pages 316-322 (1959).

Logistics); the regulations of the individual services which interpret and apply the Armed Services Procurement Regulation to the conditions of the particular service;¹⁵ and a variety of directives and instructions issued from time to time which may also deal with one or another phase of procurement.

The Armed Services Procurement Regulation alone contains approximately eight hundred pages of specific and detailed instructions to contracting officers, designed to cover possible contingencies a contracting officer may face and to enumerate factors he must consider. They are constantly being revised to meet new situations to change policies and/or procedures or to remove ambiguities. The instructions cover the many steps in the procurement process, from maintenance of bidders' lists, through invitation for bid or requests for proposals, negotiation, contract provisions, award of contracts and termination of contracts, inspection and acceptance of supplies as well as reporting various contracting operations. Every effort appears to have been made to make the instructions specific.

The procurement responsibility devolving upon the contracting officer requires a balancing of many important factors in each contract. In addition to the primary military considerations, there are many

¹⁵These regulations are the Army Procurement Procedure, Navy Procurement Directives, and Air Force Procurement Instructions.

external factors which a procurement officer must take into account in the letting of contracts. These include such diverse matters as set-asides for small business or for labor surplus areas, priorities and allocations, adequacy and availability of specifications, various transportation factors which may affect costs, maintenance of a list of firms debarred from bidding, as well as maintenance of an active bidders' list.

In enacting the Armed Services Procurement Act, Congress incorporated a number of earlier statutory exceptions to formally advertised procurement and extended them uniformly to all three military departments. These and other exceptions introduced for the first time, it was believed, would add procurement flexibility in limited situations to obtain greater benefit for the Government. However, it was still contemplated that the great volume of purchases and contracts will be made as a result of advertising for bids.¹⁶

Subsequent experience, however, has not borne out this anticipation. In terms of number of procurement actions during fiscal year 1962 for example less than four hundred thousand were formally advertised, as against some six and one-half million negotiated actions. This picture is, of course, distorted by the very large number of minor

¹⁶Senate Report Number 571, Eightieth Congress, Second Session (1947).

purchases involving not more than two thousand five hundred dollars each. There were almost six million of these minor purchases which are negotiated to avoid the time and expenditure incident to more formal processing. Excluding these and the considerable volume of purchases negotiated outside the United States, the remainder are slightly less than the number of advertised contracts, 248,667 to 344,210.¹⁷

In terms of dollar value by far the largest volume of procurement actions has been negotiated. Negotiated contracts have represented more than eighty per cent of procurement actions each year since the outbreak of the Korean emergency. The comparison is shown in Table IV on page 22.

Before World War II, defense needs were a minor element in the economy, amounting in 1939 to slightly over one billion dollars on a gross national product of slightly more than ninety-one billion dollars. The military needs of World War II absorbed a major portion of the Nation's output and the postwar readiness effort, particularly since the Korean conflict, has made necessary a relatively high level of expenditures. The Department of Defense, implementing that effort, was described in 1955 by the Hoover Commission as follows:

. . . by any yardstick of measurement, the (Nation's) largest organization. Its expenditures consume one-seventh of our national income. The Department employs four million three hundred thousand people, which is more than twice the manpower for the ten largest corporations of the Nation combined, and is

¹⁷ Office of the Secretary of Defense, Department of Defense Number and Net Value of Formally Advertised and Other Military Contract Procurement Actions, Fiscal Year 1962 (October 1962).

seven per cent of the active national labor force, including military personnel. Its assets, real and personal, approximate one hundred forty billion dollars, which is equal to the value of all privately owned land in the United States. Its activities are spread throughout the forty-eight states, in sixteen thousand cities, and extend abroad to fifty-two other countries.

From 1950 to 1962, while the national volume of business expanded eighty-one and five-tenths per cent, Department of Defense expenditures expanded two hundred fifty-eight and four-tenths per cent. Currently, Department of Defense expenditures amount to about nine per cent of our gross national product.

Armed service expenditures for procurement of supplies and services comprise a large part of such spending. In 1962, for example, more than twenty-six and four-tenths billion dollars was represented by such procurement. This enlargement of the Defense Department as a source of business makes its contracts a major determinant of the functioning of the economy. Individual industries are affected in varying degrees, depending in part upon whether their products have both military and civilian use, or whether their utility is primarily or particularly military. It is evident that defense spending impact on the milk industry as a whole is less dramatic than on missile manufacturers. Obviously also, producers diversified in more than one industry will be less affected by changing emphases of defense procurement than those in only one field.

So long as the present trends in major military procurement

continue and no reversal or significant modifications are in sight, subcontracting will remain foremost among the problems of the small business defense industry. This is not to minimize, of course, the need of a more active and extensive small business base in the field of prime contracts. The reason subcontracting must play a greater role and receive much more attention becomes apparent from a review of the following present circumstances.

1. Several recent reports of the Comptroller General¹⁸ establish the fact that inadequate attention to subcontract prices, as submitted to the Government by the prime contractor, has resulted in excessive costs of many millions of dollars. Some of these reports allege all the elements of fraudulent activity on the part of certain prime contractors.

2. There is a discrepancy between the types of contracts under which prime contractors operate and the type they grant to subcontractors. While the major prime contractors contract with the Government on a cost plus a fixed fee or price redeterminable basis, the subcontractor often operates under a fixed price contract, with less opportune provisions for price adjustments.

3. Of perhaps the greatest significance to the taxpayer is the widespread duplication of facilities that has been in process in the plants of many large defense prime contractors. Having been awarded all-embracing systems contracts, the systems contractor is determining more and more that many of the items which he formerly subcontracted can be made more advantageously in his own plant. Thus, the idle facilities of former subcontractors become increasingly unnecessary and onerously expensive to maintain. Either because of increased overhead rates or because the Government actually bears the expense of furnishing production facilities to the prime contractor, these practices made unnecessary additions to the overall cost of defense.

4. Large weapon system contractors have too often exercised undue autonomy in arriving at make or buy decisions. While it

¹⁸Reports of United States Comptroller General to the Congress of the United States: Numbers B-118693, B-132936, B-132942, B-132995, and B-133122. 1962.

is felt that industry must not be restrained from exercising their particular expertness in producing defense items. This end-product responsibility does not preclude proper attention to governmental policies of assisting small business and maintaining additional competent and economical sources. Furthermore, corporate self-interest appears the inevitable antithesis to subcontracting in many instances. Adoption of the weapon system procedure should not mean abandonment of qualified small business sources that might well have been employed were Government-furnished equipment the order of the day.

5. The declared small business policy of the Congress is not being adequately implemented by present procurement regulations. The Armed Services Procurement Regulations subcontracting provisions fail to insure to small business a fair proportion of defense subcontracts. The Armed Services Procurement Regulations provisions in Sections 1-707.3 and 7-104.14 have not proven sufficient. The Congress has, heretofore, hesitated to define more specifically what a "fair proportion" of defense contracts should be. It has, however, repeatedly stated that small business is not receiving the proportion of defense contracts that it should. The Defense Department, on the other hand, has implied that it feels the present amount going to small firms is adequate.

RECOMMENDATIONS

Armed Services Procurement Regulations should be modified to take a firmer position with respect to subcontracting requirements, particularly in light of weapon system buying. Reports furnished by the participating contractors should emanate from the purchasing offices of the corporation, rather than the disbursing offices. The make-or-buy structure furnished at the time of contract negotiations should be as firm as circumstances will permit, and subsequent changes therein should be made only upon approval by the Government. Decisions to make component and other items inplant that were formerly subcontracted should be carefully scrutinized by the procuring activity. Special attention should

be given to prohibiting, except in the rarest of cases, prime contractors from making an item after having solicited subcontractor proposals. Compliance with the Department of Defense subcontracting program should be mandatory.

Weapon system contracting, in the absence of firm subcontracting laws and regulations, will continue to contribute to an unhealthy concentration in the defense industry. The present trend toward concentration is a natural concomitant of the move away from direct Government purchasing into the systems method, without adequate safeguards for potential subcontractors.

The degree of this concentration is mirrored by the fact that a handful of twenty companies received fifty-one and two-tenths per cent of the twenty-six and one-half billion dollars spent for defense prime contracts during fiscal year 1962. Almost ten per cent was awarded to one company. The fact that so few companies account for the majority of all defense prime contract dollars (the top one hundred companies received seventy-six and four-tenths per cent in fiscal year 1962, compared to seventy-five and three-tenths per cent in the preceding year) is brought into perspective when it is considered that almost three hundred companies have prime contracts with the Department of Defense for more than one million dollars and report under the small business subcontracting program. This is not to mention the thousands of other defense suppliers.

Under weapon system procurement, furthermore, large defense prime contractors have been delegated the responsibility for awarding billions of dollars in defense subcontracts. This authority has been granted up to the present time with little legislative supervision and with inadequate surveillance by the military services. The results have been a virtual elimination of small business from the role of prime contractor, together with a continuing reduction in subcontracting opportunities for these firms. In view of these considerations, the weapon system procurement should be modified, wherever possible, to allow for direct procurement of subsystems. Potential small business subcontractors should be safeguarded by firmer laws and regulations. Major items, sub-assemblies, components and other part of the system contract should be competitively procured at the earliest possible time.

In order to better accomplish the objectives recommended in the foregoing paragraph, a Breakout Committee should be established in connection with every systems contract. The Committee would be composed of representatives of the prime contractor, the procurement activity and the Small Business Administration. The duties of such committee would primarily be as follows:

1. Survey the system constantly and recommend that components and other parts be competitively procured at the earliest possible date.

2. Make definite provision that before facilities contracts are awarded either to prime or subcontractors, definite evidence

is obtained indicating that such facilities are not already in existence in small business firms.

3. Assure that small business concerns have an equitable opportunity to compete in the systems contract, with particular regard to time for the preparation of bids, quantities, specifications, and delivery schedules, suitable to small business participation.

The nature of modern weapons and their importance to the national security of our nation makes the economics of weapons development and procurement a primary national issue. As we push upon the scientific, technical, and fabricating states-of-the arts, it becomes both more difficult and more expensive to meet the requirements for defending the country. Even when the small firm, either by its own efforts or by entering into a combination with others, is able to meet the difficulties just discussed, it still runs an extraordinary risk resulting from our start-and-stop, stop-and-start policy on military expenditures. This is a political matter which neither the Executive nor the Congress has given any indication of an ability or willingness to solve. If the federal government were to set up a long range program for procurement of military end products, then small business might be able to find a better way to get into the business. That means projections beyond the two and three years that we now make. Perhaps most important of all, it would require that we recognize the continuity of the preparedness effort and establish a minimum procurement level for something like the next ten years. If that were done, there would be a stability in the weapons business that would facilitate the appropriate commercial

planning, and in such a situation, small business should more readily be able to get their fair share of government procurement.

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