

# PROBLEMS OF AMERICAN SMALL BUSINESS

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## HEARINGS

BEFORE THE

SPECIAL COMMITTEE TO STUDY AND SURVEY  
PROBLEMS OF SMALL BUSINESS ENTERPRISES

UNITED STATES SENATE

SEVENTY-EIGHTH CONGRESS

FIRST SESSION

PURSUANT TO

**S. Res. 66**

(78th Congress)

(Extending S. Res. 298—76th Congress)

A RESOLUTION TO APPOINT A SPECIAL COMMITTEE  
TO STUDY AND SURVEY PROBLEMS OF  
AMERICAN SMALL BUSINESS  
ENTERPRISES

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PART 16

SMALLER CONCERNS IN WAR PRODUCTION: IV

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MARCH 4, 1943

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Problems of Small Business Enterprises



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## APPENDIX I

The material referred to in the chairman's opening statement is as follows:

WAR DEPARTMENT,  
HEADQUARTERS, SERVICES OF SUPPLY,  
Washington, D. C., January 15, 1943.

HON. JAMES E. MURRAY,  
*Chairman, Senate Small Business Committee, Washington, D. C.*

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE: During the month of December the trend toward a greater proportion of purchasing being done in small plants by the War Department continued.

December contracts placed with all contractors by the Services of Supply totalled 25,089 and represented an outlay of Government funds of \$1,226,051,000. In November 36,418 contracts were placed for a total outlay of \$2,317,324,000. While the December volume was lower the proportion of contracts and dollar volume directed to smaller war plants employing 500 persons or less showed a continued gain.

In plants with less than 100 employees 11,183 contracts were placed in December totaling \$98,133,000 or 8 percent of the over-all total as compared with 9 percent during November.

In plants from 100 to 500 employees, 5,681 contracts were placed during the month of December for a total dollar value of \$197,744,000. This represented 16.1 percent of the total dollar volume for the seven supply services. In November this classification of smaller concerns obtained 14.7 percent of the total.

The added gain in December over November for smaller war plants employing less than 500 persons was 0.4 percent, bringing the total percentage to small plants up to 24.1 percent. This gain was made despite the reduction in procurement activities.

The accompanying charts show the distribution of supply services. It should be noted that the Ordnance Department increased its percentage of dollar volume placed with plants employing less than 100 persons by approximately 60 percent.

The Signal Corps more than doubled the percentage of dollar volume placed with plants employing 100 persons or less and nearly doubled the percent of dollar volume acquired by plants employing from 100 to 500 persons.

A reduction of approximately 65 percent in the dollar volume of the Corps of Engineers' contracts is shown for plants employing less than 100 persons. This was principally due to the fact that the December figures include a large procurement of tractors, contracts for which could only be placed with a few large manufacturers of this item.

Normally, the Transportation Corps places the bulk of its contracts with plants employing less than 100 persons. In November when the Transportation Corps was placing contracts for small boat construction, nearly all went to smaller contractors. In December, however, the ratio was temporarily reversed with the inauguration of the Transportation Corps' locomotive procurement program, the contracts for which could be awarded only to comparatively large locomotive builders.

While the percentage of prime contracts placed to date by the Army Air Forces with smaller plants has been relatively low, you will note that it is increasing. Preliminary investigation indicates that the greatest use of small plants by this Service lies in the field of subcontracting.

Sincerely yours,

[Signed] ALVIN E. HEWITT,  
*Major, Air Corps, Acting Chief.*  
FRED C. FOY,  
*Colonel, Army of the United States,  
Chief, Small War Plants Branch,  
Purchases Division.*

*Number and dollar value of prime contracts awarded in November 1942—7 Supply Services of the War Department*

[Values expressed in thousands of dollars]

Service	Break-down of contracts by size of plants (number of wage earners)															
	Total				Over 500				100-500				Under 100			
	Number of contracts	Per-cent of contracts	Dollar value	Per-cent of dollar value	Number of contracts	Per-cent of contracts	Dollar value	Per-cent of dollar value	Number of contracts	Per-cent of contracts	Dollar value	Per-cent of dollar value	Number of contracts	Per-cent of contracts	Dollar value	Per-cent of dollar value
Chemical Warfare Service.....	474	100	21,685	100	106	41.4	10,092	46.6	167	35.2	9,468	43.7	111	23.4	2,125	9.7
Corps of Engineers.....	5,964	100	395,745	100	1,909	32.1	223,508	55.8	1,688	28.4	100,845	25.6	2,357	39.5	71,392	18.6
Medical Corps.....	2,459	100	67,026	100	103	4.2	27,240	40.6	310	12.6	21,026	31.4	2,046	83.2	18,760	28.0
Ordnance Department.....	3,292	100	767,386	100	1,304	39.6	674,883	88.0	549	16.7	61,761	8.0	1,439	43.7	30,741	4.0
Quartermaster Corps.....	15,065	100	320,881	100	3,331	21.3	188,492	58.8	3,613	23.1	85,974	26.8	8,721	55.6	46,415	14.4
Signal Corps.....	8,473	100	701,377	100	3,374	39.8	642,861	91.7	1,738	20.5	48,654	6.9	3,361	39.7	9,842	1.4
Transportation Corps.....	110	100	42,925	100					33	30.0	13,092	30.5	77	70.0	29,833	69.5
<b>Total.....</b>	<b>36,427</b>	<b>100</b>	<b>2,317,024</b>	<b>100</b>	<b>10,217</b>	<b>28.1</b>	<b>1,767,096</b>	<b>76.3</b>	<b>8,098</b>	<b>22.2</b>	<b>340,820</b>	<b>14.7</b>	<b>18,112</b>	<b>49.7</b>	<b>209,108</b>	<b>9.0</b>

Above figures represent supply contracts only.

*Number and dollar value of prime contracts awarded in December 1942—7 Supply Services of the War Department*

[Values expressed in thousands of dollars]

Service	Break-down of contracts by size of plants (number of wage earners)					
	Under 100		100-500		Over 500	
	Number of contracts	Dollar value	Number of contracts	Dollar value	Number of contracts	Dollar value
Chemical Warfare Service.....	121	2,311	184	10,461	290	12,321
Corps of Engineers.....	1,563	4,184	713	17,021	1,338	47,025
Medical Corps.....	131	8,002	129	13,834	142	17,530
Ordnance Department.....	1,728	37,820	460	42,033	1,033	501,981
Quartermaster Corps.....	5,782	40,263	2,708	90,114	2,586	207,305
Signal Corps.....	1,848	4,688	1,467	19,942	2,691	122,186
Transportation Corps.....	10	855	20	4,339	35	21,396
Total.....	11,183	98,133	5,681	197,744	8,225	930,174

Above figures represent supply contracts only.

WAR DEPARTMENT,  
HEADQUARTERS, SERVICES OF SUPPLY,  
Washington, D. C., February 16, 1943.

HON. JAMES E. MURRAY,  
*Senate Small Business Committee,*  
Washington, D. C.

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE: During the month of January the placement of contracts by the War Department with small plants employing less than 500 persons totaled \$327,139,000. This dollar volume was split up among 17,804 contracts.

January contracts awarded by the Seven Supply Services amounted to \$1,188,978,000. Of this total dollar volume, the Supply Services placed 23.6 percent with small plants employing 500 persons or less. This percentage represents a decrease of five-tenths of 1 percent, compared with December 1942. The underlying reason for this decrease was a concentration of purchasing of heavy items such as tractors, locomotives, and chemicals.

However, it is interesting to note that the Ordnance Department, which is responsible for a large majority of the dollar volume purchased by the Services of Supply, continues to place an increased proportion of its awards with smaller war plants.

In January the Ordnance Department increased the percentage of its dollar volume awards to small plants by approximately 30 percent compared with December.

The accompanying exhibits show the distribution of contracts and dollar volume by the Supply Services. Chart B shows the percentage of total dollar volume comparisons for the Supply Services and the Army Air Forces, Matériel Command, during the last 3 months.<sup>1</sup>

Of particular interest is the comment made by Mr. Frank M. Smith, Deputy Director of the Smaller War Plants Division, War Production Board, referring to an experimental trip organized by the War Department and participated in by Mr. Smith's division, the Army Air Forces, Matériel Command, and this branch, during which Air Forces prime contractors in the Buffalo area were visited to explore the possibility of extending subcontracting to an additional group of small plants in order to aid in the accomplishment of the 1943 airplane production program. Mr. Smith writes, " \* \* \* the missionary expedition to Buffalo in the interests of subcontracting turned out to be very gratifying and as a result subcontracts to the amount of several millions of dollars have already been allocated \* \* \*."

<sup>1</sup> The exhibits referred to have been filed with the committee.

Similar visits to the plants of other major prime contractors are now being organized by the War Department in conjunction with the Smaller War Plants Division, War Production Board.

Sincerely yours,

(Signed) ALVIN E. HEWITT,  
*Major, Air Corps,*  
*Chief, Small War Plants Branch, Purchases Division.*

#### ANALYSIS OF PRIME CONTRACTS AWARDED TO SMALL BUSINESS BY THE SEVEN SERVICES OF SUPPLY OF THE WAR DEPARTMENT

By WILLIAM E. FOLZ, Statistician, Research Staff, Senate Small Business Committee

Total prime contracts awarded by the seven Services of Supply of the War Department declined 47 percent in December from the November level. In plants employing under 500 wage earners the decline in dollar value of the contracts was from \$549,928,000 to \$295,877,000, a decline of approximately 46 percent.

The plants employing less than 100 wage earners showed the greatest decline of all size groups. For these plants, prime contracts awarded declined from \$209,108,000 to \$98,133,000, a decline of 53 percent. Decreases occurred in contracts by all services to these plants, with the exception of Chemical Warfare and Ordnance. The decreases varied from 97 percent in Transportation Corps orders to 13 percent in orders placed by the Quartermaster Corps. Increases in dollar value were recorded of 8.8 percent for Chemical Warfare and 23 percent in Ordnance.

Colonel Foy, in his letter of January 15 to Senator Murray, stated:

It should be noted the Ordnance Department increased its percentage of dollar volume placed with plants employing less than 100 persons by approximately 60 percent.

Although this represents an increase in the percentage of the total Ordnance contracts awarded to all size plants of about 60 percent, in actual dollar value it was only 23 percent.

In the same letter he stated:

A reduction of approximately 65 percent in the dollar volume of the Corps of Engineers contracts is shown for plants employing less than 100 persons.

This figure likewise represents a decline in the percentage of the total contracts awarded to all size plants.

The tables presented to the committee show the value of contracts awarded by the Corps of Engineers as \$71,392,000 in November and \$4,194,000 in December. This is a decline of 94 percent.

Two more statements from Colonel Foy's letter require attention. The statement that—

The added gain in December over November for smaller plants employing less than 500 persons was 0.4 percent, bringing the total percentage to small plants up to 24.1 percent

must be interpreted with care.

All size groups suffered large declines in dollar volume during December, but the group employing between 100 and 500 wage earners

showed slightly less decline than did the other two size groups. The decline in contracts for plants employing from 100 to 500 wage earners was from \$340,820,000 to \$197,774,000 or 42 percent. The percentage of the total contracts received by this size group increased from 14.7 percent to 16.1 percent, an increase of 1.4 points. Of this increase of 1.4 points, however, 1 point was gained at the expense of the plants employing less than 100 wage earners, and 0.4 of a point at the expense of plants employing over 500 wage earners.

The second statement that—

The Signal Corps more than doubled the percentage of dollar volume placed with plants employing 100 persons or less and nearly doubled the percent of dollar volume acquired by plants employing from 100 to 500 persons

presents the same type of illusion of gain.

For the plants employing less than 100 wage earners, Signal Corps contracts awarded declined from \$9,842,000 to \$4,688,000, or 52 percent, but the percentage of the total increased from 1.4 percent to 3.2 percent. In plants employing from 100 to 500 wage earners, Signal Corps contracts declined from \$48,654,000 to \$19,942,000, or 59 percent, but the percentage of the total Signal Corps contracts awarded to that group increased from 6.9 percent to 13.6 percent.

January contracts awarded by the 7 Services of Supply amounted to \$1,188,978,000. This represented a decline of 49 percent over November and a decline of 3 percent over December. Of this total, 76.4 percent went to plants employing more than 500 wage earners, which was an increase of 0.5 percent over December and 0.1 percent over November.

During this month the plants employing less than 100 wage earners again suffered most. The total value of their contracts declined 61 percent over November, compared with a decline of 53 percent in December. In percentage of total contracts these plants sustained a loss from 9.0 percent in November to 6.9 percent in January. Only in Ordnance and Signal Corps contracts did these plants show any percentage gain over November. The percentage of the total of Ordnance contracts placed with plants of this size group increased from 4.0 percent in November to 4.5 percent in January. But again this was accompanied by a decline of 36 percent in the total value of these contracts.

The only service which provided an actual increase in the value of contracts to plants employing less than 100 persons was Chemical Warfare. These contracts showed an increase of 15 percent over November, but the percentage of the total of these contracts declined from 9.8 percent to 8.5 percent.

Plants employing between 100 and 500 wage earners fared better than the plants employing less than 100. The total value of contracts awarded this group decreased 42 percent between November and January. The percentage of total contracts awarded increased from 14.7 percent to 16.7 percent. The only significant increase in percentages was in Ordnance and Quartermaster Corps where the percentage of contracts awarded these groups increased from 8.0 and 26.8 percent in November to 13.4 and 30.2 percent respectively in January. In dollar value of contracts awarded, Ordnance declined 5 percent and Quartermaster Corps contracts increased 9 percent.



Conclusion: The above analysis has brought out a number of points which are significant to the study of Army procurement policy.

1. That in the period in which the greatest effort was presumably made to spread contracts to small business, nothing was actually accomplished in that direction. The small plants (under 100 wage earners) were unable to maintain even the slight percentage of contracts that they held at the beginning of the period and in total value of contracts awarded they sustained a loss of about 61 percent.

The group employing between 100 and 500 wage earners sustained a loss of only 42 percent of dollar volume of contracts and received an increase in percentage of all contracts of about 2 points. It should be stressed, however, that only 8 percent of the manufacturers employed over 100 wage earners in 1939.

2. That by including plants employing between 100 and 500 wage earners in the class with little business the most favorable results possible have been shown for little business. It should be stressed that in 1939 businesses employing 500 wage earners or less produced 53 percent of the value of products. If War Department prime contracts were to be distributed in the same proportion as normal business, about 2.25 times as many prime contracts (in value) would have to be awarded as were awarded in November and January.

3. That it is not sufficient to point out that small plants are receiving the same percentage of prime contracts as they did in November. Even if significant increases in percentages were recorded, it would not answer the objections raised by the Senate committee. We have had a period of 2 years in which contracts were concentrated in the large concerns. The decline of contracts awarded during December and January reflect largely the fact that these large firms cannot take on any more orders and not that all is being produced that is necessary. What the figures should show is a high concentration of contracts in the small plants.

4. That although prime contracts awarded do not show the full extent to which small business is participating in the war effort through its subcontracting activities, nevertheless, it does show a high concentration of economic power in the hands of the larger plants.

No data whatever have been presented the committee on the value and distribution of subcontracts. Until such information is secured, no effective measure can be secured as to the extent to which the Nation's productive capacity is being effectively mobilized.

## APPENDIX II

The following correspondence between the Chairman and Under Secretary of War Patterson, Under Secretary of the Navy Forrestal, and War Production Board Chairman Nelson, with regard to subcontracting, is included for the record:

LETTER ADDRESSED TO ROBERT P. PATTERSON, UNDER SECRETARY OF WAR; JAMES FORRESTAL, UNDER SECRETARY OF THE NAVY; AND DONALD M. NELSON, CHAIRMAN OF THE WAR PRODUCTION BOARD; BY SENATOR JAMES E. MURRAY, CHAIRMAN, SPECIAL SENATE SMALL BUSINESS COMMITTEE

FEBRUARY 16, 1943.

Mr. DONALD M. NELSON,  
*Chairman, War Production Board, Washington, D. C.*

DEAR MR. NELSON: On December 15, 1942, you joined with Under Secretary of War Robert P. Patterson and Under Secretary of the Navy James V. Forrestal in signing a letter addressed to all prime contractors. This letter suggested the organization of a subcontracting department by each prime contractor under "an aggressive, open-minded official" and outlined certain functions to be undertaken by each subcontracting department. It also asked prime contractors to instruct their major subcontractors to follow the same procedure.

The committee was considerably pleased by this action on your part. We feel, as you do, that more extensive subcontracting is essential to the fuller use of small business and to the achievement of our production goals. It was because of our convictions on this matter that we inserted the following clause in the section of Public Law 603, Seventy-seventh Congress, that defined the power of the Chairman of the War Production Board: "to obtain information with respect to the extent and terms upon which prime contractors with the Government have let subcontracts, and to take such action as he may deem appropriate to bring about the letting by such prime contractors of subcontracts upon fair and equitable terms and in the greatest volume practicable."

Since almost 2 months have now elapsed since your December 15 letter to the prime contractors, the committee is extremely interested in learning what has happened in the interval. We should appreciate hearing from you on the following points:

- (1) How many prime contractors have received the December 15 letter?
- (2) How many prime contractors have replied?
- (3) How many have indicated that they already have subcontracting departments?
- (4) Of those that did not have subcontracting departments, how many indicated that they would set up such departments?
- (5) Of those that indicated that they have subcontracting departments, how many indicated that they would undertake certain improvements in the work of such departments? What improvements have been made?
- (6) How many prime contractors have issued instructions to their major subcontractors in accordance with your request?
- (7) What is your present program for supervising or controlling the procurement activities of your prime contractors? (Please give type and extent of subcontracting clauses inserted in contracts, procedure for checking on procurement activities of prime contractors, etc.)

The committee is looking forward to close cooperation with your organization during the coming year in the solution of the many problems bearing on the future of small business in America and the successful prosecution of the war program.

Sincerely,

JAMES E. MURRAY,  
*Chairman.*

## REPLIES RECEIVED FROM UNDER SECRETARY OF WAR PATTERSON, UNDER SECRETARY OF NAVY FORRESTAL, AND WAR PRODUCTION BOARD CHAIRMAN NELSON

WAR DEPARTMENT,  
OFFICE OF THE UNDER SECRETARY,  
Washington, D. C., February 27, 1943.

Hon. JAMES E. MURRAY,  
*United States Senate, Washington, D. C.*

DEAR SENATOR MURRAY: I have your letter of February 16, in which you ask several questions concerning a letter dated December 15, 1942, signed by Mr. Nelson, Mr. Forrestal, and myself, addressed to prime contractors generally, in which we urged upon them the necessity for a greater degree of subcontracting.

This letter, which I believe was developed by Mr. Lou E. Holland, then Deputy Chairman of the War Production Board, was transmitted to me by Mr. Holland for signature, with a request that it be returned to him. It was our understanding that distribution of the letter would be made by the War Production Board, through its regional offices; and the War Department concurred in this arrangement as the best means of avoiding duplication of coverage. I am informed, however, that the letter was read and discussed at the joint meetings of our procurement officers and War Production Board field representatives which were held throughout the country during December to explain and implement our relationship with the Smaller War Plants Corporation.

More recently, the letter was reproduced in a memorandum on subcontracting sent to the Chiefs of the Supply Services with instructions that they bring it to the attention of their procurement representatives in the field. I enclose herewith a copy of this recent memorandum.

As you will note, the December 15 letter was an expression of general principles which we were urging prime contractors to follow. It was, however, couched in such language as not to require a reply, and I am informed that none have been received by this Department. This circumstance, together with the method of distribution which I have described, makes it impossible for me to answer questions 1 through 6 asked by your letter of February 16. Information on some of these points could, of course, be obtained by circularizing our prime contractors; but I am doubtful whether it would be advisable to burden them with a separate questionnaire on this subject at this time.

The War Department program for supervising the extent and kind of subcontracting by prime contractors has been, particularly recently, the subject of intensive consideration.

As you are aware, paragraph 205-A.6 of the Procurement Regulations requires all supply services to examine existing prime contracts in cooperation with representatives of the War Production Board with a view to further subcontracting. This process, which began some months ago, is still going on. We believe that it is likely to achieve the greatest results in the case of the Army Air Forces, because of the multiplicity of items involved in airplane manufacture which can be made the subject of subcontracting. The same thing would ordinarily be true of the Ordnance Department; but the recent revision of ordnance requirements in the Army supply program has made it, temporarily at least, less practicable to expand the subcontracting of the prime contractors with this Department. Other supply services, like the Surgeon General's Department and the Quartermaster Corps, are already dealing largely with small business on a direct basis; and the products purchased by some of them, like the Quartermaster Corps and the Chemical Warfare Service, do not so readily lend themselves to subcontracting.

Accordingly, we are concentrating particularly in this respect on aircraft manufacturers. In December a joint investigation, extending over a period of several days, was made in the Buffalo area by personnel from the Small War Plants Branch of the Purchases Division, from the Smaller War Plants Division of War Production Board, and from the Army Air Forces, which included calling at a number of the plants to explore the possibility of further subcontracting. As the direct result, substantial additional subcontracting was arranged; and the success of this experiment has led to plans for similar joint conferences with all the principal manufacturers of aircraft matériel, which are now on the point of beginning.

With respect to new prime contracts being let currently, paragraph 205-A.7 of the Procurement Regulations directs the services to facilitate discussion as to subcontracting with representatives of the War Production Board. In addition, the procedure followed generally includes discussion by our procurement officers

with prospective prime contractors as to the extent of the subcontracting planned in the particular case. This discussion has several purposes, including the development of the fullest possible load for small plants and the determination of the capacity and reliability of the proposed subcontractors, as well as ascertaining their location from the standpoint of labor supply and transportation, and the adequacy of the prime contractor's over-all plan for subcontracting. It is believed that by this means a considerable degree of control of the subcontracting activities of prime contractors is being brought about.

In certain cases, we have gone further and required that the prime contractor agree to subcontract either a designated part of the procurement or to designated subcontractors, or both. The Signal Corps, for example, is securing such agreements in a substantial percentage of all its contracts. While such an arrangement is feasible in particular situations, as where the field of subcontractors is limited and the possible subcontractors are well known to the supply service, we have not thought it wise to impose any such requirement generally. The War Department believes that it is vitally important to hold the prime contractor responsible for delivering the needed supplies of the requisite quality at the time required. In many cases it would impair that responsibility to introduce contractual restrictions on subcontracting; and therefore, while every effort is made during the negotiations to assure a maximum amount of subcontracting, it has not been found generally practicable to make it the subject of a contractual agreement.

Sincerely yours,

ROBERT P. PATTERSON,  
*Under Secretary of War.*

WAR DEPARTMENT

SERVICES OF SUPPLY, OFFICE OF THE ADJUTANT GENERAL

Washington

Memorandum, No. S5-36-43

FEBRUARY 12, 1943.

INTENSIFICATION OF SUBCONTRACTING

1. Reference is made to the following joint letter of December 15, 1942, signed by the Under Secretary of War, Under Secretary of Navy, and Chairman, War Production Board, addressed to all prime contractors and calling for greatly intensified subcontracting:

To: Prime Contractors.

GENTLEMEN: As manufacturers you know the fundamental value of complete plant utilization. Deliveries are speeded, costs are reduced. This same rule holds for our composite national capacity. No usable tool dare be idle in your plant or elsewhere, if we have the material to feed it. Operators must be provided.

Records in hand fully establish three important points:

1. Thousands of usable tools in America are but fractionally employed.
2. They can produce satisfactory work.
3. They must be put to work to speed the job by filling the gap for which many new tools have been ordered.

While this will, in some part, be accomplished by transfer and purchase of existing tools, it must be done in the main through greatly intensified subcontracting all down the line.

Those of you who do not have an aggressive open-minded official especially assigned to subcontracting should make such assignments immediately. It is a major job.

These subcontracting departments must—

1. Reexamine your commitments.
2. Comb out every part that warrants subcontracting consideration (reserving the tough ones for your own manufacture).
3. Clearly define the shop elements of each part or assembly.
4. Promptly supply the War Production Board area office nearest the originating plant sufficient job data for their needs in mobilizing the required facilities.

These field offices are clearing houses. They can function only if you and others submit your work for clearance. To such degree as you deem essential your other procedures for subcontracting may be continued. But this coordination, as set forth, is now essential.

Please instruct your major subcontractor to follow the same procedure. Cooperating, we shall win.

ROBERT P. PATTERSON,  
*Under Secretary of War.*  
JAMES V. FORRESTAL,  
*Under Secretary of Navy.*  
DONALD M. NELSON,  
*Chairman, War Production Board.*

DECEMBER 15, 1942.

2. Ordinarily, production can be increased more rapidly through subcontracting than through waiting for new machine tools and equipment, because of the difficulty in obtaining prompt delivery on such equipment. At the present time, because of cut-backs in the Army supply program, there is a large available industrial capacity on critical machine tools and other critical types of equipment. This has affected not only prime contractors but many manufacturers supplying these prime contractors.

3. Although some of the services are cooperating fully in aiding and encouraging prime contractors to carry subcontracting into effect, there is evidence that some of the local or regional offices appear to be reluctant to push this to the fullest extent possible by bringing in additional subcontracting facilities.

4. In order to carry out the purpose of this memorandum, it is requested that the Commanding General, Army Air Forces Matériel Command, and the chiefs of the supply services bring the joint letter of December 15, 1942, and this memorandum to the attention of all branches and regional and local offices of their respective services and issue definite instructions to contracting officers at all levels to do their utmost to see that all usable capacity is brought into the war effort, wherever doing so will increase the volume or the speed of production or will aid in clearing present or prospective shortages or bottlenecks.

5. It is essential that these instructions be issued without delay to all echelons, with emphasis placed upon the extreme importance of working this out direct with prime contractors wherever the results will justify subcontracting.

(SPX 160 (2-8-43) SPUPE-MP-FH.)

For the Commanding General:

J. A. ULIO,  
*Major General,*  
*Adjutant General.*

Distribution:

E.  
Commanding General, Army Air Forces Matériel Command.  
Chiefs of supply services.

THE UNDER SECRETARY OF THE NAVY,  
*Washington, March 1, 1943.*

The Honorable JAMES E. MURRAY,  
*Chairman, Special Committee to Study Problems of American Small Business,*  
*The Senate Office Building, Washington, D. C.*

DEAR SENATOR MURRAY: I thank you for your communication of February 16 and your comments on the three signature letter addressed to prime contractors, which was signed by Mr. Nelson, Mr. Patterson, and myself.

That letter originated with Mr. Lou Holland, former head of the War Production Board Smaller War Plants Division, who agreed, when it was signed by me early in December, to have his organization distribute it to all prime contractors.

For this reason the Navy is unable to fully answer your questions 1 to 6, inclusive.

I have asked the various bureaus of the Navy to provide the information requested in your seventh question and hope to have that data for transmittal to you shortly.

In addition to the above, the Navy directed on December 8, 1942, its field agencies to give "all possible aid to prime contractors in carrying out the purposes" of the letter in question.

The Navy also has held meetings in each Naval District, presided over by the various District Commandants, at which this letter was read and its purposes explained. Approximately 400 officers attended these meetings.

Assuring you of the Navy's desire to continue to aid in every way possible the spreading of subcontracts to smaller firms, I am

Sincerely yours,

JAMES FORRESTAL

WAR PRODUCTION BOARD,  
Washington, D. C., March 9, 1943.

The Honorable JAMES E. MURRAY,  
United States Senate.

DEAR SENATOR MURRAY: I cannot as yet reply in full to your inquiry of February 16 concerning the results obtained from the joint letter by Under Secretaries Patterson and Forrestal, and myself, to prime contractors.

That letter was distributed in various ways and at various times by the procurement offices of the War and Navy Departments, the Maritime Commission, and the Smaller War Plants Corporation. The distributions were carried out by the several regional offices, and no collection of data bearing on your questions has as yet been made.

However, it is my understanding that Col. Robert W. Johnson, as Chairman of the Smaller War Plants Corporation, is currently undertaking to arrange for the periodic collection of comprehensive data which should serve your purposes.

Very sincerely yours,

DONALD M. NELSON, *Chairman.*

SUPPLEMENTARY INFORMATION SUPPLIED BY UNDER SECRETARY OF THE NAVY  
FORRESTAL

THE UNDER SECRETARY OF THE NAVY,  
Washington, April 23, 1943.

HON. JAMES E. MURRAY,  
*Chairman, Special Committee to Study Problems of American Small Business,  
The Senate Office Building, Washington, D. C.*

DEAR SENATOR MURRAY: In order to answer more fully your letter of February 16, and specifically to give you the answer to question 7 in that letter, a rather exhaustive survey has been conducted in the various bureaus of the Navy Department.

Each bureau has a definite program calculated to achieve the maximum amount of subcontracting of each contract consistent with military necessity. It is felt that better results are obtained by this flexible method than by having a rigid percentage requirement written into each contract.

All bureaus are instructed to be constantly on the alert for developments which offer opportunities to increase subcontracting. An example of their efforts to comply is the joint pilot letter dated January 25, 1943, addressed to supervisors of shipbuilding and inspectors in the field and signed by the Chiefs of the Bureaus of Ships, Ordnance, and Aeronautics, respectively. (See enclosure A.)

This letter points out that the cut-back in the Army Ground Force program will release facilities which may be utilized by the Navy's prime contractors for subcontracting. Inspectors are instructed that " \* \* \* immediate pressure be brought to bear on the contractor to subcontract, to let out such parts of his work as can be done with an advantage to the total program."

The directive further states: "It is not to be taken that this further subcontracting is permissive; it is mandatory, and steps as may be necessary should be taken through the prime contractor or through the Navy Department to accomplish the desired result, \* \* \*"

Following is a summary of subcontracting practices in the major bureaus of the Navy Department:

BUREAU OF AERONAUTICS

The Bureau of Aeronautics has a clause in cost-plus-fixed-fee contracts, which states in part as follows: "At least ten (10) days before entering into any subcontract on a cost-plus-a-fixed-fee basis or entering into any other subcontract or issuing any purchase order exceeding \$—— (usually \$100,000), the contractor shall notify the Inspector of Naval Aircraft in writing giving the name and location of the subcontractor or vendor, the parts or materials to be purchased, the proposed delivery schedule, if known, and the fixed price or estimated cost and fixed fee to be paid: *Provided, however,* That the Inspector of Naval Aircraft may at any time waive, generally or specifically, the requirement of giving any such notice."

The Bureau of Aeronautics feels that through this procedure it is regulating subcontracting by its prime contractors.

Through the inspectors of naval aircraft the Bureau at all times is kept informed and periodically receives lists from prime aircraft contractors of subcontractors and vendors.

## BUREAU OF ORDNANCE

The Bureau of Ordnance inserts, in the case of cost-plus contracts, the following clause: "At least ten days before entering into any subcontract on a cost-plus-a-fixed-fee basis or entering into any other subcontract or issuing any purchase order exceeding \$——, the contractor shall notify the Contracting Officer in writing giving the name and location of the subcontractor or vendor, the parts or materials to be purchased, the proposed delivery schedule if known and the fixed price or estimated cost and fixed fee to be paid: *Provided, however,* That the Contracting Officer may at any time waive, generally or specifically, the requirement of giving any such notice."

Prior to awarding of contracts to potential contractors, thorough investigations are made by qualified personnel to determine the suitability of the facilities, the ability of the contractors to produce the items under consideration and the subcontracting and/or additional facilities required.

In those instances where prime contractors require new facilities, an exhaustive search to locate existing manufacturing facilities for subcontract work is required. The Bureau of Ordnance assists in this procedure, working in close cooperation with the War Production Board and other governmental agencies, including the Smaller War Plants Corporation which has a representative assigned to the Bureau of Ordnance. No new facilities are approved for the prime contractor until it is determined by these agencies that it is impossible to find additional existing facilities, capable of producing the required items under subcontracts, at a rate, of proper quality, and in sufficient quantity to meet the requirements of the fighting forces.

## BUREAU OF SHIPS

Subcontracting is obtained in three ways by the Bureau of Ships.

When the contract is first negotiated, the subject of subcontracts is discussed thoroughly, emphasis being placed on the necessity of subcontracting wherever possible.

When the delivery date is set, the subject of subcontracts again is investigated thoroughly. Under the present schedule, deliveries are called for in such a hurry, that it is vital to subcontract every part that can be made elsewhere.

Finally, the Supervisor of Shipbuilding keeps the subject of subcontracting constantly open, through follow-up letters and other means of pointing to the necessity for farming out work as hereafter illustrated.

In the case of the Mare Island Navy Yard, Vallejo, Calif., this effort started in late 1940, and was expanded to cover all navy yards in March 1941 by the promulgation of a broad program of farming out machine shop and other work.

The navy yards act in the capacity of prime contractors and contract with shops throughout the country for the prefabrication of portions of hulls, fittings, and fixtures and the machining of parts, assemblies, etc., which can be performed outside the navy yards under proper supervision.

A survey just completed at Mare Island reveals that more than 500 companies—three-fourths of which employ less than 100 persons—are now engaged in the fabrication of portions of vessels under construction and perform job work on ships brought to the Pacific coast for repair.

The 500 subcontractors at Mare Island above referred to employ in the neighborhood of 30,000 persons who thus are performing work for that yard that, under normal conditions, it would do itself. They are spread from Colorado to Arizona, Wyoming, Washington, Oregon, and southern California, in addition to the areas centering around the San Francisco-Sacramento districts.

The commandant of the Mare Island yard states: "This yard could not have built destroyer escort vessels without this 'farming-out' program."

In Denver, Colo., the output of prefabrication work for D-E hulls represents 46 percent of the structural capacity of the Mare Island yard available for new construction.

Officials of Mare Island yard further state: "The workmanship on the foundations for the first 24 vessels which have been delivered to date is excellent, and all agree that the work could not have been done better in the Mare Island shops."

In addition, on the question of cost, the report further states, "The actual cost to the Navy, in most cases, was less than the cost of doing the work at Mare Island."

In the list of subcontractors cited above are included five pools organized by the Smaller War Plants Corporation's San Francisco office which consisted of 137 plants, all of which at the present time are working on either repair or the building of new ships.

An example of the extent to which some of the private shipbuilding organizations have been able to take advantage of this farming-out principle is had from a letter dated April 15, 1943, from the Bethlehem-Hingham Shipyard, Inc., at Hingham, Mass., signed by Mr. E. R. Sinclair, district purchasing agent.

Mr. Sinclair states: "From the time construction of naval vessels started at the Hingham yard to the present time subcontracting orders have been placed with a total of 101 small New England concerns to a total value of \$13,858,320.

"Outside of the New England territory orders have been issued to 45 concerns for a total of \$3,197,000.

"To the best of our knowledge and belief none of these concerns exceeds 500 employees and at least 90 percent having less than 100 employees. The work involved is of a type which would normally be performed entirely by a fully equipped shipyard.

"With the exception of the structural steel and relatively small amount of controlled materials ordered as such, i. e., steel and brass pipe, sheets, etc., the material cost of a vessel is actually subcontracted. Much of this material is purchased from small concerns and the figures given above represent only a small percentage of the total volume of business placed with small concerns. With respect to auxiliary machinery and specialty items, our suppliers have subcontracted with smaller concerns to supply items normally manufactured in their own works. Actual check with a number of these suppliers shows they have subcontracted a large portion of their work, in some cases handling only assembly and testing and production of intricate pieces and in a few instances subcontracting complete units, supplying only engineering guidance and inspection."

The Navy Department is now taking further steps to furnish all navy yards and private shipyards with the methods used and results obtained through the Mare Island and Bethlehem-Hingham examples. A great number of these yards already are carrying on a similar type of activity.

The Bureau of Ships feels that it obtains better results and more subcontracting through the method outlined above, than by requiring a certain arbitrary portion of every contract to be subcontracted.

#### BUREAU OF YARDS AND DOCKS

The Bureau has followed the policy of requiring subcontracting under cost-plus-fixed-fee contracts in the interest of speed, economy, and of spreading the work. The extent to which subcontracting is contemplated is determined prior to award of the contract. As a general rule heating, ventilating, plumbing, electrical work, roofing, etc., are sublet. Other work such as clearing, grading, and excavation are commonly sublet.

It has also been the practice to make awards to local contractors wherever practicable. Endeavor also is made to maintain a proper balance between the size of the project and the capacity of the contractor selected, and in this way distribute the smaller jobs to the smaller operators, with the further effect of spreading work.

Procurement to be made through prime contractors is determined by the Bureau, and is under the direction of the officers in charge of contracts in the field. Local markets and sources are utilized to the fullest possible extent, in the interest of speed, economy, and distributing business.

Procurement by the Bureau for its own program or by the Bureau for other bureaus, is cleared through the procurement representative of War Production Board to the War Production Board Smaller Business Division so that orders can be placed in regions and with firms that are in need of business.

#### BUREAU OF SUPPLIES AND ACCOUNTS

Since October 1941, prospective contractors have been required to furnish information as to the extent of the subcontracting anticipated in the performance of the contract. The data furnished on this questionnaire is reviewed in evaluating the bid.

A check is made by the naval inspector on the extent of the subcontracts let by the prime contractor. Subcontracting is urged in all cases where it is apparent that production might be stepped up without undue costs. Provisions are made for the modification of contracts to pay the increased cost resulting from subcontracting when found to be in the interest of the war effort.



On April 3 instructions were issued to all inspectors of naval material throughout the United States to supply monthly a list of all subcontractors in their respective districts grouped according to size, as follows (see enclosure B):

Group A: Subcontractors having less than 100 employees.

Group B: Subcontractors having more than 100 and less than 500 employees.

Group C: Subcontractors having 500 employees or more.

You may be assured that the Navy Department will continue to exert its best efforts to spread subcontracting to the greatest possible number of small plants consistent with the urgency of its whole procurement program.

Cordially yours,

JAMES FORRESTAL

BuShips File No. FS/A1-3(100) EN28/A2-11

(Buair File No. LA-3(8))

BUORD FILE NO. AI-3

JOINT PILOT LETTER

25 JANUARY 1943.

From: The Chief of the Bureau of Ships,  
The Chief of the Bureau of Ordnance, and  
The Chief of the Bureau of Aeronautics.

To: All Supervisors of Shipbuilding.  
All Inspectors of Naval Material.  
All Resident Inspectors of Naval Material.  
All Inspectors of Machinery.  
All Naval Inspectors of Ordnance.  
All General Inspectors of Naval Aircraft.  
All Inspectors of Naval Aircraft.

Subject: Expediting Programs—Subcontracting.

1. With the cut-back in the Army Ground Force program and with the release of capacity of contractors formerly working on facilities or nonmilitary work, there have become available in industry a number of competent firms for additional subcontracting work on Navy contracts. It is essential that all Inspectors keep this situation closely in mind and that where a prediction of delay in the accomplishment of any contract or subcontract within the Inspector's purview can be made immediate pressure be brought to bear on the contractor to subcontract and let out such parts of his work as can be done with an advantage to the total program.

2. It is not to be taken that this further subcontracting is permissive; it is mandatory, and steps as may be necessary should be taken through the prime contractor or through the Navy Department to accomplish the desired result, i. e., a balancing of work among competent firms to assure the required delivery of end products.

3. The Naval Advisors to the Regional Directors of the War Production Board have information on firms which may be suitable for subcontracting work. It is to be noted, however, that any such information furnished is advisory only and that the responsibility for subcontracting depends upon the holder of the original contract, who retains his responsibility also for the products obtained.

4. Inspectors are enjoined to advise the cognizant Bureau promptly of prospective delays and of steps which appear possible for breaking them.

RALPH DAVISON,  
*Rear Admiral, United States Navy,*  
*Acting Chief of Bureau.*

W. H. P. BLANDY,  
T. D. RUDDOCK,  
*Acting.*

E. L. COCHRANE,  
*Chief of Bureau.*

2240

PROBLEMS OF AMERICAN SMALL BUSINESS

PM136 JRS:fw

NAVY DEPARTMENT,  
*Washington, D. C., April 3, 1943.*

**From:** Office of Procurement and Material (Inspection Administration).

**To:** All Inspectors of Naval Material.

**Subject:** Navy Subcontractors, Report Listing the Number of.

1. In accordance with the request made by the Chief of Procurement and Material, it is requested that the Inspector furnish this office (Inspection Administration) with the number of SUBCONTRACTORS in each Inspection District falling within the following groups:

Group A: Subcontractors having less than 100 employees.

Group B: Subcontractors having more than 100 and less than 500 employees.

Group C: Subcontractors having 500 employees or more.

2. In most cases, estimates of which group subcontractors fall within can be made by cognizant inspectors. It is not the intention of this order to load additional heavy paper work on inspectors. Compliance should employ the simplest effective procedure.

3. The report requested in paragraph 1 is to be submitted as of the first of each month and is to be continued monthly until further notice. It is requested that this report be submitted so as to arrive in this office by the 15th of each month.

A. J. WELLINGS,  
(By direction).

## APPENDIX III

The following supplementary material was submitted by Charles E. Wilson in connection with his testimony:

DIR. 13  
Feb. 6, 1943

### WAR PRODUCTION BOARD

#### PART 906—MACHINE TOOL TRANSFERS

##### [Directive 13]

§ 906.1 *Directive 13*—(a) *Utilization of machine tools.* (1) As a result of changes in program schedules, increasingly efficient operation, and development of new production techniques, many machine tools heretofore delivered have been rendered idle, or are in use on purposes less essential to the war effort than others for which they are urgently needed.

(2) To release all possible materials for other purposes and to bring about the production of articles of war in accordance with strategic military determinations, maximum utilization of existing machine tools must be secured.

(3) Machine tools recently purchased have been largely Government financed; when in conflict with the attainment of maximum utilization, the right to present or future ownership and the right to possession or use of any particular machine tool by any person, including any governmental agency, department or corporation, are deemed subordinate.

(4) The War Production Board is the agency responsible for developing information regarding existing machine tools not required in their present location, and is responsible for exercising over-all supervision of the distribution of machine tools.

(b) *Policies.* Accordingly, the following policies have been established by the War Production Board in consultation with the War and Navy Departments, and the Defense Plant Corporation:

(1) The War Production Board may direct the transfer of any machine tool not in use or from use on any contract, purchase order, program, or other work regardless of ownership or contractual rights relating to the possession or use of such machine tool, to use on any other contract, purchase order, program, or other work in the same plant or any other plant. The direction of the War Production Board will be addressed to the departments or agencies primarily affected and a copy shall be furnished to the holder of such machine tool.

(2) The Tools Division of the War Production Board shall issue such a direction only after consultation with the War Department, the Navy Department, or any other Government agency or department the performance of whose contracts may be affected by such action. Consideration shall be given to the effect which such transfer will have on respective production programs, under the general policies directed by the Production Executive Committee.

(3) The guiding principle shall be that upon the issuance of such a direction the transfer of the machine tool in question shall be made promptly. Accordingly, every effort must be exerted by the Governmental agency concerned to obtain the consent of the holder of the machine tool to its immediate transfer. Adjustments between Governmental agencies necessitated by the transfer and likewise negotiations between such agencies and the machine tool holder with respect to the modification of any contract under which the machine tool is used or of any contract for the production of material with such machine tool shall, insofar as possible, be conducted after the transfer.

(4) If the consent of any private interest deemed necessary to the transfer of the machine tool cannot be obtained, or if the transfer is not accomplished with reasonable dispatch, the War Production Board will issue such orders as may be necessary to effectuate the transfer. When necessary, the machine tool shall be requisitioned pursuant to the Act of October 16, 1941, as amended.

(5) Reserves of machine tools retained by contractors against the possibility of future need for tools shall not be permitted if such tools are needed for other contractors. The execution of the policies herein established should obtain sufficient fluidity and flexibility in the distribution of machine tools to make such reserves wholly unnecessary.

(c) *Review of orders for machine tools.* The War Production Board, Tools Division, will request all Departments and Agencies participating in this directive to review all lists of machine tools on order so that those not urgently needed may be cancelled. The Tools Division will keep itself posted as to all urgent and special demands for machine tools so that immediate action may be taken in filling such orders.

(d) *Reports on available machine tools.* All departments and agencies of the Government participating in this directive shall determine the location of machine tools within their cognizance which are available for transfer to fill other more urgent needs, and shall promptly advise the War Production Board of such tools.

(e) *Effectuation of directive.* The War Production Board, the Army and Navy Departments, and the Defense Plant Corporation, shall take such other immediate steps as are necessary to effectuate this directive.

Issued this 6th day of February 1943.

DONALD M. NELSON,  
Chairman.

WAR AND NAVY DEPARTMENTS

Approved:

JAMES V. FORRESTAL

ROBERT P. PATTERSON

DEFENSE PLANT CORPORATION

Approved:

HANS A. KLAGSBRUNN

M-293

FEB. 26, 1943 (Corrected Copy)

WAR PRODUCTION BOARD

(Corrected copy)

PART 3208—CRITICAL COMMON COMPONENTS

[General Scheduling Order M-293]

The fulfillment of requirements for the defense of the United States has created a shortage in the production of certain critical common components for defense, for private account and for export; and the following order is deemed necessary and appropriate in the public interest and to promote the national defense:

§ 3208.1 *General Scheduling Order M-293*—(a) *Definitions.* For the purpose of this order:

(1) "Critical common components" means any new equipment or apparatus of the types, descriptions and classifications set forth on the schedule hereto annexed. Class X and Class Y critical common components are those components which are so designated on such schedule.

(2) "Manufacturer" means any person who constructs or manufactures a critical common component to the extent that he is engaged in such construction or manufacture and shall include sales and distribution outlets and agencies controlled by such manufacturer.

(b) *Operation reports.* Each manufacturer of a critical common component shall file the applicable form designated in Column 1 of the annexed schedule on the dates prescribed by such form. Such form as filed shall where called for show production capacity and orders unfilled, received, shipped, cancelled and scheduled for the period specified in the form.

(c) *Deliveries of Class X critical common components.* (1) Each manufacturer of Class X critical common components shall file the applicable form as specified in Column 2 of the annexed schedule on the dates prescribed by such form. Such form as filed shall show the manufacturer's delivery schedule for Class X critical common components for the period therein specified.

(2) On and after April 1, 1943 (or such later date as may be specified in the applicable form), notwithstanding any preference rating which other orders may bear or any directive, rule or regulation of the War Production Board,

each manufacturer shall deliver Class X critical common components only in accordance with the schedule filed pursuant to paragraph (c) (1), as the same may be changed by the Director General for Operations.

(d) *Placing and acceptance of orders for Class Y critical common components.*

(1) Except as otherwise provided in the annexed schedule, on and after April 1, 1943 no person shall place an order with a manufacturer, and no manufacturer shall accept an order, for any Class Y critical common component unless accompanied by a specific authorization of the Director General for Operations. Such authorization may specify the manufacturer with whom the order may be placed. Application for such authorization may be made to the War Production Board by the person seeking to place an order on the applicable form designated in Column 3 of the annexed schedule.

(2) Any order so authorized shall be accepted by the manufacturer with whom it is placed, provided it meets his regularly established prices and terms. Delivery shall be made in accordance with the terms of such order as authorized, notwithstanding any preference rating which other orders may bear or any directive, rule or regulation of the War Production Board.

(e) *Other allocation and scheduling action.* With respect to any critical common component, the Director General for Operations may, notwithstanding any other order, preference rating, directive, rule or regulation of the War Production Board:

(1) Direct the return or cancellation of any order on the books of a manufacturer

(2) Direct changes in the delivery or production schedule of a manufacturer

(3) Allocate orders placed with one manufacturer to another manufacturer

(4) Revoke any authorization to place an order granted by him pursuant to this order, or

(5) Take such other action, as he deems necessary, with respect to the placing of orders for, or the production or delivery of critical common components.

(f) *Application of other orders and regulations.* The listing of any product as a critical common component under this order does not relieve any person from complying with the provisions of any other order, directive, rule or regulation of the War Production Board, except as specifically provided in this order.

(g) *Violations.* Any person who wilfully violates any provision of this order, or who, in connection with this order, wilfully conceals a material fact or furnishes false information to any department or agency of the United States is guilty of a crime, and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries of, or from processing or using, material under priority control and may be deprived of priorities assistance.

Issued this 26th day of February 1943.

CURTIS E. CALDER,  
*Director General for Operations.*

#### SCHEDULE ANNEXED TO GENERAL SCHEDULING ORDER M-293

1. *Designations.* Only those critical common components designated as Class X or Class Y are subject to the provisions of paragraphs (c) and (d) of this order. A critical common component may be both a Class X and Class Y component and thus be subject to all the provisions of the order.

2. *Applicable forms.* If no form is listed in any of the columns opposite a specific item, no form is to be filed as to that item. If a form is listed opposite a general class of product, but not opposite a subclassification, the form shall be filed only for the class as a whole (or for such part of a class as the manufacturer produces). If a form is listed opposite a general class of product and also opposite a specific subclassification, the form is to be filed both for the class as a whole (or for such part of a class as the manufacturer produces) and the specified subclassification, but if the manufacturer produces only a specified subclassification the form need be filed only for that item.

Subject to the provisions of the foregoing paragraph:

The applicable form shown in Column 1 is to be used in making the report required of manufacturers of all critical common components by paragraph (b) of this order.

The applicable form shown in Column 2 is to be used in making the report required of manufacturers of Class X critical common components pursuant to paragraph (c) of this order.

The applicable form shown in Column 3 is that on which a purchaser of the Class Y critical common component may apply to the War Production Board for authorization to place an order with a manufacturer pursuant to paragraph (d) of this order.

Where the same form number is specified in more than one column, the form should only be filed once. Where the form specified is filed pursuant to any other "E", "I", "M" or "P" order, the form should only be filed once.

3. *Reports and communications.* The list of critical common components is arranged so that the name of the Industry Division appears in parenthesis above the type of critical common components for which it is primarily responsible.

All reports and forms required by the order and all communications with respect to any critical common component should be addressed to the War Production Board, Washington, D. C., attention of the appropriate Industry Division as so listed.

Type of critical common components	Designations	Applicable forms columns		
		1	2	3
(AIRCRAFT PRODUCTION BOARD RESOURCES CONTROL OFFICE)				
<b>1. Parker type fittings</b> Tube, hose and pipe fittings specially designed for use in aircraft plumbing by virtue of their inherent low weight, compact dimensions and other design characteristics: Adapters. Manifolds. Bushings. Nipples. Caps. Nuts (Special). Cells. Parker Flanges. Collars. Reducers. Connectors. Rings. Couplings. Sleeves. Crosses. Snubbers. Elbows. Supports. Hose Assembly. Tees. Inserts. Unions. Liners.		PD-900		
<b>2. Gears, aircraft engine</b> Those gears directly incorporated in the assembly of aircraft engines. a. Timing..... Bevel. Spur. b. Accessory..... Bevel. Spur. Spur (Helical). Zerol. c. Propeller reduction..... Bevel. Spur. Herringbone. d. Supercharger..... Spur.		PD-900		
<b>3. Engine accessories (aircraft):</b> Those auxiliary devices used as a component part of an aircraft engine as listed below: a. Pumps..... Fuel pumps, engine driven. Hand fuel pumps. Hydraulic pumps, engine driven. b. Spark plugs..... Ceramic: Long reach shielded type. Short reach shielded type. Short reach unshielded type. Mica: Long reach shielded type. Short reach shielded type. Short reach unshielded type. c. Starters..... Electric inertia type. Hand inertia. Direct crank type. Cartridge type. d. Carburetors..... Pressure injection type. Large float type (over 1,000 h. p.) Small float type (up to 1,000 h. p.)		PD-900		
		PD-900		
		PD-900		
		PD-900		
		PD-900		

Type of critical common components		Designations	Applicable forms columns		
			1	2	3
<b>(AIRCRAFT PRODUCTION BOARD RESOURCES CONTROL OFFICE)—CON.</b>					
3. Engine accessories (aircraft)—Continued. Those auxiliary devices used as a component part of an aircraft engine as listed below—Continued.					
e. Magnets			PD-900		
4 Cylinder—SF. 5 Cylinder—SF. 6 Cylinder—SF and SB. 7 Cylinder—SF, VMN and DF, MJT. 9 Cylinder—SF, DFN and VAG, SB and MJT. 12 Cylinder—DFLN and DFN. Single 12 Cylinder SF. 14 Cylinder—SF. 18 Cylinder—DF and low tension. 24 Cylinder—DFN.			PD-900		
f. Generators			PD-900		
"E" type—12 volt, 50 amp. "L" type—24 volt, 25 amp. "M" type—24 volt, 50 amp. "O" type—24 volt, 100 amp. "P" type—24 volt, 200 amp. "R" type—30 volt, 300 amp.			PD-900		
4. Hydraulic parts—Actuating cylinders. A cylindrical chamber in which a piston is impelled by the pressure of a working fluid to provide the motive force required for the operation or control of some contiguous device.					
Classification	Bore	Stroke			
1	1 1/4" and under	Any.			
2	1 1/4" to 2"	Up to 10"			
3	1 1/4" to 2"	Over 10"			
4	2" to 3"	Up to 10"			
5	2" to 3"	Over 10"			
6	Over 3"	Up to 15"			
7	Over 3"	Over 15"			
<b>(ALUMINUM AND MAGNESIUM DIVISION)</b>					
1. Forgings (Aluminum)		X	WPB-63 CMP-12	WPB-2251	
a. Propellers.					
b. Crank cases.					
c. Pistons.					
d. Large Hammer Forgings (10,000 lbs. and over).					
e. Small Hammer Forgings (less than 10,000 lbs.).					
f. Press Forgings.					
<b>(AUTOMOTIVE DIVISION)</b>					
1. Crankshafts (finished):					
a. Drop forged		X			
b. Cast		X			
2. Diesel engines (non-marine only):					
a. Over 750 r. p. m.		X	WPB 878	WPB 878	
3. Gasoline engines (except aircraft):					
a. Air-cooled		X	WPB 878	WPB 878	
b. Liquid-cooled		X	WPB 878	WPB 878	
4. Engine mounted accessories:					
a. Magnets (other than aircraft types)		X			
b. Fuel injection equipment		X			
One-cylinder pumps		X			
Multi-cylinder pumps		X			
Nozzles and holders		X			
<b>(BUILDING MATERIALS DIVISION)</b>					
1. Hand tools:					
a. Heavy forged tools			PD-900		
1. Picks					
2. Mattocks					
3. Hammers, Mails and Sledges (4 lbs. and over)					
4. Blacksmith Anvil Tools					
5. Bars					
6. Tongs					
b. Woodworking tools:					
1. Machetes		Y	PD-900		PD-556
2. Axes, Hatchets & Hammers			PD-900		

Type of critical common components	Designations	Applicable forms columns		
		1	2	3
<b>* (GENERAL INDUSTRIAL EQUIPMENT DIVISION)</b>				
1. Fans, blowers and exhausters as defined under Limitation Order L-280.....	X	<sup>1</sup> PD-796	<sup>1</sup> PD-796	
2. Compressors and dry vacuum pumps, reciprocating air and gas as defined in L-100 (excluding compressors for air conditioning, ice making, food and beverage cooling, processing and preservation and cold storage systems)..... All others having piston displacement of over 1 cubic foot per minute (excluding compressors for air conditioning, ice making, food and beverage cooling, processing and preservation and cold storage systems).....	XY	PD-900	<sup>2</sup> PD-416	<sup>3</sup> PD-416
3. Conveying machinery and mechanical power transmission equipment as defined in Limitation Order L-193.....	XY	PD-900	PD-416	PD-416
a. Speed changers:		PD-900		
1. Enclosed units (excluding ship propulsion):				
Worm gear speed reducers.....		PD-900		
Helical and/or herringbone speed reducers.....		PD-900		
2. Industrial gears (unmounted):				
Worm and worm wheels.....		PD-900		
Flexible couplings.....		PD-900		
4. Heat exchangers as defined in General Limitation Order L-172.....	XY	PD-900	<sup>4</sup> PD-615b	<sup>4</sup> PD-615
5. Pumps, industrial (except measuring and dispensing, and reciprocating compressors and dry vacuum pumps):				
a. Pumps, reciprocating (except compressors and dry vacuum pumps).....		PD-900		
b. Pumps, centrifugal.....		PD-900		
c. Pumps, rotary (including vane, screw, lobe and gear).....		PD-900		
d. Fluid power systems (hydraulic).....	X	PD-900	PD-901	
6. Turbo-blowers and turbo-exhausters for pressure differential of 1½ or above:				
a. Centrifugal type—20 H. P. and above.....	XY	PD-900	<sup>4</sup> PD-616B	<sup>4</sup> PD-616
Single Stage.....				
Multi-Stage.....				
Axial.....				
Blast furnace.....				
b. Rotary—20 H. P. and above.....	XY	PD-900	<sup>4</sup> PD-616B	<sup>4</sup> PD-616
Lobe.....				
Sliding Vane.....				
Liquid Piston.....				
c. Rotary and centrifugal—below 20 H. P.....	X	PD-900	PD-901	
7. Welding rods and electrodes:				
a. Welding rods for gas welding				
Bronze welding rods.....		PD-900		
b. Electrodes for arc welding				
Carbon steel electrodes (Flux coated).....		PD-900		
Stainless steel electrodes for armor plate welding.....		PD-900		
Stainless steel electrodes for corrosion and heat resisting.....		PD-900		
8. Motors and generators, electric:				
a. Fractional horse power (except internal combustion engine mounted accessories) including amplidyne, dynamotors, and selsyn motors.....		PD-738		
9. Electric motor control equipment—all sizes and types (except for internal combustion engine) mounted accessories:				
a. Navy shipboard type.....	X			
b. Maritime shipboard type.....	X			
c. Industrial type.....		PD-900		
10. Small air circuit breakers Types AB, ET or similar.....		PD-900		
11. Pressure vessels. Any sealed metallic vessel or shell subjected to internal or external pressure designed for the purpose of retaining one or more fluids (liquids, gases, or vapors), excluding: (a) Direct-fired vessels, such as locomotives or boilers; (b) Vessels for containing only water under pressure for domestic supply, or those containing air, the compression of which serves only as a cushion as in air-lift pumping systems; (c) Vessels for storage or transportation designed for pressure below 30 lbs. per square inch and for vessels of less than 30 cubic feet in volume regardless of pressure; (d) Vessels designed as heat exchangers of the surface type, or enclosures therefor; (e) Vessels designed for cooking foodstuffs or used directly in preparing foodstuffs for packaging.....	X	PD-900	PD-901	
<b>(MISCELLANEOUS MINERALS DIVISION)</b>				
Jewel bearings:				
a. Vee jewels.....		( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
b. Large instrument ring jewels.....		( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )

<sup>1</sup> As required under L-280.  
<sup>2</sup> As required under L-100.  
<sup>3</sup> As required under L-163.  
<sup>4</sup> As required under Jewel Bearing Order M-50.



Type of critical common components	Designations	Applicable forms columns		
		1	2	3
<b>(POWER DIVISION)</b>				
1. Turbines (except for ship propulsion):				
a. Steam turbines for generator drive.....	X	(1)	(2)	
b. Steam turbines for mechanical drive.....	X	(1)	(1)	
c. Hydraulic turbines.....	X	(1)	(1)	
2. Circuit breakers:	X	(2)	(2)	
a. Oil breakers, 2200 volts and above.				
b. Air breakers except types AB, ET or similar.				
3. Power boilers—All land boilers 100 lbs. design pressure and above, including water tube and fire tube.....	XY	(2)	(2)	
4. Diesel and natural gas engines (non-marine only):				
a. 750 RPM and less.....	X	WPB878	WPB878	
5. Crankshafts (finished):				
a. Hammer and press forged.....	X			
6. Transformers—radio, radar and nonpower electronic application only.....		- PD-900		
a. Filament transformer.				
b. Output and coupling.				
c. Power supply transformer.				
d. Reactors.				
e. Chokes.				
<b>(RADIO &amp; RADAR DIVISION)</b>				
1. Capacitors (fixed).....		PD-900		
a. Ceramic condensers.				
b. Electrolytic.				
c. Mica condensers.				
d. Paper condensers.				
2. Coaxial cable for RF transmission lines excluding gas or air filled lines.....		PD-900		
3. Industrial type instruments (as classified L-234).....		PD-750		
4. Combat measuring instruments:				
a. As classified L-203 except Classifications 1.11, 1.21, 1.31, 2.111, 2.112.....		PD-676		
b. Classifications 1.11, 1.21, 1.31, 2.111, 2.112.....		PD-676	(1)	(2)
5. Plugs and connectors:				
a. AN type, specification AN-9534a.....		PD-900		
b. Coaxial line connectors and harness used with 3 above.....		PD-900		
6. Resistors, fixed and variable.....				
7. Test equipment—Production.....	XY	PD-900	PD-901	PD-556
a. Generators of audio and radio frequency signals except rotary type.				
b. Frequency measuring equipment, including standards.				
c. Waveform measuring equipment.				
d. Power supplies (electronic) and voltage regulations.				
e. Impedance, inductance, capacitance, voltage, amperage, and resistance measurement equipment AC and DC, excepting basic meter movements applicable for such purposes.				
f. Precision standards of items in e.				
g. Electronic speed regulating measuring equipment.				
h. Electronic recording devices, graphical and visual.				
i. DC and AC voltage amplifiers (test purposes only).				
j. Electronic chemical analysis equipment.				
k. Vibration and sound measurement and analysis equipment.				
8. Tubes, vacuum (electronic, radio and radar applications only).....		{ WPB1093, 1642 }		
<b>(SAFETY AND TECHNICAL EQUIPMENT DIVISION)</b>				
1. Extinguishers, carbon dioxide.....	X	PD-900	PD-901	
These fire extinguishers are classified on the basis of the weight of carbon dioxide that is contained in the pressed steel cylinders used.				
a. 2 pound hand portable.				
b. 4 pound hand portable.				
c. 7½ pound hand portable.				
d. 10 pound hand portable;				
e. 15 pound hand portable.				
f. 20 pound hand portable.				
g. 50 pound wheel type.				
h. 75 pound wheel type.				
i. 100 pound wheel type.				
Any special order sizes.				
Permanently piped systems (50, 75 and 100 pound cylinders used in these systems).				
Cardax low pressure system. (No cylinders but does require refrigerated tanks.)				

1 As required under Order M-76.  
 2 As required under Order L-117.  
 3 As required under Order L-203.

Type of critical common components	Designations	Applicable forms columns		
		1	2	3
(SHIPBUILDING)				
1. Valves, including all valves such as industrial, marine, hydrant, sluice gate, drilling, flow line, cocks, etc., except refrigeration, aircraft, automotive, instrument, regulating and control valves:				
a. Steel valves:				
Safety and relief		PD-900		
Turbine (including strainers, throttle or overspeed, cross-over, maneuvering and manifold)		PD-950		
Compressed gas and cylinder		PD-900		
All other steel valves		PD-900		
b. Iron valves:				
Safety and relief		PD-900		
Compressed gas and cylinder		PD-900		
All other iron body		PD-900		
c. Bronze valves:				
Safety and relief		PD-900		
Compressed gas and cylinder		PD-900		
All other bronze valves 100# W. S. P. and over		PD-900		
2. Pipe fittings:				
All steel fittings		PD-900		
3. Turbines, main marine propulsion	X	WPB1826	WPB1826	
		1828	1828	
4. Diesel engines (marine only):	X	WPB878	WPB878	
Marine propulsion				
Auxiliary drive				
Emergency generator drive				
5. Gears (marine only):				
Maine reduction	X	WPB1827	WPB1827	
		1829	1829	
Auxiliary reduction	X	PD-900	PD-901	
(TOOLS DIVISION)				
1. Bearings, ball and roller		WPB 1314		
		WPB 2389		
2. Hand tools:				
a. Mechanics' hand service tools		WPB 2057		
Adjustable wrenches (crescent type)				
Socket wrenches, midjet size				
Monkey wrenches				
Pliers, side cutting				
b. Metal cutting tools		WPB 30		
Machine broaches, flat and spline				
Threading chasers, die heads, and collapsible taps				
High speed taper shank drills, 1" diameter and larger				
Ground gear hobs, 48 pitch and finer				
Ground multiple thread milling cutters or hobs				
c. Precision measuring tools		WPB 2009		
Micrometers				
Internal micrometers				
Calipers, pocket slide				
Planer gages				
Thickness gages				
Telescope gages				
Precision levels				
Parallels				
Protractors				
Solid squares				
Steel rules				
Vernier, calipers				
Vernier, gear tooth				
V blocks				
3. Machine tools		(*)	(*)	(*)
a. Hammers and presses.				
b. Forging machines.				
c. Surface broaching machines (5 to 15 tons).				
d. Planers, double housing 48" and up.				
e. Thread milling machines.				
f. Thread grinding machines (8" and up).				
g. Cylindrical grinding machines (4" to 10" capacity).				
h. Cylindrical grinding machines (20" diameter and over).				
i. Precision boring machines.				
j. Special and way drilling machines.				
k. Spur & helical gear shaping machines.				
l. Special machines (various types).				

\*As required under Order E1B.

LETTER ADDRESSED TO SENATOR MURRAY BY C. E. WILSON

MARCH 17, 1943.

SENATOR JAMES E. MURRAY,  
*United States Senate.*

DEAR SENATOR MURRAY: You will recall that when I testified before your committee 2 weeks ago the question was raised as to whether there is any Government organization that has adequate machinery to help businessmen get worthy new products or methods into production.

I have taken up this subject with Dr. Harvey N. Davis, head of Research and Development, and he has written me as indicated by the attached letter.

You will note that while he feels that his legal powers are adequate for this purpose, all of his funds available to handle this type of project are exhausted, and he does not feel that the staff is adequate to deal with the problems which have been placed before them. This seems to be one of those cases where the desire for economy and the desire to have Government serve to develop to the fullest new ideas or programs get into conflict with one another.

Sincerely yours,

C. E. WILSON.

WAR PRODUCTION BOARD,  
OFFICE OF PRODUCTION RESEARCH AND DEVELOPMENT,  
*Washington, D. C., March 16, 1943.*

Memorandum.

To: Mr. C. E. Wilson.

From: Harvey N. Davis (initialed H. N. D.).

Referring to your memorandum of March 6, which reached us late Saturday afternoon, the 13th, according to my experience effective machinery already exists to help businessmen who have worthy new products, methods, or processes to perfect these ideas and get them into production.

We are empowered by our directive to make research or development contracts for the perfecting of such ideas whenever it seems wise to us to do so. We are even empowered to contract for the construction of prototypes or for the construction and operation of pilot plants where necessary.

When such an idea reaches the production stage the Smaller War Plants Corporation is in a position to aid in the financing. Projects of this sort are often brought to them direct without passing through our office at all, in which case they sometimes ask us for a technical opinion before proceeding.

I, therefore, see no need for establishing a new Government agency to deal with such matters.

Please remember, however, that at the moment our office has no free funds available with which to continue to perform services of this kind, and that our staff is not yet fully manned because of the "freeze." Both of these difficulties must be overcome before we can function effectively in this or any other way.

## APPENDIX IV

(The following material is the report referred to by Colonel Johnson on page 2205 and consists of a record from the members of his staff on the cooperation given the Smaller War Plants Corporation by the various procurement agencies, and a letter from James Forrestal, Under Secretary of the Navy, to the Honorable Wright Patman, chairman of the Committee on Small Business of the House of Representatives.)

FEBRUARY 24, 1943.

Subject: Ordnance Department.

1. *Ammunition Branch.*—To the best of our knowledge the Ammunition Branch is allowing us to review all proposed procurements. Col. O. F. German and our representatives have classified all items procured by the Ammunition Branch so that we know the exact type of facilities necessary for the procurement of all items. The Officers of the Ammunition Branch seem to be showing a spirit of whole-hearted cooperation.

2. *Artillery Branch.*—Our Artillery Branch representative reports that we are receiving splendid cooperation and that all procurements are submitted to us for consideration.

3. *Small Arms Branch.*—Our Small Arms Representative reports that the Small Arms Branch is cooperating with us satisfactorily.

4. *Tank-Automotive Center, Detroit, Michigan.*—We are getting fairly good cooperation from the Tank-Automotive Center, although there is a question as to whether we are allowed to see all proposed procurements.

We believe the Ordnance Department, as a whole, is cooperating quite satisfactorily, although there have been many changes in procedure and personnel and this may have caused some unintentional bypassing which will be rectified eventually.

As far as I am able to ascertain I have as of today received excellent cooperation from all procurement divisions of Quartermaster General's Office. I believe you are aware of the many courtesies extended to me there and of all the information that they have made available to us from their highly specialized procurement officers.

To my knowledge nothing is or has by-passed Smaller War Plants Division and in every instance where we could furnish facilities we have had an allocation for items to be manufactured emanating from this source.

As you know, our liaison, Major Holmes, has in many instances given us two and three opportunities to reenter the picture for redesignation of facilities.

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FEBRUARY 26, 1943.

Subject: Cooperation—Corps of Engineers and Chemical Warfare.

I can report that we are getting splendid cooperation from both of the above mentioned services. In both cases a copy of the requisition is sent to the S. W. P. D. officer at the same time it goes forward to the various sectional officers here in Washington, so that we have an opportunity to examine and discuss with the local officers the contemplated procurements before they are sent out to the various procurement districts.

I have made it a point to sell the S. W. P. D. to the Chiefs of these services, and I find General Fowler and General English anxious to help us do a good job. I can say that this goes for everybody down the line.

At the moment, I am working on procurements amounting to in excess of fifty million dollars which these services have assigned over to S. W. P. D. I believe that this speaks for itself as to the extent of cooperation we are receiving.

FEBRUARY 26, 1943.

**Subject: Signal Corps.**

We are receiving very good cooperation from this Service. They are very anxious to assist us in some large procurements in the future whereby we can get in some of our smaller war plants to do some large work for this Service.

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FEBRUARY 26, 1943.

**Subject: Transportation Corps.**

We have an order receiving 100% cooperation from this Corps. Every possible item that we have for procurement that could advisably fit in to Smaller War Plants Division is being given a 100% allocation by them.

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FEBRUARY 23, 1943.

**Subject: Relationship With the Surgeon General's Office.**

At the present time, we are receiving complete cooperation from the Surgeon General's Office. I am reviewing all procurement requisitions with the Liaison Officer and all amounts we feel capable of handling are allocated to S. W. P. D.

The attached Plan of Procedure dated January 3, 1943, is being followed at the present time, until new procedure can be worked out that will be applicable to the recent change in procedure by S. W. P. D. Also the Surgeon General's Office is in the throes of reorganization, and most of the top ranking officers have been given other assignments.

**PLAN OF PROCEDURE—LIAISON OFFICE, SMALLER WAR PLANTS DIVISION; OFFICE OF THE SURGEON GENERAL, WAR DEPARTMENT; AND SMALLER WAR PLANTS DIVISION, WAR PRODUCTION BOARD**

1. Requisitions for procurement are approved by the Surgeon General's Office and mailed to Procurement Office for negotiation and placement of contracts. Procurement offices are located in New York and St. Louis.

2. Copies of each requisition are made available on date mailed to procurement offices for Captain Short, Chief, Smaller War Plants Branch, Surgeon General's Office, and Mr. Morris W. Bush, Smaller War Plants Division, Procurement Specialist, Medical Corps, for their review.

3. Each requisition is reviewed and allocations made of that portion to be referred to Smaller War Plants Division for the purpose of their furnishing recommended facilities to handle. When allocations are approved by Liaison Office, notification to this effect, together with copy of requisition and specifications will be referred to Smaller War Plants Division of War Production Board through Liaison Office. Copy of notification will be simultaneously mailed to procurement office.

4. To insure preferred recognition being given facilities designated by Smaller War Plants Division in preparing their bids for Medical Department purchases, the normal time to be allowed for the return of bids to the Procurement Offices, will be extended to three weeks (except on emergency purchases). On difficult or complicated items, more time will be allowed if available.

5. To effect the above outlined policy, certain mechanics for handling requisitions by Smaller War Plants Division are necessary. Therefore, a maximum time limit will be established (7 days from date of notification received)—this time for the purpose of each requisition being cleared through proper channels by Smaller War Plants Division to determine available facilities, and mailing notification to Surgeon General's Office designating qualified firms recommended as bidders for each allocated procurement. It is, of course, understood prompt clearance of notification will expedite placement of designated firm's bid on record. (If delayed longer than 7 days by Smaller War Plants Division Office causing actual placement of contract to be unnecessarily delayed, then Medical Department Procurement Office will not be bound to recognize firms as recommended by Smaller War Plants Division.)

6. Promptly on receipt of list of qualified bidders from Smaller War Plants Division, the Surgeon General's Office will issue directive to the Procurement Office, requesting that these firms be mailed requests for bids together with specifications on the designated procurement. This will then give these firms equal opportunity with other suppliers, in fact, preference on final placement of contract

as designated by Smaller War Plants Division—unless placement with these firms could not be substantiated in accordance with the Medical Department Procurement policies.

7. Certification of price differential to be furnished by Smaller War Plants Division if requested by procurement office to substantiate placement of contract with recommended firm.

8. The above "Plan of Procedure" represents mutual working arrangements agreed upon by representatives of both offices. It is believed that this procedure will permit of definite handling of all procurements allocated to Smaller War Plants Division, resulting in 100% cooperation by the Office of The Surgeon General in giving aid to Small and/or Distressed plants as recommended by Smaller War Plants Division.

For the Surgeon General:

(Signed) K. A. SHORT,  
K. A. Short,  
Captain, A. U. S.,  
Chief, Smaller War Plants Branch.

For Smaller War Plants Division of War Production Board:

(Signed) M. W. BUSH,  
Morris W. Bush,  
Procurement Specialist,  
Medical Corps.

FEBRUARY 24TH, 1943.

Subject: Navy Cooperation.

My letter of February 18th, 1943, covered in general our set-up with the Navy. The following points were analyzed:

1. Number of Bureaus covered.
2. Time during which we have been set-up to operate in them.
3. Results obtained from work in Bureau of Supplies and Accounts.

Regarding cooperation, I feel that we are receiving good cooperation from the following:

Bureau of Supplies and Accounts.  
Bureau of Ships.  
Bureau of Ordnance.  
Bureau of Yards and Docks.  
Bureau of Medicine and Surgery.  
The Coast Guard.  
The Marine Corps.

We have not been able to obtain personnel to organize the Bureau of Aeronautics, so have little to report. On such contacts as we have had, they have been cooperative.

As to topside cooperation, I am unable to report, as these contacts have always been handled by Mr. Holland.

Our direct contact between topside and the Bureau is through the Secretary's office—Office of Procurement and Materials; Industry cooperation Division. The personnel of this division is in general cooperative, and our contacts are satisfactory. I told you verbally how much of the cooperation of this division is lip-service. At any rate, with the exception of their present interference with our shipbuilding program under Mr. Cotton, this division has not been detrimental to our efforts.

This division has for its purpose the locating of materials and manufacturing facilities for the Navy and, thus, parallels our purpose. They answer telephone calls as "Smaller War Plants." No one calling from outside would know they were not talking with Smaller War Plants Division, War Production Board.

FEBRUARY 23RD, 1943.

Subject: Navy Bureau of Ships.

Although it seems apparent that the Bureau understands the intent of Congress with reference to small business, and that many in the Bureau are doing their utmost, by direction, to carry out that intent, it also appears that others do not seem to understand all of the means which the Bureau might use to carry out

the program in the awarding of contracts to small firms. Some of the chiefs of many technical sections of the Bureau are not as cooperative as they should be.

The Navy Office of Procurement and Matériel seems to feel that it is established to operate a separate staff on a smaller plant problem and that theirs is the responsibility to direct any efforts involving smaller plants, rather than that they are established for the benefit of the S. W. P. D. and are supposed to expedite its work.

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FEBRUARY 23, 1943.

Subject: Medicine and Surgery—Navy Department.

The procurement officers in Brooklyn, New York, where 90% of all procurement for Naval Medical items are made, have been contacted and they have indicated every willingness to cooperate. As soon as we are making proper contact with that office, I believe that S. W. P. D. will receive its proportionate share of business.

We have been promised the opportunity of reviewing planned requirements from 30 days to 6 months in advance, and we will also be given a copy of all procurement requisitions when they are written.

The review of requisitions and requirements will have to be made by a Liaison Specialist in New York who in turn will refer applicable items to this Department.

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FEBRUARY 26, 1943.

Subject: Maritime Assistance to S. W. P. D.

So far as the buyers and Administrative Officers of Maritime can place orders with S. W. P. D., it is my belief that they are doing so. The buyers cooperate with us in every certification made to them and when our vendors bid at or near the low price, they are favored. It is my honest belief that until the entire procedure of handling requisitions at Maritime is completely changed, S. W. P. D. will not receive a substantial amount of business in excess of that now being given them.

The reason for this statement is that, at the present time, the S. W. P. D. is not obtaining a satisfactory amount of procurements from Maritime, for the reason that it is not afforded the opportunity to sit down with the buyer of each procurement and make an effort to secure a proper allocation of that procurement for the S. W. P. D. and its clientele.

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FEBRUARY 23, 1943.

Subject: Lend-Lease, Treasury Procurement—Foreign Purchasing Commissions.

Of the above, Treasury Procurement is the only procurement agency.

The entire personnel of Treasury Procurement from Clifton Mack, the Director of Procurement, to each of the purchasing officers are cooperative and anxious to help us in directing procurements to the small companies we recommend.

Our procedure and working agreement is incorporated in our report of January 6th, 1943.

We are established in Lend-Lease and the Foreign Purchasing Commissions in order to gain advanced information of the planned procurements which ultimately result in the actual requisitions. The assignment of ours is relatively of recent date, however, it is very effective.

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FEBRUARY 23, 1943.

Subject: Civilian Agencies.

The cooperation of the civilian agencies is rather passive in that it is only received so long as it does not affect their work. In fairness, it should be said that lack of time and personnel make it impossible for them to give the assistance to small plants which might be desired, for the reason that they do not possess field set-ups. It does appear that they are giving small plants work up to 50% of their purchases, which is a good percentage based on our efforts. Part of the failure, however, is due to lack of personnel in their own organization, to keep track of competent facilities. They are setting up a new method of procedure for some of their standard items and to see that these firms are left working on their current orders.

FEBRUARY 27, 1943.

Subject: Department of Agriculture.

In general, the cooperation we are beginning to get from the Department of Agriculture seems very satisfactory. Mr. Wickard's office has approved a positive and strong directive that I drafted. This directive will be sent to all the Procurement and Administrative offices in the entire Department.

Although Farm Security Administration raised an objection to our assisting them in the placing of contracts, this situation appears to be on the way to correction. Even so, it is thought that we shall have to keep a check on this agency.

FEBRUARY 27TH, 1943.

Subject: Federal Public Housing Authority.

In November 1942, we received copies of Directives issued by the Commissioner of Federal Public Housing Authority to the effect that we would receive full cooperation on their Purchase Program. However, after a period of 3 months, this agency has failed to follow through on their expressions of cooperation and contracts have been let on items in value up to a quarter of a million dollars without S. W. P. D. even being advised of the purchases and all of these items were of such a nature as to be of vital importance to S. W. P. D.

FEBRUARY 23, 1943.

Subject: Navy Bureau of Ordnance.

In compliance with the request that we confirm our individual reports covering our respective assigned bureaus, the writer can cover the Bureau of Ordnance situation with the statement that cooperation seems full and uniform throughout the Bureau.

Captain Hussey himself offered us a prime contract for 3,000 Mark 4-20-mm antiaircraft guns less mounts; and other officers have offered detail parts totaling 25,050,000 parts, die castings, screw-machine products and wood turnings; during the past 10 days.

The writer at present is receiving advance information on selected parts (from which are screened obviously inapplicable items such as armor over 2", heavy guns, and classified, or secret, restricted and confidential items).

The Bureau of Ordnance items include very few of shelf goods or regular civilian use, and the various programs of special items are mostly under way.

23 FEBRUARY 1943.

DEAR MR. PATMAN: The Navy is happy to comply with your request for a summary of what it has done to facilitate participation in its procurement program by smaller business enterprises.

In placing orders for matériel the Navy has tried to distribute business to smaller companies to the greatest possible degree—strategic urgency of its needs being considered.

This program started in January 1941 and has continued at an accelerated rate.

Passage of the Murray-Patman Act, Public Law No. 603, has further stimulated this principle of contract placement which has resulted in a broad reconsideration of our procurement policy with the end in view of awarding greater numbers of contracts to smaller firms and urging larger prime contractors to farm out more of their jobs with smaller subcontractors.

The primary objective of the Navy Department has been and must continue to be to obtain as quickly as possible the material and equipment required for the fleet. All other considerations affecting procurement must, under conditions of grave necessity, fit into, yet not dominate our thinking in carrying out that policy.

Urgent necessity has made it mandatory that the maximum possible production be secured. Circumstances have not permitted production for future requirements alone.

While that urgency still exists, increased production now has made possible more careful scrutiny of procurement planning and of the facilities made more readily available by Public Law 603.

Passage of that Act in June 1942 found the Navy with an integrated organization already in existence in most of the War Production Board offices throughout the country, manned with officers capable of aiding in administration of this statute from a Navy point of view.



The Navy has felt that seeking out and developing new sources of production among the smaller plants throughout the United States achieved two objectives:

(a) Facilities thus added increased the volume and speed of production.

(b) Flexibility of the Navy's procurement program improved, since smaller plants can be adapted more readily to rapidly changing war requirements than can an organization comprised only of large facilities built for single-purpose production.

By direction of the Under Secretary, the Navy Smaller War Plants Section was established in the Industry Cooperation Division—a Navy unit previously dedicated to spreading prime and subcontracts to smaller business.

Almost daily, conferences were held by Mr. Holland and cognizant Navy officers both at W. P. B. Headquarters and in the Navy Department to develop a workable program.

Liaison officers were then appointed in each bureau of the Navy, the Marine Corps, and Coast Guard to work with the Smaller War Plants Section of the Navy and to act as contact officers in matters of interest to the Smaller War Plants Division, W. P. B. This system of liaison officers has proven quite satisfactory. The W. P. B. Smaller War Plants Division, however, advised that in some instances it did not receive information regarding proposed procurement in time to locate companies and give them an opportunity to study specifications and have their bids submitted by the closing date.

It was decided, therefore, to reorganize and strengthen the system. On January 18, 1943, at the direction of the Under Secretary of the Navy, the Chief of each important procurement bureau designated an officer of adequate rank as procurement coordinator, whose duties are to examine the needs of the bureau in order to select simple items on which the Smaller War Plants Division of W. P. B. can take prime contracts.

These officers and their assistants also are directed to study more complicated items to determine in turn the parts which can be subcontracted. Such information is then turned over to W. P. B. Smaller War Plants Division for distribution to the field.

The Smaller War Plants Division of W. P. B. has been invited to place representatives in each of the procurement bureaus of the Navy Department and has done so in the Bureaus of Ships, Supplies and Accounts, Ordnance, Medicine and Surgery, and Yards and Docks. Free access has been given by the various bureaus to these representatives on future requirements. The Bureau of Supplies and Accounts has submitted \$67,000,000 worth of simple stock items to W. P. B. Smaller War Plants Division. From this list, S. W. P. D. is to select products it considers suitable for taking as a prime contractor. It is being asked to distribute the remainder to manufacturers selected by its regional and field offices. It is anticipated the S. W. P. D. can thus place at least 20% of this procurement.

To spread work to smaller plants, Navy procurement bureaus assist prime contractors to locate companies as subcontractors. Pressure is exerted upon prime contractors to encourage subcontracting to the greatest possible degree.

At the direction of the Under Secretary, educational conferences have been held in every Naval District in the country for the purpose of reexamining Navy procurement practices in conformance with Public Law No. 603. These were attended by the chiefs of each field agency and presided over by district Commandants.

Regional and district executives of W. P. B. Smaller War Plants Division have participated in the sessions as have representatives of the War Production Board, Washington office. Mr. Lou Holland, Director of Smaller War Plants Division, attended the 5th Naval District meeting at Norfolk.

Approximately 400 Naval officers, including one Vice Admiral, 17 Rear Admirals, 64 Captains, 51 Commanders, and 98 Lieutenant Commanders took part in these field sessions.

In most instances W. P. B. field agencies have been asked to appoint liaison engineers to assist Naval officers in this effort. Where practical, Navy field agencies have invited Smaller War Plants Field Divisions to assign men to these Navy area agencies in an effort to expedite carrying out the agreements reached at these meetings. Already there is flowing from this cooperation, distribution of jobs to companies specified by the Smaller War Plants Division.

It is believed that these meetings have produced a practical working arrangement between the Navy and W. P. B. Smaller War Plants Division field agencies best suited to meet the varying needs of the different regions of the country.

The Industry Cooperation Division's Naval Advisors, located in W. P. B. field offices, are particularly valuable in continuing this liaison work with the W. P. B. Smaller War Plants district and regional representatives.

They regularly visit prime contractor's plants. Through discussions with Inspectors of Naval Material and managers of these plants, they learn of available subcontract items, enabling them to suggest new business possibilities to small manufacturers.

A check of daily reports indicates that over one thousand manufacturers were interviewed in Washington by the Industry Cooperation Division from March to September 1942. In order to make a check of contracts and subcontracts obtained by the companies interviewed, a sample of 220 companies was selected at random. These manufacturers were located in 34 cities throughout the country, ranging from Portland, Maine, to Los Angeles and Minneapolis to Dallas. Naval Advisors telephoned each of the 220 companies and found that 162 companies or 73% had obtained either prime contracts or subcontracts for war work since the date of the interview, while 60% of the companies had received prime or subcontracts for Navy work since the date of the interview. The results of the survey plainly indicated that many relatively small manufacturers can assist naval production if they are properly advised as to the most effective procedure in seeking subcontract or prime contract work.

A typical operation of a Regional Office is exemplified in the case of the Sperry Gyroscope Company. In September 1942, representatives of this company came to the Navy and requested aid in locating 75,000 tooling hours. The New York Naval Advisor furnished the Sperry Company with a list of 27 nearby companies that had tooling facilities, and within one week the Sperry Company was making use of these plants in the manufacture of jigs, fixtures, and tools.

On December 8, 1942, the Under Secretary of the Navy issued a directive to the Commandants of U. S. Marine Corps and U. S. Coast Guard and all Bureaus of the Navy, Inspectors, Supervisors of Shipbuilding, and Naval Advisors directing that all possible aid be given to prime contractors to stimulate subcontracting.

Attached to this directive was a letter prepared by Mr. Lou M. Holland, then head of the W. P. B. Smaller War Plants Division, and signed by Donald M. Nelson, Chairman of the War Production Board; Robert P. Patterson, Under Secretary of War; and James V. Forrestal, Under Secretary of the Navy.

In that communication intensified subcontracting was urged and specific instructions were issued to these officers to assist prime contractors—

- (a) Reexamine their commitments.
- (b) Comb out every part that warrants subcontracting consideration (reserving the tough ones for their own manufacture).
- (c) Clearly define the Ship elements of each part or assembly.
- (d) Promptly supply the W. P. B. area office nearest the originating plant sufficient job data for their needs in mobilizing the required facilities.

#### NAVY INDUSTRIAL COOPERATION PLAN

In September 1942, the Navy Department began an experiment to assist small business in obtaining Navy contracts for simple stock items. Since December it has been in operation in W. P. B. Districts 1 to 5. Early in February it was extended to cover all W. P. B. regions except 8, 9, and 10, which areas will be covered in the near future.

Briefly, the plan has two purposes: (1) To assure an adequate number of qualified bidders for Navy negotiations through the medium of the W. P. B.'s facilities and the assistance of the Naval Advisors; (2) to provide for spreading contracts over more of the smaller plants.

Under the plan, the Bureau of Supplies and Accounts daily sends copies of all invitations for competitive quotations on simple stock items to Naval Advisors in W. P. B. field offices. Necessary drawings and specifications are available to interested bidders. Prospective bidders are qualified by W. P. B. Smaller War Plants engineers and approved by Naval Advisors as to their ability and willingness to submit a bid and produce the equipment or materials required on schedule. The Naval Advisors assist small plants in the preparation of bids and interpretation of specifications, drawings and general requirements.

Bids received from small plants through the Navy Industrial Cooperation Plan are carefully considered and continued effort is being made to award contracts to qualified small manufacturers even if it is necessary to pay a higher price.

The Bureau of Supplies and Accounts has decided to award most of this procurement to firms approved and suggested by Smaller War Plants field agencies.

Through operations of this plan, the Navy is developing reserve facilities for supplies and helping to preserve small plants as an essential part of American industry.

After contracts have been placed, the Smaller War Plants Division of W. P. B. agrees to provide industrial engineering and arrange financial aid to contracting firms where needed.

#### DIESEL ENGINE PARTS

Scarcity of parts for Diesel engines presents one of the Navy's most difficult problems today in the procurement field. Because of the complexities of the engineering and machine skill necessary, this portion of Navy procurement normally would not be considered suitable for Smaller War Plants.

However, in December the Navy called in Mr. Holland and asked his assistance in locating additional facilities. Conferences were held by Admiral Cochrane, Chief of the Bureau of Ships, and his assistants with the result that Mr. Holland and his Smaller War Plants engineers already have found several likely sources to aid in this program.

#### VALVES

Location of facilities for making valves also is a serious Navy problem today. W. P. B. Smaller War Plants Division, working with the Bureau of Ships, is currently searching for additional sources and has suggested facilities which may be of great aid in this effort.

#### SUBCONTRACTING NAVAL SHIPBUILDING ITEMS THROUGH THE SMALLER WAR PLANTS DIVISION OF W. P. B.

In addition to the general plan to screen procurement, the Bureau of Ships has inaugurated a new program whereby the W. P. B. Smaller War Plants Division has set up a shipbuilding section in its Production Service Branch.

For the time being this unit operates from the W. P. B. Regional Office in Boston and confines its activities to the New England and Metropolitan New York areas. The program is to be extended to other Naval Districts agreed upon by the Bureau and the Division. Under this plan the Chief Engineer will study plans, specifications, and schedules in order to select specific items which are suitable for manufacture in smaller plants.

The Division recommends subcontracting facilities to prime contractors employed by the Bureau of Ships. The prime contractor then makes his own inspection and negotiates contracts with these recommended companies which he approves. If recommended companies are not approved by the prime contractor, the Smaller War Plants Division Chief Engineer offers alternate facilities until all parties are in agreement.

#### BUREAU OF ORDNANCE SUBCONTRACTING

In the Bureau of Ordnance the picture has changed radically \* \* \* and in favor of smaller manufacturers. For every dollar spent with large manufacturers (companies rated over \$1,000,000) in the last six months of 1939 on supply contracts \* \* \* \$20 were spent during the last period for which figures are available—1 July 1942 to 31 October 1942. Yet \* \* \* for every dollar spent with smaller manufacturers (companies rated less than \$500,000) in the last six months of 1939 \$220 were spent from 1 July 1942 to 31 October 1942—and this represents a *four-months'* spending in 1942 as against a *six-months'* spending in 1939.

Admiral Blandy, in a report prepared for the Under Secretary, has estimated that as of 1 January, the Bureau of Ordnance is utilizing approximately 24,000 companies, both small and large, for subcontracting for the Bureau's needs. Most of these companies are of the type that require assistance from W. P. B. Smaller War Plants organization.

#### SUBCONTRACTING IN NAVAL AVIATION PRODUCTION

Here is a specific example of broad contract distribution in naval aviation construction. The Consolidated Aircraft Corporation had on 14 August 1942, 1,677 different vendors and subcontractors, and among these was the Parker Appliance Company, which in turn had subcontracted to 307 vendors and 59 subcontractors. In addition to these sub-subs, Parker was investigating 203 additional subcontractors, and had rejected 108 of whom 81 could not do the work due to inadequate equipment or inability to work in close tolerances; 54 companies had declined to subcontract with Parker due to no capacity being available. This illustration shows that naval aircraft contract distribution goes down into thousands of plants and benefits millions of workers.

## CRITICAL TOOLS SERVICE

The Under Secretary, on 29 October 1942, directed that existing prime and subcontracts be examined with Smaller War Plants Division of W. P. B. to determine the possible extent of additional subcontracting thereunder of products suitable for placement with plants recommended by W. P. B. Addition of machine tools was not to be authorized where corresponding operations could be handled by subcontracting.

Inspectors of Naval Material and Naval Advisors, under this system, have refused to endorse many applications for new machine tools. This has correspondingly effected an increase in subcontracting to smaller plants.

A plan is in preparation whereby all pending orders for new machine tools will be reexamined, and if machine tool capacity is already available in the area, the order for the new machine tools will be denied.

Mr. Walter Wheeler, Director, W. P. B. Region No. 1, at the Boston meeting, 29 December 1942, stated that an extended and tight reexamination of pending machine tool orders would, in 60 to 70% of the cases, reveal machine tool capacity to be available within a reasonable area.

The Navy is constantly intensifying its efforts to secure additional work for small plants in cooperation with the Smaller War Plants Division—W. P. B. In addition to working directly with the procurement Bureaus in Washington, it is working through the Naval Advisors who are stationed in War Production Board Regional and District Offices.

The enactment of Public Law 603 has aided the Navy Department in liberalizing its procurement policy toward greater decentralizing the placement of its contracts.

There is appended hereto a report of the Bureau of Ordnance, dated 4 February 1943, which should serve as an example of the trend toward greater utilization of the productive capacity of smaller manufacturing enterprises.

JAMES FORRESTAL.

HON. WRIGHT PATMAN,  
Chairman, the Committee on Small Business  
of the House of Representatives, Washington, D. C.

NAVY DEPARTMENT,  
BUREAU OF ORDNANCE,  
Washington, February 4, 1943.

## MEMORANDUM

To: Lt. (jg) J. W. Davis, Jr., Room 1210.

Subject: Recapitulation of contracts.

1. The following is a recapitulation of contracts entered into during the periods indicated:

	Manufacturers whose assets are more than \$1,000,000	Manufacturers whose assets are between \$1,000,000 and \$500,000	Manufacturers whose assets are less than \$500,000
<b>SUPPLY CONTRACTS</b>			
July 1, 1939, to Jan. 1, 1940.....	\$51,902,867.82	\$1,807,432.44	\$370,926.37
Jan. 1, 1942, to July 1, 1942.....	1,244,513,671.64	251,929,640.52	56,780,570.92
July 1, 1942, to Oct. 31, 1942.....	1,034,017,115.37	77,239,252.38	81,531,722.91
<b>FACILITIES CONTRACTS</b>			
July 1, 1939, to Jan. 1, 1940.....	60,858,884.50	365,174.66	No contracts
Jan. 1, 1942, to July 1, 1942.....	115,868,350.14	19,445,041.27	2,313,205.94
July 1, 1942, to Oct. 31, 1942.....	11,786,432.86	3,406,021.67	29,854.00

R. DAHL,  
Lieutenant, United States Naval Reserve.

# PROBLEMS OF AMERICAN SMALL BUSINESS

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## HEARINGS

BEFORE THE

### SPECIAL COMMITTEE TO STUDY AND SURVEY PROBLEMS OF SMALL BUSINESS ENTERPRISES

UNITED STATES SENATE

SEVENTY-EIGHTH CONGRESS

FIRST SESSION

PURSUANT TO

### S. Res. 66

(Extending S. Res. 298—76th Congress)

A RESOLUTION TO APPOINT A SPECIAL COMMITTEE  
TO STUDY AND SURVEY PROBLEMS OF  
AMERICAN SMALL BUSINESS  
ENTERPRISES

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#### PART 17

EFFECT OF EXCHANGE SERVICES  
ON RETAIL TRADE

---

MARCH 16 AND 17, 1943

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Printed for the use of the Special Committee to Study and Survey  
Problems of Small Business Enterprises



UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1943

**SPECIAL COMMITTEE TO STUDY PROBLEMS OF AMERICAN  
SMALL BUSINESS**

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**C. DOUGLASS BUCK, Delaware**

**CHARLES A. MURRAY, *Executive Secretary***

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