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THE OPERATION OF A PROCUREMENT DISTRICT

by

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THE OPERATION OF A PROCUREMENT DISTRICT

It is a pleasure to come back to the Army Industrial College and stand on this platform again. One of my treasured possessions is the diploma awarded me in an unguarded moment several years ago by the School Staff. I have noted with much interest the College's steady advance in prestige during the eight years I have been in a position to observe. These eight years have been under the leadership of two distinguished Directors - first, Colonel W A McCain of the Quartermaster Corps, under whose regime I had the privilege of attending the school and for the past three and one-half years, under the leadership of Colonel Harry B Jordan of the Ordnance Department.

I have been asked to tell you about a Procurement District. My task should be easy because you have in your own family the two most successful Ordnance District Executives that I know, and they must already have told you all there is to know about Procurement Districts. I refer, of course, to the Secretary of the Army and Navy Munitions Board, formerly of the New York Ordnance District and to the member of the faculty who recently came from the Hartford Ordnance District. Knowing that the field has been well covered, I shall try and stick very closely to the only District I know anything about - the Ordnance District with headquarters in Pittsburgh.

I believe that the necessity for decentralization of procurement in war is now universally recognized. I believe also that, if decentralization is essential for the success of our procurement program in war, a going decentralized organization, however small, is far better in peace time from the War Planning viewpoint than no organization. Hence the Procurement Districts. In this connection, the Chief of Ordnance stated in a speech in Pittsburgh on April 24, 1937, "I believe the Ordnance Procurement Districts will be the salvation of the Ordnance Department in war." If they function properly in peace time, they should also be the salvation of the Office of the Assistant Secretary of War. Data from the Districts is the foundation for the conclusions drawn by the Office of the Assistant Secretary of War and never forget that these conclusions, based upon that data, go to the super agency which will control our destiny and the Nation's destiny in war. "A chain is no stronger than its weakest

link" and "A house built upon sand will not stand a Pittsburgh flood " Gentlemen, I trust you now realize just how important these Procurement Districts are

You are all familiar, I am sure, with the origin of the Procurement Districts, - with how in 1918 it was found that centralized control of the procurement of ordnance was impracticable. The problem was simply too large to permit a centralized organization to function efficiently. Accordingly, the Ordnance Districts were established, and functioned until some time after the World War. They were re-established several years later under the provisions of the revised National Defense Act. There are today thirteen active Ordnance Districts with boundaries essentially the same as in 1918. They vary in size and relative importance.

The Pittsburgh Ordnance District is made up principally of the western half of Pennsylvania and the State of West Virginia. It is essentially a raw material district and is the center for such industries as steel, aluminum, coal and its by-products, chemicals and glass.

The city has, of course, for years been the actual world center of the Steel Industry. Since the formation of the Carnegie Illinois Steel Corporation about two years ago, 43% of the Nation's steel ingot capacity has been controlled from Pittsburgh, or 30,000,000 out of say 71,000,000 tons. With the movement of the management of the U. S. Steel Corporation to Pittsburgh on January 1, 1938, the city now controls about 48% of all ingot capacity. Within the District's boundaries are located 20,210,000 tons of ingot capacity or 28% as compared with

	<u>Tons</u>	<u>Percent</u>
Chicago	15,325,000	22
Cleveland	13,411,000	19
Philadelphia	5,845,000	8
Rochester	3,245,000	5
Baltimore	2,493,000	4
Cincinnati	2,437,000	3
Detroit	2,351,000	3
Birmingham	2,350,000	3
St. Louis	2,020,000	3
San Francisco	838,000	1
Boston	241,000)	
Hartford	145,000)	1
New York	90,000)	

Aluminum is even more closely controlled in Pittsburgh than steel. The coal industry with its essential by-products and the various other chemical industries located around Charleston, West Virginia, and Pittsburgh are scarcely less important than steel and aluminum from the National Defense standpoint

The manufacturing industries of the District are essentially of the heavy type. The District leads in manufacturing facilities for steel rolling mill machinery, oil well supplies, mining machinery, electrical equipment, and railway supplies

Not many people realize that Pittsburgh is one of the great research centers of the country with such outstanding laboratories as the

- Mellon Institute
- Westinghouse Research Laboratories
- Aluminum Co. of America - Research Lab
- Gulf Oil Co - Research Lab
- Various Metallurgical Research Labs

It is also an education center with such colleges as

- Carnegie Institute of Technology
- University of Pittsburgh
- Duquesne University
- Penn-State University
- University of West Virginia
- Washington and Jefferson

and many others. Incidentally, I have found that they do other things besides play football at these schools

Now, after all of that, I trust when you disembark in Pittsburgh next June and step out into a mixture of fog and smoke, known locally as "smog", that you will have a proper appreciation of Pittsburgh

Let us now consider the procurement district proper and see if we can discover what the Executive Assistants do with their thirty-nine hours per week. Please remember that I speak only for one district. I should say that the peace time functions of a procurement district might be listed as:

- 1 Administration
- 2 Reports on methods of manufacture and follow up of Development Projects
- 3 Inspection of material.
- 4 Training of Reserve Officers
- 5 Procurement Planning

I have attempted to list the functions in order of least importance. Suppose we discuss Administration first. Fact district is a little post in itself. We get all of the Army Regulations, War Department Orders, Circulars and Bulletins, and they all have to be filed. The District Executive is also the District Quartermaster, so we get publications issued by the Quartermaster General's office. We, of course, get publications and instructions galore from the Office, Chief of Ordnance. The Pittsburgh Ordnance District lies partly in the Third Corps Area and partly in the Fifth so we deal with both of these headquarters in matters pertaining to personnel and also in other administrative matters. There is a Reserve Infantry Division in Pittsburgh and we are somewhat tied in with it. The District has to make purchases, negotiate leases, prepare vouchers, requisitions, shipping tickets and receiving reports, keep a morning report, prepare the many personnel and financial reports required at the end of each month and finally and above everything else write indorsements and letters, or, as one of my friends used to term it, "shuffle papers." It is simply amazing how much correspondence is required to handle district affairs and the affairs of 80 reserve officers.

Do I see any tears? No! Suppose then we take up the next function - "Reports on Methods of Manufacture and follow up of Development Projects." It is the stated policy of the Chief of Ordnance that "Ordnance designs must be susceptible of being produced from commercial materials by commercial concerns with, insofar as is humanly possible, equipment now installed." District Executives are thus encouraged to report upon manufacturing methods, processes, and materials which they encounter in their plant survey work and which they think may be applicable to some specific item of ordnance. I think we probably make a nuisance of ourselves sometimes. However, if only one idea out of a

hundred reported is practicable, the effort has been worth while

Now consider the third function - "Inspection " Some expert has estimated that 75% of an Ordnance District's work in War will be inspection. A going inspection organization in peace time, even though it requires a thousand fold expansion on M-Day, is a great deal better than none. District Executives have always had more or less inspection work to do and I can remember manipulating a micrometer and taking Hardness readings for several months in succession. Last year, the Chief of Ordnance officially appointed District Executives "Inspectors of Ordnance" for material procured within their district, and we have had in the Pittsburgh Office for several months a civilian assistant who is an experienced inspector. When not engaged in inspection he helps with the procurement planning work. In particular, he is responsible in the office for specifications, drawings and manufacturing information. We do not contemplate, in any way, setting up an inspection organization parallel to the Navy's and will continue to ask the Navy to help us on large jobs.

What about operating personnel for the procurement district in war? That is, of course, where our District Chief and our Reserve Officers come into the picture. We have about 80 officers assigned to the district and I would like to go on record here and now that, on the average, they measure up well in their assignments with our regular officers. They have, of course, been selected for their particular assignments in the District organization because of their civilian training and occupation. Unless they have been so selected, the problem becomes hopeless of solution, because you cannot train or make inspectors and other specialists out of a book. Assuming that they have been selected approximately correctly for their assignment in the District Organization, how can we best indoctrinate them into the "red tape" of Army procedure? We attempt to do this through Extension School courses, meetings of District personnel, and periodic active duty training.

In Pittsburgh we conduct our own District Extension School which is, of course, subordinate to the Third Corps Area School. This means considerable extra work for the District Executive. However, I believe it well worth while since it gives him an opportunity, while grading papers, to

more or less size up each officer. Our meetings are usually of a technical nature and we make free use of moving pictures for instruction purposes. About eight of the District officers go to active duty training each year, some come to the District Office, others are sent to ordnance camps at universities or arsenals.

I have decided ideas about the selection of reserve officers for ordnance procurement duties. If it be admitted that the only really worthwhile training for Reserve Officers assigned to procurement duties is the training they get from their civilian occupation, then it would appear that the minimum age for procurement reserve officers should be about 35. In other words, they should not come into procurement work until they have practically settled down into their life work. Entirely too many promising second lieutenants who graduated as mechanical, electrical, chemical or metallurgical engineers, later turned bond salesmen, insurance salesmen, or took up some other line of work entirely foreign to the procurement and inspection of ordnance.

I believe we are getting our best officers now by transfer from the combat branches. For instance, we have four 1st lieutenants working for transfer in the grade of 1st lieutenant. They are all four R. O. T. C. College graduates, from 30 to 35 years of age, and have come up in such organizations as the Westinghouse Elec. and Mfg. Company to be shop foremen. They are ready to be plant inspectors of Ordnance at a minute's notice. Incidentally, their Extension School papers on Ordnance subjects are a pleasure to read.

We come now to the fifth function "Procurement Planning." This is of paramount importance, and is of course the real reason for the existence of the procurement districts. You are probably already familiar with the general procedure. However, I am going to hastily sketch the Ordnance Department's practice. The Ordnance Office computes the "procurement requirements" for the many items of ordnance and based upon such data as is available in Washington, apportions the computed load to the various districts. The districts in turn fit their part of the apportioned load to those facilities which they consider best equipped to manufacture the items. The selected facilities, after survey, etc., are then invited to sign Accepted Schedules of production for the items they are to produce. With these ASP's in hand the District Executive prepares reports on Apportion-

ment and forwards them to the Office, Chief of Ordnance, where they become the basis for the preparation of Procurement Plans or Studies which are forwarded to the O.A.S.W. These plans assure the Director of the Planning Branch that all is well and that production can start immediately on M-Day or soon thereafter

There are, of course, variations of the above procedure. If an item cannot be definitely placed with a facility for various reasons, a tentative report on the apportionment is made to the Office, Chief of Ordnance This is replaced at a later date with the regular form We also receive from other districts "Sub-schedules of Production" for raw materials or components which cannot be obtained in the District having the apportionment. Here are the various official forms I have mentioned They are most innocuous looking but can cause a District Executive plenty of grief

Apportionment Form	0 0	5964
Accepted Schedules of Production	0 0	5967
Report on Apportionment	0 0	5966
Tentative Report on Apportionment	0 0	5966A
Accepted Sub-procurement Schedule	0.0	5965

Now we need out in the District a means for further defining the district load and we have in Pittsburgh what we term the "District Rible " It is in loose leaf form and consists of three parts, Part I being a consolidation by similar items and by Division of the Ordnance Department's Manufacture Service of the apportionments made to the District by the Chief of Ordnance For instance, all shell forgings, are grouped together, all shell machining, all demolition bombs, all gun forgings, etc Thus Part I enables the District Chief to tell at a glance what his total requirements are for comparable items

Now Part II shows the distribution of the apportioned load, item by item to the district facilities At least one sheet is used for each principal item apportioned to the District Here we repeat the requirements for the item by month and show for comparison with requirements the estimated production schedules of the several facilities which will produce the item On this sheet the item is broken down into component parts and also into materials required for the manufacture of each component Facilities which will supply materials or components are listed here

together with their expected production schedules. Part II thus gives a comprehensive picture of the "Distribution of the apportioned load" to the district facilities.

Part III of the "Bible" is simply a recapitulation of Part II. It is a "directory of load" and shows for each facility the various items it is scheduled to produce or to supply. In this part, facilities are arranged alphabetically, and one sheet devoted to each facility.

We use one form (home made) for all three parts of the "Bible". It must be simple and capable of ready revision because each change in an Apportionment requires a revision of each part of the Bible. Recapitulating, Part I is a consolidated picture of requirements and is primarily for the use of the Executive Section of the District Office. Part II shows the distribution of the apportioned load to district facilities and can be used not only by the Executive Section of the District Office, but also by the various Material Sections of the Procurement or Manufacturing Service. Part III, Directory of Load, is chiefly of use to the District's Facilities Section and to prospective Inspectors of Ordnance at the various plants. The form gives key data for the particular item or component showing such information as - Drawing List, Specification List, Unit Weight, Estimated Unit Cost, etc.

So much for Forms - they are tiresome things at best, but, if properly designed, can become tremendous time savers. We have, of course, our own Unit Mobilization Plan, which is based upon and follows the Ordnance Department's Mobilization Plan. We have our own Organization Diagram and Personnel Assignment Chart. Our Reserve Officers are fitted into the organization so as to make the maximum use of their civilian training.

I should like now to take up the subject of Plant Surveys and I believe that there is no phase of District work quite as important as comprehensive plant surveys. They are really the foundation for all procurement planning in the District and in the Office, Chief of Ordnance and, for that matter, in the Planning Branch. The Ordnance Department recognizes two kinds of plant surveys - general surveys and surveys for specific items. No set method is prescribed for making general surveys, but it is expected that we will obtain sufficient infor-

mation from a survey of this type to make out an OASW Form 100 and to determine if you should survey the plant for a specific item. "Specific Plant Survey Sheets" are provided for each ordnance item as part of the preliminary manufacturing information. These survey sheets are for making specific item surveys. This method of survey was developed by Major Walter H. Soderholm some years ago. It serves excellently for determining the ability of a particular plant to produce a particular item, but unfortunately it doesn't indicate the plant's capacity to produce other items of ordnance. Of course, we can survey the same plant for a number of specific items and eventually arrive at the real potential value of the plant to the Ordnance Department. It has always seemed to me that we should have in our District files an actual inventory of the critical machine tools, forging presses, etc., available in those plants allocated to the Ordnance Department and we have been trying to obtain something of the sort in Pittsburgh. When and if our files become complete in this respect, we can complete the specific item surveys in the District Office without bothering the plants at too frequent intervals.

Since plant surveys are such an item in a District Executive's life, it may interest the class to hear how we have been making them in Pittsburgh for the past year. Please understand that there is nothing original about our method and further that it may be entirely undesirable for other Districts.

For about twenty-five years I have been an habitual user of a note book of this size and shape (3-3/4" x 6-3/4"), and I naturally turned to it for making plant surveys because it slips readily into one's pocket and I hate to go into a man's office with a large brief case with many files, etc., in it. I always have the brief case along, but usually leave it in the car. In my note book I have a card with the numbered items shown on the board listed on it, but on the reverse side. After passing the time of day with the particular official I am interviewing, I tell him that we would like certain data for our files and that it will be kept confidential. I then ask him the numbered questions and jot down the answers, also by the numbers, on the page facing the card.

Data for Plant Survey

1. Name of Company.  
Date Visited
- 2 Address (Main Office)
- 3 Address (Plant)
- 4 Financial Rating (Thomas)
- 5 Subsidiaries or subsidiary of
- 6 Officials of Company and Plant
- 7 Plant Official Contact
- 8 Employees (Male)
- 9 Employees (Female)
- 10 Employees - skilled %
11. Percent of skilled males within  
draft age - 21-30
12. Normal Products
- 13 Potential Capacity to Produce Normal  
Products
- 14 Potential Money Value of Annual  
Total Production
- 15 Departments of Plant
- 16 Number Shifts and Hours per Shift by  
Departments
- 17 Shipping Facilities Power Source  
& Requirements
18. Equipment and Manufacturing Processes  
Suitable For
- 19 Bottlenecks
21. Conversion X Expansion V or New  
Construction k
- 22 Allocated or Reserved
- 23 Sub-Contractors Desired
- 24 How Handle Planning
- 25 Remarks
- 26 Computation of load

Of course, items 1, 2, 3 and 4 are filled in before leaving the District Office. Item 18 is the most important item on the list and it is really surprising what a large number of plants there are with no up to date list of plant equipment. If you cannot get it at the time of your visit, the company will usually send it to you or it may be necessary to make a second trip for this data. Items 12 and 13 are of equal importance and can usually be obtained. Item 13 may be expressed in numbers, tons, pounds or production hours. No 13 usually cannot be obtained by departments of the plant. If no figure whatever can be

obtained for 13 then it is usually possible to get a figure for #14.

Items 19 and 25 are filled in later on but while the visit is still fresh in mind Other numbered items are filled in as planning with the company progresses After I have noted the information desired down to include #18, I ask to be taken through the plant This may require anywhere from thirty minutes to an entire day or more, depending upon the size and complexity of the plant and its equipment For the Ordnance Department, I think it is particularly important to note variations from usual manufacturing methods, special items of equipment and other points which may be of value to the Department At a later date this type of information can be entered either in #18 or #25

Upon returning to the office I either write or dictate the plant "write-up" by the numbers The young lady in the office has a card similar to mine and she writes up the report on our regular 8" x 10 1/2" paper filling in the paragraph headings in the write up The write-up may require anywhere from one to ten pages, depending upon the size and complexity of the plant and the amount of detail considered necessary. Carbon copies of the write-up are filed in the company file The originals are filed alphabetically in loose leaf binders and are thus susceptible to various kinds of indexing, extracting, etc , and in particular, to the filling out of OASW Forms 100

As planning with a company proceeds, we necessarily have to make additional visits These visits are written up in the form of numbered addendum which are filed with the plant "write-up" When addenda become too numerous we plan to re-write the survey and incorporate in the new "write-up" all pertinent data contained in the addenda

I should like now to quote again from a speech made by the Chief of Ordnance in Pittsburgh on April 24, 1937

"I believe we should be careful about going into too great detail in our procurement planning. Our plans must be flexible and capable of ready adjustment to meet the particular conditions that will exist on M-Day because surely the M-Day situation will be different from the general situation we have visualized in our planning

activities. Our plans must be capable of being fitted into the specific situation that will then exist "

Adaptability is surely essential and we should like to have in our files in Pittsburgh comprehensive surveys of, not only the plants allocated to the Ordnance Department, but also of all other plants in the district with equipment suitable for the manufacture of ordnance. As a case in point I might mention that the Corps of Engineers has requirements, under the 1953 Mobilization Plan for tremendous quantities of railroad equipment. Many of the plants allocated to the Corps of Engineers could readily be adapted to the manufacture of ordnance. The M-Day situation may be such that the Engineers will not require thousands of locomotives and tens of thousands of freight cars. We should be in a position to fit plants thus released into the Ordnance Department's program.

Now, what about the Navy? Certainly the necessity for Army and Navy cooperation was never greater than it is today. You have definite machinery for this purpose in Washington yet, so far as I know, no definite scheme has been developed for cooperation in the field. We do have cooperation, however, in Pittsburgh. The Navy has a wonderful organization in its "Inspection Service" and Pittsburgh is the headquarters for one of the most important Navy Inspection Districts. We have had two "Inspectors of Naval Material" in Pittsburgh since I have been there -- first Captain Roy W. Ryden, and for the past year Captain Ralph T. Hanson. I don't believe the Navy has more capable officers than these two. I know there aren't two finer gentlemen in the Navy or the Army or elsewhere.

My experience with the Navy has been fine and I have found them cooperative everywhere but one place -- on the golf course. When I was in the Army Industrial College I played golf regularly once or twice a week with two Navy Officers, one from the Line and one from the Supply Corps. They consistently took my nickels -- and the same thing happens in Pittsburgh from time to time. I understand that Captain Hanson is to address the College next week and I can assure you that his talk will be interesting, entertaining and instructive.

The Army Industrial College solves all types of problems I should like to propound a few questions to this year's class

1 The Allocation System. Can it be modified or improved upon so as to permit of greater flexibility and more efficient utilization of the Nation's industrial resources on M-Day? Is industry really blanketed at present?

2 Accepted Schedules of Production ASP's have been greatly stressed for two years They are relatively easy to obtain If improperly placed they will be a source of embarrassment on M-Day and may even prove dangerous to the procurement program Can we improve this situation?

3 OASW Forms 100 The present form is fine and really gives a comprehensive, abbreviated picture of the plants covered, provided the data is up to date and reasonably accurate If not up to date and if not accurate, may not the forms prove to be a source of embarrassment or even danger on M-Day? Could the situation be improved upon by showing on the card "when and how the data was obtained"?

4 District Advisory Boards Three Army Supply Branches have Procurement District Headquarters in Pittsburgh Each has its own Advisory Board composed of prominent business executives Advisory Boards function little, if at all, in peace time but would be immediately available for advice and real assistance on M-Day Would a common Advisory Board for each City be more desirable? If so, how could it be brought about? Could the War Service Committee idea be extended to the Districts?

5 Training of District Executives. It would seem essential that District Executives be trained to evaluate what they see when they make plant surveys and further that they should be able to apply what they see to their Branch's particular problems. The Army Industrial College trains officers in the broad aspects of District work Should not the Supply Branches give intensive specialized training to officers scheduled for District assignments?

Thank you

Discussion following Major Minton's Lecture

February 5, 1953  
File

Colonel Jordan: I would like to ask you a question about this Advisory Board. Would you think that it could be extended to include the activities of the Navy too?

A. I do, yes.

Q. The Army and Navy activities too?

A. Yes.

Colonel Jordan: Are there any questions, gentlemen?

Q. I am on a committee studying this problem of procurement districts. I would like to pick up a remark credited to your Chief which, it seems to me, hit our committee right in the face. I am quoting your Chief as nearly as I can: "Conditions on M-Day may differ from what we contemplate and plan." You went on to emphasize the fact that the plans should be flexible. The question that I have in mind is this: All your planning, as I see it right now, is contemplated on a maximum effort, in other words, that we can take care of any load that may be imposed upon us by the war situation. Let's assume that the effort is quite minor but still greater than our peace-time requirements. Are we or are we not going to have such a big plan that it is liable to bog down unless we are having a maximum effort? In other words, you have thirteen procurement districts and let's say you have a minor effort. Are you going to open them all up or operate on your peace-time basis?

A. That is a problem somebody else could answer, but I feel much the way you do on it. Colonel Harris could probably answer it.

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Q. I noticed when General Tschappet spoke down at the War College the fact that the Ordnance procurement districts didn't coincide with the corps areas on this question and also that the Ordnance procurement district didn't coincide with other procurement districts. I think it was a line officer who brought that up. I think that is natural since they could visualize the corps area better than they could the procurement district. The point these questions had was that there would be in time of war great confusion of Ordnance, Chemical Warfare procurement districts and they wouldn't coincide with the corps areas. In fact, there was a question as to whether the boundaries of the procurement districts overlapped the corps areas or not. I want to ask from your planning whether it seemed that that would actually cause confusion in war-time or not.

A. Well, the only confusion that it will cause, I think, will be personnel. We have a very good case in point there in Pittsburgh because our district is partly in the Third Corps Area and partly in the Fourth Corps Area. I am glad you mentioned that. That is another administration activity we have. We have, of course, a great deal of correspondence with both corps areas about reserve officers that live in the Third Corps Area and the Fifth Corps Area because the corps area commanders exercise supervision over the appointment and training of reserve officers. Of course the Ordnance Districts as constituted at present were <sup>the</sup> original procurement districts and of course they were based on industrial activity and no consideration under them given to population, etc. Other branches have changed their procurement districts. Some are completely different from the old districts. It is very bad. If you are making a comprehensive study of the effect of some particular item on all supply branches, these

different district boundaries become quite a troublesome point. But in actual operation in war-time I think personnel would be the principal difficulty, and it might not be any difficulty.

Q. What is your war personnel supposed to be in your district? What is your set up? How many inspectors does it call for, how many officers, how men?

A. I can't give you that off-hand, sir, but I think we have roughly about 125 or 140 officers and our personnel in the plan will go to a total of about 1200, including clerical people, as well as inspectors. That may be too modest because there were 1800 people on the district payroll out there during 1918.

Q. I would like to have you say something, if you will, with regard to your plans for securing sufficient trained civilians after war day. I am working on an inspection committee and that seems to me to be the old choke point again in all these different plans. I would like to know how you propose to go about securing these trained civilians, whether or not you plan to operate schools and where you intend to get such civilians, and whether you have made any plans to get them?

A. Well, we are fortunate in having in our organization several officers who are real inspectors, head up inspection groups in their particular plants. Then they, of course, will form the nucleus of the district inspection force. We have in the District now a civilian employee of the Ordnance Department who is also a trained inspector. We have just one. Now at least we have the files, drawings, specifications, etc., up to date. Our plans for training are the plans of the Ordnance

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Department, and schools are contemplated at the particular arsenals for training of key inspectors. The number sent from a particular district would be relatively small but they would be key men coming back to the District to give specific instruction to their assistants at the various individual plants. Now for the mechanics to do the actual measurements, etc., we have got to obtain them from the plants in the district and we have made no specific plans, that is, we know how many of each type we want - at least we have estimated that and have it in our district unit plan - but so far as picking out individuals by name, we have not gone that far. I don't think we should. Our conditions change from year to year. Our Advisory Board would possibly be of help to us there, and our friends in the different manufacturing plants would simply have to give us the necessary people for that work and of course would give us men who wouldn't come within the draft age or would physically dis-qualified. We would use men from one plant as inspectors in some other plant.

Q. Major Minton, in the preparation of your procurement plan you mentioned one item, the ascertaining of the estimated cost. Now do you regard the estimated cost as very important that that should be estimated fairly correctly, and how do you go about estimating if the plant is not one which has been producing?

A. I should have explained. The estimated cost is furnished us by the office of the Chief of Ordnance down here. It is the cost based on experience in manufacturing the item either at the arsenal or by procurement from peace-time procurement. It is just a guide to know the

approximate cost of the items apportioned to the district. It is not a figure that we would use in negotiating contracts on M-Day.

Q. It isn't so very important them?

A. We like to know the estimated value of the items scheduled with each of the facilities. It is a measure of the work apportioned to the district and the work scheduled to the plants.

Q. Your cost plus contracts which are based on estimated cost - then you wouldn't use this as a basis for that?

A. The only thing we could use would be the latest information of this type available. I don't know what will happen on M-Day or how we will negotiate contracts but certainly we have got to have some price basis, and this is the best we have at the present time. When we send out schedules for signatures by the plants we don't show the estimated costs on those schedules because in peace-time we don't want any contractual features to appear in the schedules that are signed by the plant management.

Q. You stated that there is cooperation existing in the Pittsburgh District between the Army and Navy. Can you tell us what that cooperation consists of and how it is brought about?

A. That is pretty difficult. Well, I will tell you, I think it is a cooperation of personalities. I don't know much about the Navy side of procurement planning but occasionally I know they do ask their districts to spot certain plants that could produce in war-time certain items, either Navy Ordnance or some other bureau, and I have been on some discussions of

that kind, either with the Inspector of Naval Material or one of his commissioned assistants out there. He has asked me about plants, and I have asked him about plants. The Navy does a great deal of inspection for the Army out in the districts, and in that way we are closely in contact with the inspection officers. I would say that right now we have a quarter of a million dollar contract which is being handled by the Navy inspection personnel, so we are more or less in daily contact, if not daily, then certainly weekly contact, with the office of the Inspector of Naval Material out in that district. I presume that the same situation exists in most of the other districts. There is no machinery. I feel that we have cooperation and coordination out there, and it is principally because the Navy sends such fine people out to the district - and they probably have no other kind.

Colonel Jordan: There is one point that has been neglected. Captain Ryden who is out there is a graduate of The Army Industrial College. Minton is a graduate of The Army Industrial College. We wouldn't expect anything else from those two gentlemen. Captain Hanson succeeded Captain Ryden and Captain Hanson is not a graduate. I hope he is succeeded by a graduate of the College.

Colonel Miles: One of the real criticisms of the Army before 1918 was the fact that it was an ingrown institution, and it justified criticism. The contacts which the Army had with civilian population were almost nil. Now there has been a great change in that since the war and not only the supply branches but the line of the Army, are thrown into contact with the civilian population. That is a very important fact to the military service and Major Minton enumerated five factors, five things that the

district has to do. I name a sixth one which I consider of very great importance, namely, the creation of good will in the district in which he serves. Now Major Minton is too modest to bring that up himself but we all who know him know that one of the major activities he has in the Pittsburgh district is the creation of that good will, and it is also the duty of every other district to create that good will and to bring the Army contacts into such prominence and reasonableness that the Army shall not be known as an ingrown institution, that is, the capacity for making human contacts and gaining therefrom.

Q. Pursuing the question of Commander Thompson, I would like to ask by what procedure this inspection work is delegated to Navy personnel in the district?

A. Well, simply write them a letter and ask them if they will and transfer funds to them to do it.

Q. It is done locally?

A. It is now, yes.

Captain Burgess: Two years ago at the Army War College Colonel Phillipson was giving a lecture there on the Budget and Legislative Planning Branch of the War Department General Staff. At the conclusion of the peace-time budget he spoke of the war-time budget, and he gave his fixed opinion of such a procedure and believed some study should be made of a war-time budget. \_\_\_\_\_ got up and was quite furious at that and said, "Do you suppose you could make in time of peace a budget for war-time?" Colonel Phillipson's reply was that you could probably figure

out the cost of war much more accurately than you could draw plans to fight it in peace. I think this whole question as to what kind of an effort you are going to think and plan for is the difficulty of approach, whether we are fighting a little war or a big war. I think our transition plan, which we haven't studied yet, has never been properly tested or analyzed. I think that takes care of that flux between a major effort and a little effort. Isn't that a sort of a balance wheel which will control the procurement in war and overcome that color effect of the Industrial Mobilization Plan?

Major Minton: It will in a broad way, but how will that help us out in the districts where we have signed schedules, signed and accepted schedules of production with plants for the effort which you now visualize? Now we have got to go to those plants and cancel certain schedules, if the effort is smaller we have got to reduce them.

Captain Burgess: Won't the Army and Navy Munitions Board control that in the transition period?

Major Minton: They will, undoubtedly, yes. But, you see, how will they get it down to us? They will tell us what to do but it will be a source of embarrassment for me to go to the Jones Company and tell them, "You have had for ten years schedules for manufacturing 100,000 shell forgings a month. We don't need them yet over here as we are going to let the A. B. Smith Company keep their schedules." You see? That is purely a personal viewpoint.

Q. Every committee, as far as I can find, like our present committee, has tried to find some use for the War Department zone, the four procurement zones. Do you contemplate any use of that in time of war?

A. They don't have any headquarters in Pittsburgh. I believe you have got to have coordination and I am not qualified to say whether that is the way to get it or not. I would prefer to see it gotten through a common Advisory Board or through some scheme of that kind rather than somebody sitting in New York trying to coordinate procurement activity in Pittsburgh.

Q. Well, then you recommend one Advisory Board for all the different branches?

A. No, I didn't recommend it, just an idea.

Q. As I understand it, I believe the superagencies will have regional boards. Do you think that they could take the place of the zone system or even of your Advisory Boards?

A. That is really what I had in mind when I mentioned extending the War Reserves committee idea for procurement. Probably I had the wrong name for it.

Q. I notice that in your plan you say you are training your own personnel. Don't present regulations require the corps area to do that? I suppose you do that by correspondence with the corps area?

A. Well, no, we do it through the corps area entirely. Our Extension School is subordinated to the Corps Area Extension School.

Q. You have one subordinate from the Third and one from the Fourth Corps Area?

A. No. Since the District headquarters are in the Third Corps Area our school is subordinate to the Third Corps Area but all Extension people living in the Fifth Corps Area are handled through that Extension School and we submit our reports of the Extension School to the Fifth Corps Area.

Q. You actually conduct them and grade papers and all that?

A. Yes.

Q. As to data for plant survey, to what extent do they take advantage of the Engineering Corps of different manufacturers, giving them such a plan, drawings and getting together, making production studies, before you arrive - ?

A. Well, that is subject to change, of course, based on later and more detailed contacts with the facilities. We have several cases in point just exactly like that, where machines or equipment installed in a given plant while the plant is not producing items quite similar to Ordnance yet if we see a possible application we then can get the Chief Engineer to make a production study of our items most nearly comparable to their items.

Q. As to inspection standards, I don't see how the company is going to know whether they can make something or not unless the engineers know them?

A. They do. They analyze the drawings and the specifications, of course. They know in all cases.

Q. And the manufacturing data, the tools required, the time?

A. Yes. Before any schedule is offered to the company they have had an opportunity to go through the whole picture.

Q. Isn't it a fact though that the manufacturer is a little

optimistic on what he can do in the matter of conversion. He will look around and say, "Oh, yes, we can do that." Don't you people have to mark them down when you get them in?

A. I think that is absolutely true, except in the case of some companies who still have in their organization a nucleus of men with World War experience. They know pretty well what they can do and if the item you are contemplating scheduling with that plant is the same or a similar item to one the company produced in war-time they have all the informatio about it.

Q. Is there machinery set up which coordinates the work of the various branches in the district to the extent that it prevents the bothering of the manufacturers by representatives from different branches coming to the plant for the same information. In other words, if you get a plant survey along these lines is that available to the other branches of procurement headquarters there, and does that prevent them from going and duplicating the work?

A. Well, that coordination is obtained through quite close association of the district executive officers. There are three of us there in Pittsburgh, Chemical Warfare Service, Engineers and Ordnance, and we are all quite close together. Now Captain Agnew who graduated from the College last year is the Engineer representative and he has been out with me to survey plants that were jointly allocated to the Corps of Engineers and the Ordnance Department. When he can't go I survey a plant along that line and I send send him a copy of the survey, and the same way with the Chemical Warfare.

Q. My point was that I feel unless there is some definite machinery, -if it depends upon personalities it is not enough. I have two cases in mind, one of which was about an officer being told that he was the third or fourth or fifth within the last month. In another case a friend of mine in an industry who is very friendly to the Army and who has done a lot of work, but complained along that same line, that they no sooner got a lot of information for one branch than someone else would come along.

A. I haven't come across that but I could see how that would occur. We have no orders as to any specific means of coordination. One of the questions that the representative of the Planning Branch who visits the districts once a year always asks is: Do you coordinate and if so, how? We do it <sup>by</sup> periodic contacts but it does depend on personalities.

Q. My question is much along the same line, whether the district has any set-up to control and apportion the combined war load which will fall on labor, transportation and other economic functions of the district, or the overlapping?

A. Well, I will tell you about those things now. I just simply haven't had time to worry about those broad aspects very much. I jot down, where I can possibly get it, the data on power because in Pittsburgh during the war there was a shortage of power. But so far as the broad application of labor and economics, etc., you will find it is difficult to get that and at the same time get around to all the plants that you should visit and submit the various and sundry reports that are required.

Colonel Miles: Right along that line, I have been out among the districts and I know how much work there is to be done. I would like to invite the class' attention to the fact that for every officer that we have out on the procurement duty for the supply branches we have several officers out on duty for the control of personnel for the combat Army. In some fashion the number of officers on procurement duty ought to be increased even at the expense of some personnel equipment now being used for the combat program.

Major Minton: I would like to add something to that. I believe the chiefs of the branches should not only increase but I believe they ought to send their best officers out on these district jobs.

Colonel Jordan: I'll agree with that, sir.

Q. As the districts now stand they are definitely procurement planning districts. Do you think it advisable or feasible in any manner that they become more operating districts in peace-time in order that the transition may be less to war activities.

A. Well, I don't know just what you have in mind by operating. The Ordnance Districts have become within the past year more so in that the district executive assistants have been designated as inspectors of ordnance for material procured within the district boundaries, and I personally believe that is a big advance because it gives you more and better contacts with the plants that produce material required by the Department in peace-time and those plants, of course, would make that same type of material in war-time. As far as operating is concerned, that is about as far as we could go in the Ordnance Department,

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I think. Of course we could place contracts from the district office rather than from one of the arsenals but I don't believe we would gain anything by doing that.

Lt. Colonel Miles: This subject interests me. The Chief of Ordnance was quoted by Major Minton as believing that we shouldn't go too far with our plans because if we go too far we lose flexibility.

Major Minton: Not too far, but to too great detail.

Lt. Colonel Miles: I must say that I agree with that point of view although I should state that I was in a district where the plans hadn't advanced very much beyond where they were in other districts. They had advanced there before I ever hit the district so other than to carry on what had already been done I had little choice in the matter nor would I, after being there four years, changed it had I been able to. We had in the Hartford District what was known as factory planning, and the impetus for the development of those factory plans came presumably - most people think so - from the District Chief who had been in the Hartford District, then known as the Bridgeport District, during the World War. He is an efficient engineer and he approaches any problem from the standpoint of the engineer. Therefore, his approach is liable to be theoretical, but he also has been a man of large affairs and has had practical experience in the handling of plants. While his approach may have been that of the efficient engineer largely, it was tempered by practical matters. Now the impetus for factory planning in the Hartford District came not alone from the head of the district but also from the fact that hardheaded New England yankees, naturally conservative,

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disliked to undertake any order to sign on the dotted line until he had made himself what was essentially a factory plan. Many of them insisted on doing that so we had the two sources of getting at the thing which were imperative, first, the insistence of the District Chief that we have specific factory plans, and the insistence on the part of the manufacturers before they would accept an order. As the Chief of Ordnance says, and as Major Minton and I both know, we can go too far and in too great detail in those plans and I want to say, however, that I don't think you do any great harm by going into detail if the manufacturer does it willingly. I found in the Hartford District that they not only wanted to but they were willing to, if there is a distinction there. Now I will say from my observation of other districts and coinciding with my belief that the first and primary duty of any executive is to establish good will in his district, I do think that any attempt generally on the part of districts to get detailed factory plans would be a mistake if it developed ill will. You have noticed from what Major Minton has said that a great deal of what constitutes a factory plan in the Hartford District, which has the reputation of being very detailed, has to be performed largely before a firm can undertake an order in any event. In other words, they have to make a study of drawings, specifications, they have to correlate the machine tools available with the requirement for machine tools which the order indicates are necessary. The factory plan which has been criticised - not exactly been criticised but considered - as going into too great detail is only a few steps further than the work

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which must be done and is done if an order is accepted on an intelligent basis by a manufacturer.

Colonel Jordan: Colonel Rutherford, couldn't we hear from you on this subject? You have been out in the district and been through this whole thing.

Colonel Rutherford: Yes, sir, I would like to say something.

Major Minton, in the early part of his talk, said district work was in the back streets of procurement planning. We know that is the way his natural modesty makes him put it, but he knows better than that, and I am not so inhibited, so I want to change the picture slightly. We are planning to fight an industrial war and the object of that industrial warfare is first to provide the needs for the armed services in the way of munitions. Next of course is the taking care of the civilian population. But the one we are interested in first is the supply of munitions for the armed forces. Now what does that mean? That means the organization - we forget for the moment war reserves, which probably always will be inadequate - it means primarily the organization of industry for new production. Now, what is involved in that? Major Minton has put on the board a large part of what is involved in the organization of industry for production. Plant survey, the study of production which Colonel Miles mentioned as calling a factory plan in his district, and all of that is the organization of the industry for the production of munitions. Now I can speak a little more freely probably than Major Minton can about the relative importance of brass hats in

this warfare that we are carrying on. I feel very convinced that the real work of industrial mobilization is being done out in the districts and that all of the others, even the Army and Navy Munitions Board, can never win a war. They are simply out to assist that man behind the lathe or in the factory that is producing that stuff. I think probably we here in Washington are inclined to emphasize or place most emphasis on the brass hat side of it. We see the superagencies that we plan for, and they are essential. We talk about the Army and Navy Munitions Board, the Planning Branch, they are all very essential. But they only exist for the purpose of helping that man out there in the factory. Now I want to ask Major Minton if he won't forget his natural modesty here for a moment and say whether he agrees with me that that estimate of the situation is somewhat near correct, that the real work of industrial mobilization is being done out in the district and that something should be done to strengthen the forces in those districts even if it means sacrificing somewhere else along the lines, that when we get that done we will have real information that must come from the field and on which all the other plans are based. The stuff that is shown on the board, that must be done accurately or all the work that is done in the O.A.S.W. and the Munitions Board and much that is done in the super-agencies will not have the proper basis to work on. Now is that a fair estimate of the situation?

A. Colonel, you know very well that I agree with you a hundred percent.

Q. If we are to have this industrial mobilization plan, etc., you have to have some personnel. I would like to have Major Minton tell how he is going to select all these reserve officers, how he is going to arrange to have. As I understand it, Ordnance is going to commission men. Each district chief will call his men and commission them in the reserve. Other districts will do the same, Air Corps, Q.M.C., etc. Aren't you going to have any coordination of these officers, any correlation between the grades, responsibilities, etc.?"

A. Well, I think it ought to be left entirely up to the district chief. It has to be coordinated through the Corps Area. That is in the Army regulations. But take, as I said, the only district I know anything about. My district chief knows the head of every company in the district by his first name. Now if he wants an officer to inspect shell forgings he will go to the biggest machine company in the district and say, "I want to recommend for commissioning a captain who is to be in charge of shell machining at such and such a plant. Would you recommend some man from your organization who would fit that job?" We tell him what the job is, and I believe we get the best possible results that way.

Q. That is great. What I am trying to picture is the eventual situation when other district chiefs will commission men, for instance, one a captain, another a colonel or a major. Now we had in the World War a case where the personnel from not only the War Department side, the military side, but from the procurement side wanted to get out and fight. You are going to have casualties along the line. You are going to have that same thing. What I am trying to get at on this subject, is

there going to be any other coordination? How are you going to coordinate? What is the coordination between the corps area commander and your own branch?

A. Here is the way it is handled in the Ordnance Department, in the district specifically, and I must say I don't know anything about the broad aspects of it. But within the district organization, and the same thing applies to each district, we have specific jobs and we have job specifications drawn up for those specific assignments. Those specifications call for the grade that we think will be required to handle that, and that is coordinated through the Department and the same rulings hold for all. We are told just how many officers in each grade we will expand to. We have quite a nucleus of officered personnel - we have fifty - and I think we have 50% of the war requirements on our list now, maybe over 50%. I can't remember off-hand, but for each job to be held by a commissioned officer in war-time, we have the job specifications drawn up and the grade specified for that particular job.

Q. We have National Guard, and procurement and ordinary reserves. Is there any way of taking care of a situation that might arise where you get a man very enthusiastic, the head of an organization, where he gets all his people in some sort of military work and then you go in there and put contracts in that same plant; then on M-Day you pull the people out and expect him to do the work?

A. That is a very good question, and we have had some of the heads of companies out there in the district raise that question because the great majority of our officers were appointed basied on recommenda-

tion of, say, the President of the Aluminum Company or the President of Westinghouse, etc. Their recommendations were the basis for the appointment of the bulk of our reserve officers. Now, if I remember correctly, the district chief will recommend those officers who are to be called to active duty. Now we have in our organization an officer from, say, one of the large companies out there who is a key man in that company. I am sure that my district chief would before he recommended that this man be ordered to duty he would take it up with the head of the company and if the head of the company says, "We just can't get along without that man", we would never request that he be ordered to active duty. At least that is my explanation when they raise this question out there.

Q: Going back to the previous question about the possible shortage of power and transportation and what not on account of requirements from various branches being put in the same area, would not your idea of a joint advisory board of representative big business men in the community be a help in visualizing any critical situation which would arise?

A. I think it would. It would be a help in taking care of any situation. You take the Engineer Advisory Board, they have a lot of big men; the Chemical Warfare has a lot of big men in the district; and the Ordnance has a lot of big men. There is only one man, as I remember, president of the telephone company out there, who is a member of the Corps of Engineers Advisory Board and also a member of the Ordnance Department Board.

Q: I was thinking functioning on all three boards, seeing the

total load immediately, -

A. You know that is what is going to happen on M-Day. It is the only way you can get coordination of procurement. So if it is going to happen on M-Day maybe the school can find some way of doing it in peacetime.

Q. In furtherance of this same idea we were talking about, allocations first. Allocations definitely tell you which plans Ordnance and which plans so and so, and if you want to get it changed you have to get it changed from Washington. You can't get it changed in the district. I think that allocations are a very good peace-time method of procurement but it looks to me like there is going to be inconsistency and that allocations are inflexible in case of war, that is, in case of discrepancies. It seems to me as though it would be a much better arrangement to make adjustments within the districts. If we had these joint affairs by means of which you could change allocations - you wouldn't have to call them allocations - you could definitely place orders with any manufacturing concern without calling it allocation.

A. I think that is a swell idea, approximately what I had in mind.

Q. One of the current committees is considering, among other things, a comprehensive statistical system for production control in case of war. The committee is not entirely sure as to what has been done in the procurement districts. Our studies thus far indicate that the Ordnance Department was out in the lead, ahead of everybody else in the matter of statistics. What is your slant on the statistics which you are preparing now? Would they be adequate for production control

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in case of war?

A. We have a prescribed form for reporting production which are of record with us and would be used in war-time. I think that our district book, the three parts that I described to you, would lend itself to this form also. We report by individual orders and the Ordnance office individually apportioned. The Ordnance office consolidates those and reports to the Planning Branch. That is the plan in war-time.

Q. Do you think those reports will be adequate entirely and afford sufficient information for high authority?

A. I don't see why not. As I understand it, the Chief of Ordnance will handle his own problem and this will give him a progress report on production for each of the apportioned items or each of the war orders, and from that progress report he can tell how components are coming together. You know we plan now for components of ammunition rather than complete rounds, so it seems to me that the forms that have been evolved for use in the Ordnance districts will cover that situation quite well.

Lt. Colonel Miles: During the war they had a progress report system which started with the inspector of Ordnance at the individual plant and a system was contemplated for future emergency so that the system of report really started with the individual plant, goes to the district and the district reports to the Chief of Ordnance, and the Chief of Ordnance to the Secretary of War.

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Colonel Rutherford: May I make another short remark about personnel. It may be useful to some of you sometime. When I went to the district there was an unfortunate situation there. It has grown up for a number of years. They had a very large organization and had a debating society. It was a Rotarian institution and there were several hundred reserve officers in it. One of my chief activities was to debunk that and get a working organization that was going to be really useful in war-time. That wasn't typical of other Ordnance districts. It is the only one, I am certain, where such a situation exists. I want to make that clear, but there was a great deal of useless material among the reserve officer group and there was a good deal of very good material. What we had to do was to weed out the bank runners and ribbon counter clerks and that type and get men who were going to be really useful. The point I would like to make is that we should be very careful in selecting our reserve personnel in peacetime. There are plenty of good men. We should have them and if we don't get them it will be our own fault. It is entirely within our grasp to select the ones that will be really useful to us and prevent our being swamped with applications on M-Day for commissions of men who are not qualified. It will be difficult to turn a lot of them down. If we have the good ones selected they will be extremely useful and, as I say, it is entirely within our grasp to accomplish that and if we don't do it it will be entirely our own fault.

Q. During the last war they had considerable trouble in getting stuff on the cars and causing transportation congestion. I was wondering if there was any form of embargo to prevent stuff from being loaded and shipped, to the right place at the right time, in your plans I mean.

A. I wouldn't say that we have worried about that terribly, but I believe it is taken care of in our planning. If you remember, in our district book we show first, the apportioned requirements, and then there may be two or three items and who are to make those items. We show their production schedules. After careful thought and study of drawings, specifications, etc., what they evolve is their production schedules to meet those requirements. Those are reported down here to Washington. Then materials on that same sheet of our book, the materials that go into that item, and the companies that will furnish those materials are also shown and, of course, the material requirements are advanced thirty days to insure delivery to the fabricating plant in time for them to fabricate, but there is no piling up of materials. That should insure against piling up of materials and segregation. That is about as far as we have gone with it in the district. We have, of course, a record for each plant, the railroad, whether they are accustomed to making shipment by rail or by motor truck or boat, and the sidings, the particular railroad sidings that they have in their plant. We have in the district organization a transportation division, which should be able to help. The head of transportation is one of the division superintendents of the Pennsylvania Railroad out there, so we should be able to work that problem out, with the data we have in the district files.

Q. Major Minton, in producing war munitions undoubtedly there will be much necessary conversion of existing facilities and that, of course, will require machine tools, needless to say. On that we have been told about sufficiently. Now I have two questions in that connection. I don't know the answers. First, what assistance may be promised a plant owner, a potential producer, in obtaining machine tools necessary in the involved conversion to produce war munition? The second is, assuming competition between different supply arms and services, Air Corps, Engineer, Ordnance, etc., who will control priority of delivery production and delivery of machine tools necessary to turn out airplanes, arms, shells and everything else?

A. That is a fine question and I will tell you how we handle it out in the district. When a company is ready to sign schedules, and I don't know of any company in the Pittsburgh district where there won't be some conversion, some additional machine tools required, we tell them, "Now, here we have got to have so many presses for the drawing operation on shells, and so many additional lathes for shell machines. We have your listed tools on hand in the plant write-up right here. We know the additional tools that you are going to require and it will be up to the central organization that is going to apportion or establish priority for machine tools to see that you are given priority certificates for the purchase of the additional tools you need." Now as to your second question, that passes the buck because we can't handle a problem like that out in the district. That passes the buck down to Washington, and I see sitting in the rear of

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the room the Chairman of the War Department Machine Tool Committee.

Don't I see Captain Hauseman back there? He can tell you the broad aspects.

Captain Hauseman: Well, of course Major Minton has said the buck was passed to some higher authority and that is presumed to be the War Service Committee, and they will have to issue those machine tools on some sort of a warrant system. The military priority will have to be set up, and based on that military priority the division plant priorities will have to be set up and machine tools issued as they are produced. Of course, undoubtedly some of our production schedules are going to be changed because some of those companies will not get machine tools as applied for in that specific time.

Q. Major, I have the answer so far as the paper plan is concerned. I think that I would be unable to answer a potential producer of war munitions when he wants to know, Can I get the machine tools to fulfill my contract. I won't be able to tell him that he would get the machine tools and that is what I would like to be able to tell him if I were lining him up to produce shells, tanks. I don't know the answer to that yet.

Colonel Jordan: Colonel Harris, I was saving you to the last. Do you want to get up now?

Colonel Harris: I am going to have to leave pretty soon, so I will. Naturally I would like to comment on every question because it vitally affects the work in which I am engaged. First, it is always a great pleasure and a profit and with respect that I listen to Major Minton. He is a man of unusual ability, experience and judgment, and the affairs

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in the Pittsburgh District fully reflect those characteristics. Now, the gentleman who got up a while ago and said he had heard enough about machine tools and then asked a question about machine tools, I think you can tell him he can get the machine tools. I think you will tell the man he can get them. You called them paper plans. All of our plans are paper plans. We have made arrangements to have a machine tool committee called into Washington within twenty-four hours, a machine tool committee of the machine tool industry. In the meantime, we are allocating the machine tool industry and beyond that, as the necessity arises, available machine tools. Now to my mind that is as definite as you can go in time of peace. We can't in time of peace cover the whole field of procurement planning. We can't work out every detail. With a limited personnel available there always becomes a question of how far to go and what to do. Questions of personnel are important but not as important as some other things. To my mind the important thing is to find out what we want and where we are going to get it and acquaint the producer with the problem he is to solve and help him in every way possible. Referring to Colonel Rutherford's statement, we all know the district, the field, is the important place. I don't exactly discriminate against what he calls the brass hats because after all -- . Somebody has got to say what the objection is. And likewise somebody has got to protect the man in the field while he is doing the work. The Assistant Secretary of War, the Chief of Ordnance, are there for the sole purpose to help the man in the field do his job. They first tell him what he is to do and then make the plan available to him and give him the available essentials of production and keep everybody

else off his back, although I yield to the man in the trenches the most important person of all.

Minor effort; major effort. To my mind there is a very clear distinction as to what is a minor and a major effort, or between the green plan and the orange plan. Up to and including the green, the white and green, in my opinion peace-time procurement would obtain. None of this system would be put in effect with a war with Mexico. On the other hand, when you go to orange you have got in the major field. I think from there up it would all be put in effect, not all the total quantity of the orders now placed, it might be 25% or 50%. But if we went to war with Japan there isn't a man who doesn't realize the full economic and industrial effect. So there is no confusion in my mind as to what is minor and what is major.

The question of the Advisory Board. You have heard much about the War Department Zone Advisory. Most of us believe there should not be a Zone Advisory but on the other hand there are many elements in the field that require coordination, and there must be some kind of advisory or, not necessarily, adjudicating authority by advice and arrangement in the field. As I have said before to this class, as I conceive it, the War Resources Administration will have regional agencies. Regional agencies will have a group of advisers. I see all of this coordination and reasonable arrangements through regional advisers without in any way threatening the chain of command in the field agency.

The question of survey. I agree again with Colonel -- I can't promote you, but I would like to -- Major Minton. The survey is

basic information on which this whole structure is built. Now we are thinking whether or not we could adopt a standard form of survey for all branches of the War Department and likewise a standard form of acceptance for all branches of the War Department. At the present time each chief of a branch is allowed to use his own judgment, and each district is allowed to. That survey is properly made available in Washington, and I believe all those surveys should be in Washington. They are the dictionary or encyclopedia to which we turn in case of additional productive facilities being required.

The question of costs. I know Major McPike and I know what is very dear to his heart, these questions of the price we are going to pay on the contracts. We all know these estimated costs are not official in the sense that we are going to place our war load on that basis, but certainly we ought to know what the war is going to cost within reason. Every Congressional committee invariably asks, "What is your estimate on the cost of war?" So to my mind no plan is complete without the estimate, the cost, not for the purpose of making contracts but to try to evaluate the size of the load and help distribution between industries in the different parts of the country.

Navy cooperation. We have got to have the cooperation of the Navy. The mere fact that we won't agree doesn't mean we don't have cooperation. I maintain that if you can get each side to sit around the table together and try to come to a reasonable decision you have got cooperation. It doesn't mean you agree all the time, but if you try to

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agree and be reasonable and approach it from a broad frame of mind, I maintain you have cooperation.

Economic Value: I have heard talk about power and a number of the elements of production, but I feel that industry is economically balanced. In America we depend on private industry. Private industry itself is an economic balance. If there is not sufficient power for industry in this country, additional power will be produced. If there is not sufficient labor, labor will finally flow to where it is required. My platform is we have got to use private industry as it exists and that we don't. While there are many troubles and problems on power, to my mind that is not one-tenth as important as this question of finding out what we want, how much we want, where we are going to get it, and making sure that the industrial concerns involved see their problem and are prepared to discharge it.

Colonel Jordan: Colonel Booth, do you desire to say anything?

Colonel Booth: No, sir, I don't think so. There is one question, about the progress reports from an ammunition standpoint. I think we have, of course, as Major Minton stated, gone to the components rather than the complete rounds because I think it was justly found that we had to do that. There were not sufficient districts that could complete the complete rounds and it would be better to have it manufactured by components to get it into loading plants, etc., where we get complete rounds. I don't see any way to get your complete rounds out on schedule unless you have a very efficient control system which is based on progress reports, and we have to use absolutely the most up-to-date and modern method of getting

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information on the production of components so that we can tell where the components are coming out in case certain manufacturers are slow and they have shift orders, and I think that has got to be done from the essential point so that we can shift components to be completed probably ahead of schedule into loading plants where there are shortages due to the fact that some other manufacturer has not got the component in.

I think that at the present time, from my standpoint, in ammunition that is one of the most important things we are up against. We get these orders placed all right, but there are many troubles in production and getting them out, etc., and we have got to utilize these progress reports in order to get the components into loading plants where they can be loaded into the complete rounds and get them out. I think that is one of the very essential elements and it has got to be controlled from the essential point, I think.

Colonel Jordan: Colonel Atkins, do you desire to say anything?

Colonel Atkins: I think the suggestion of the speaker with regard to a joint advisory committee or advisory board would be a very helpful one if adopted generally where there are more than one procurement district located in the larger cities. If they could have the proper coordination at the critical time, had the leaders of industry in that locality sit in on the problems that concern all of the branches that are represented there. I kept a mental record as to the promotions up and down of the speaker. I think probably the fact that he is called Colonel so much is quite a tribute to him and his work. I am suggest-

ing a new name, the name of "Apostolic, the man who knocked out steel."

General Schull: I want to say, first, Colonel Jordan, how much I have enjoyed this excellent presentation of Major Minton's on the functions of the Pittsburgh District, which, of course, is typical more or less of other district offices. I have also enjoyed the very intelligent discussion which this presentation has brought out here.

I want to say also that I agree with Colonel Rutherford on the tremendous importance of the work which is being done in the district offices so far as our procurement work is concerned. I agree with him also that if it were possible it would be a very desirable thing to increase the regular personnel that we have in these districts. It hasn't been possible to do so heretofore, that is, commissioned personnel. However, during the last two years we have placed in these district offices, in six of them, I believe, assistants in the way of ordnance engineers, civilian ordnance engineers, and we hope to go further with that in the coming year. This should enable them to carry out, I think probably better than they have been able to, the various functions which they have to perform. I hope that next year we will be able to, as I say, furnish several more of these civilian assistants.

Col. Jordan: There was criticism about allocations, about calling on one to produce and another to stand by. That relates to your job. Won't you say something in reply to that?

Gen. Schull: I don't think there is very much I can add to what has already been said. We are continuing to study these problems, the problems that

Major Minton brought up for consideration. We think about them every day and we hope that from this class we will have some constructive criticism as we have had in the past from all the other classes.

Colonel Gatchell: I would like to refer to that same subject. I agree with Colonel Harris that it is going to be either a minor emergency or a major. Any emergency in the early months is going to be at full speed. I can't visualize that we are going to tell Smith that they can't have all their contract and another that they will have it. I think that is possible in the later months in an emergency that doesn't develop to the full calling out of, say, three million men. But I would like to come back to Minton and ask him which he would think to be more advisable, to slow down all along, if they had to slow down, curtail all the plants, or to shut off all the plants and let another one go?

A. Colonel, I believe that if you have gone to the extent of making factory plans with the plant for producing 100,000 shells a month and you only want 50,000 out of that plant you throw your factory plan out of the window because, as a matter of fact, I believe it is just as easy and probably easier to expand than it is to contract. If they have gone to the extent of all the detailed machinery, etc., required for 100,000 production and they have to cut that down to 25,000, that is just about as hard as it is to start out with 25,000 and expand into the hundred thousand. I suppose what probably would happen, one color plan would expand into a larger color plan. Suppose you start out on whatever color plan, well, Mexico, and you follow peace-time procedure with that

development and it develops into an orange plan war. You have started one way and you are going to expand into another way. It seems to me you are going to run into tremendous complexity there. Of course what I would like to have would be in the district files a picture like that (indicating survey on board) for every plant in the district that could make ordnance, irrespective of whether or not it is allocated to the Department. Then you can jump whichever way you want to.

Colonel Jordan: Does that answer what you brought out, Gatchell?

Colonel Gatchell: I don't know that it does exactly. I am not quite sure. Does Minton mean that he would have an elastic system, just make these surveys and just have on record what you could do?

A. No, I believe in the allocation system. I believe in it 100%. But I believe that we ought to be in position to know and utilize plants that perhaps other branches wouldn't require, and the only way I know to do that is to know what the plant can do.

Colonel Gatchell: You mean have data on other plants than those allocated? My particular point was, would you plan for a minor emergency with the idea of expanding, or don't you believe in the present system?

A. I believe in the present system, absolutely.

Colonel Gatchell: My specific question was, how would you curtail if you had to? Would you shove off a whole plant or slow them all down?

A. Well, out in Pittsburgh it would be better to shut out some plants, completely break off the contracts.

Colonel Jordan: I would like to hear Colonel Miles express himself on expanding or contracting, the relative difficulties involved in each.

Lt. Colonel Miles: I agree with both Gatchell and Minton. I don't think there is any question about it. To come back to my old expression, the know-how is going to be difficult in any event. If it came to me for a decision I would pick the best ones in the district and tell them to go "hell-bent for election," because we always under estimate the question.

Major Minton: Colonel Miles, of course like most of the other district executives I greatly admire the Hartford District system. What would you do with one of these industries that has made for you an elaborate plan, so elaborate I didn't want to use that plant? What would you tell the manager of the plant or the president of the company on M-Day?

Lt. Colonel Miles: I would just tell him what was what. I would say the conditions are such that "We are not going to put your company into production for the following reasons." I would tell him right straight from the shoulder. I wouldn't hesitate to do so because nine times out of ten they accept it patriotically, and it means so much to them in their commercial production. Therefore, I would have no hesitancy, no matter how elaborate a plan may have been made. I would say, "We are going to some other manufacturing company and let them make it for the following reasons, and not your company for the following reasons," and they would accept it.

Major Minton: Would you anticipate any political repercussions therefrom?

Lt. Colonel Miles: No, I wouldn't, not from the Hartford District because I think they have too much hard sense up there. They were burned properly in the World War and they are not going to be burned again.

Major Minton: Isn't that also recognizing a dollar?

Lt. Colonel Miles: And that is one reason why they are not going to worry so much about accepting the war order.

Colonel Harris: In the words of a very eminent man, Miles wouldn't ask them, he would tell them. I want to say a word about that situation -- I hate to talk in the presence of so many distinguished people who have served in the district. I have never served in the district but I trained the first group that did serve in the district so I hope you will accept my qualifications to speak. This question of factory plans -- I have often wondered if a concern like General Motors who is going to receive an order for \$300,000,000 worth of work would start "hell-bent for election" at the press of a button on a factory plan that somebody prepared in time of peace. I am wondering if when they receive that order they wouldn't turn their whole engineering talent twenty-four hours a day to making a new one. I am mentioning that because I believe it would be possible to reduce the size of the order without disrupting the program. On the other hand, I would use the best producers up to their capacity to produce. But if there is any delay in the early part of the war of one company turning out the required number of machine guns I would certainly put another company involved in the same business at work at the same

time if later on you had to stop them all. I believe the factory plans are many times made by inferior talent rather than the best the corporation had. I don't mean to be in a position of criticising but in any conception they all be reviewed before they are put into effect.

Lt. Colonel Miles: You are 100% right. As a matter of fact, I personally know that in certain plans made years ago, and they have probably been changed so my remark is only general, the General Motors Company's were broken down if they couldn't give them anything else to do, and to the extent that plans are so made, of course no one can stand up here and say that they are valuable. But, on the other hand, if a self-contained unit of manufacturing in the Connecticut Valley, after due consideration from the top to the bottom of their organization, decides that they can do a certain thing and they plan to do it that way, based on the fact that that is a bona fide effort of the people who should decide the thing, then I see no reason for throwing it out just because it has the name "factory plan." In other words, we have got to be guided by common sense in any event. What is a proper factory plan in one place may not be in another place and we must govern ourselves accordingly. As regards one thing I said: when I said that we would pick out a certain manufacturing company I said also that I would make the amount contracted for much greater than the indicated amount which has been forwarded to the district. Even if that meant that in order to get that we put another firm besides a certain firm into the picture, we most certainly ought to do it. I am not so young as to think you ought to put all of your eggs in one basket in time of war.

Colonel Gatchell: With reference to the distinction between going too far and going too much into detail, I would like to add one thought. Some years ago when I was war planning in the Ordnance Department I had occasion to investigate the \_\_\_\_\_ on the west coast. They had most elaborate plans and, mind you, they were going to make practically the same product they were making in peace-time. Their factory plans had been drawn up by reserve ordnance officers who were employed under the control of the San Francisco procurement district. They talked about this a great deal, and I was quite frankly rather opposed to detail factory plans, and still I am, but they impressed me quite a good deal. This reserve officer was taking me around when I saw blue prints the size of an ordinary desk and I said, "What are those?" He said, "Why, those are changes in our factory plan that we haven't had a chance to make." They had occurred in the past six months. To my mind that is going too far in detail of factory planning, that such a mass of things could accumulate in six months. That is a thought for consideration.

Lt. Colonel Best: From the remarks, I want to ask about this allocation. How do you visualize the application of that on M-Day in line of what Colonel Miles, and Harris and Gatchell say? Say that you received an order from the Ordnance Department to take up your apportionment of gun shells or gun forgings. You have them lined up in factories B, C and D. Say factories X and Y step into the picture. How do you make that adjustment? They want to participate and you haven't given them any allocation or any survey.

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A. If I had a picture of their plant, the district chief could immediately say that their equipment isn't suited or that it is suited and then it would be a question of whether the work would be spread around. Now X and Y, of course, wouldn't be in the gun forging picture because they were allocated to some other branch and that particular branch didn't need them on M-Day.

Lt. Colonel Best: I meant, what authority have we to say to X and Y, "You are out of it; you can't have this business." I have a committee on that.

A. You might well run into that and that is why I believe in having a comprehensive survey of all the plants in the district and if their equipment is suitable for manufacturing gun forgings they ought to be lined up for that work, irrespective of whether or not they signed schedules for it.

Lt. Colonel Miles: I'd just like to answer Gatchell's question further. I think that Minton will agree with me and I think Rutherford will agree with me that if you are going to give the district chiefs the job to do, give it to them but don't tell them how to do it. Now if it comes to whether or not you have got to scale down the allocations, the total amount of allocations, it is all right for you to decide as between districts, what changes will be made in those allocations, but once you have studied where to make them don't handicap Minton by telling him that the United States Steel plant will be scaled down thus and the other steel plants will be scaled down accordingly! Give the

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districts the job of getting a certain amount of production and let them decide

Colonel Gatchell: I didn't mean to imply that there would be any interference from Washington, I was just asking how he would go about it, whether he would prefer to stop at one or whether they would slow two down. I think we have agreed that it would be best to stop one and let one go ahead. The ones you kept going would depend on the equipment and it would be entirely up to the district.

Major Minton: Colonel Best's question was a little bit different. It was a question where two companies had not participated in our peace-time planning work and yet at the outbreak of war they wanted to come in and participate because usually the depression starts in at that time, at the beginning of a war, and they like to have orders on their book even though they may not have favored or participated in the planning activities in peace-time.

Q. I thought the discussion was getting off the subject, from peace-time planning into war-time execution, which are entirely two different things. In war-time execution money is of no consequence particularly. Time is the element, and the supply branches then exist to supply the things at that time and at the place required. You should be told what the line needs to fight the war at the time they want them and there shouldn't be any sentiment. They should be made at the time and place and delivered there. Plans in peace-time and

execution in war-time are two entirely different matters.

A. Well, they are different, of course, but they certainly blend into each other because you make these peace-time plans out in the districts with the idea that they will be executed in war-time. If you don't expect to execute your peace-time plans why we shouldn't go into the detail that we do.

Q. I mean you would execute them normally. But as to which one or how, I think the General Staff or the superagency will tell you what one and when. I can see where you might have to take over machine tools and not manufacture new ones. Money is inconsequential at that time. In your district if you have a plant which has no military need and in war-time you will take it over; you won't wait to manufacture new ones. I think that should be surveyed in time of peace also, as to what tools are available which are not needed in the allocation.

A. That is a point and of course that is one of the primary objects of a comprehensive survey of the district facilities. Now some other branch may have a plant allocated to it and they may place orders with that plant but that plant may also have in it equipment, lathes or forgings, that the Ordnance would need tremendously and might not be required for the other branch. So we should be able to borrow or buy - never take - and give them to a plant that must have them, but I don't see how we can do that unless we have a picture of the machine tools, equipment, etc., and a complete picture in the district.

Major Ritchie: Just obviating any possible misunderstanding in the minds of the class, I wish Major Minton would explain briefly the nature of that so-called war acceptance schedule. It may not be clear, that is, the contractual arrangements, etc.

Major Minton: I am sorry I don't have a copy with me. It is not a contractual arrangement at all. It is simply a statement on the part of the management of the company that they would be agreeable to taking orders and with their present knowledge feel that they can produce according to the following schedule. There are no contractual features in it, at least it certainly is not the idea to have any. Captain Hauseman could elucidate that better than I could.

Colonel Jordan: Captain Hauseman, do you want to say anything on that, about the form of this acceptance schedule of production?

Captain Hauseman: I think he has explained that. Of course Major Ritchie now is considering having standard schedules of production for all districts and for all services. But it isn't any contractual relation and it is just a meeting of minds between the district executive and the management as to what they think they can do in time of war. I would like to make mention of the question brought up before and that is, this planning for a minor effort. I would like to ask Major Minton this question: How would you like to have or what would you consider the advisability of sending you, after you have finished your planning for your major effort in general, sending you apportionments for some phase of the minor effort?

A. Of course I don't ever expect to get through with planning for the major effort. It seems to me that that would be quite the procedure. Then with a study of the equipment, etc., in the various plants there is no reason, because you can gum up a minor effort just as well as a major effort, why you shouldn't plan for a minor as well as a major. As I understand Colonel Harris, in a minor effort you would follow peace-time procedure and let contracts by competitive bidding. He didn't say that but I construed that he meant that, so that would more or less obviate your peace-time planning. There is some danger if you do it on a competitive bidding basis because some companies may find themselves low on contracts for the Navy or for the Army and you may get into some of the World War difficulties with competition between branches without intending to.

Commander Dunham: I have heard it said from the platform and members of the last year's class particularly that allocations and competition are poor bedfellows. Now I don't see why you can't in the district get together those industries, those factory executives who have signed schedules of production, and let them bid, informally or formally, on the items that you have ready to put out, your apportionment that you have and that you are going to require at that time. What is inconsistent with that? Let them bid and their bids will be governed somewhat by their capacity, the presence of machine tools in this plant and their times of delivery that they can meet, and you can make awards on that basis, it seems to me. I don't see anything inconsistent up to the time that you have reached your capacity effort.

A. You will have to change your law on competitive bidding.

If you put out proposals for a definite item you do it because you want competition and you do it to save money, and I don't believe you could ask managers of the various plants not to bid on a specific item. I believe you would get in trouble with the authorities that way.

Commander Dunham: I don't see why you can't bid. You get certain sufficient bids to satisfy the Comptroller, if you have several plants in your district to manufacture that item. I don't see anything inconsistent with the theory of competition, with sending bids to people who said they could and were willing, up to the time when you need all your capacity.

A. Well, maybe not. My first slant on that would be that some company would bid to its full capacity and bid a low price and bite off more than they could chew insofar as giving you the production you want but I might be all wrong. You might be able to do it.

Colonel Jordan: Are there any further remarks? I want to tell the class and Major Minton something. We have only had one speaker in all the time I have had anything to do with the College that has occupied this rostrum two hours and forty minutes, and that speaker was Mr. Knudsen, the President of General Motors. It was when he came here on his first visit and he appeared on this platform at half past one and said that he could talk just about thirty minutes. He left the platform at one o'clock. I tried a number of times to shut the questions off and Mr. Knudsen talked through his lip and said, "Leave

me alone. I am having the time of my life." Major Minton has exceeded the record of Mr. Knudsen, gentlemen, and that is going some. I want to tell you how much we appreciate your coming here, sir. It certainly was fine and we have enjoyed every minute of it. Thank you.