

PROCUREMENT ORGANIZATION, POLICIES AND PROBLEMS
OF THE DEPARTMENT OF THE ARMY

2 November 1948

CONTENTS

	<u>Page</u>
INTRODUCTION--Brigadier General J. L. Holman, USA, Deputy Commandant for Education, ICAF.....	1
SPEAKER--Brigadier General John K. Christmas, Chief of Procurement Group, Logistics Division, Army General Staff.....	1
GENERAL DISCUSSION.....	21

Publication No. L49-36

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

PROCUREMENT ORGANIZATION, POLICIES AND PROBLEMS
OF THE DEPARTMENT OF THE ARMY

2 November 1948

GENERAL HOLMAN: Last week, we learned about the Armed Services Procurement Act. This is to be followed by lectures from representatives of the three Services on Army, Navy, and Air Force procurement problems.

In dealing with the subject of procurement, one of the most frequent questions which comes up is, "What does industry think about this?" "What would be its reaction to this particular procurement policy or procedure?" The answer to such questions must be very carefully analyzed because a contract is a bilateral instrument. Without knowing what the producer would do about the particular problem, or think about it, procurement is not apt to go along very smoothly.

Our speaker today brings to this platform some twenty-five years of very active and valuable experience in the fields of both research and development and procurement. He is the Army representative on a number of very high level procurement and facilities committees. He has appeared on this platform a number of times in the last three years and the information which he has been kind enough to put before the college has been most valuable to us in every way.

I take great pleasure in introducing to you, and in welcoming to the College, Brigadier General John K. Christmas, who is the Chief of Procurement Group, Logistics Division of the Army General Staff. He will talk to you on the subject of "Procurement Organization, Problems and Policies."

General Christmas.

GENERAL CHRISTMAS: General Vanaman, General Holman, gentlemen of the faculty, and students: I understand you work under a policy of intellectual liberty down here, so what I am giving you is not doctrine. It is just what I think. It will be up to you to listen also to the other people who talk and find out the right answers on procurement.

Of course, procurement is an awfully big subject. It is sort of like sin: you can talk about it longer than we have time for. I understand your policy is to limit this torture to forty minutes, for that reason, I am going to bear principally on the war aspects of procurement for this reason: In peacetime, it somehow takes care of

itself. You don't get very much and somehow or other you manage to get it all spent. They don't return much to the Treasury. All of the answers were in the book. If you can read, you will find them. In wartime, however, it is a serious matter.

Now, I don't like that word "procurement," because it scares you. You never hear anyone use it, anywhere. People usually say "buying," "purchasing," or something like that. I think it is too big. I, personally, like that good old Anglo-Saxon expression "to get a thing." If you are a commander and you tell someone on your staff, "Get me some steel; get me some artillery, guns, or planes," you don't ask too seriously how he got them if you are really hard up.

So that is what procurement is, getting the item. It isn't the little, simple matter of purchasing. That is too restricted, in my opinion; although that may be the thing the faculty wanted me to talk about. Nevertheless, with my concept, let us go ahead and look at this problem.

Most people have, I am afraid, the concept of procurement as consisting of a lot of fat and bald-headed Ordnance officers, lawyers, accountants, and clerks, in a smoke-filled room, wearing green eyeshades. They don't know you, anyway. Well, the first essential in order to get along is to know your job. When you go to the Army-Navy game, a lot of you will go to Union Station. Stop in front of it. If you look up at the top, you will see a lot of wise sayings up there; sayings which were selected by President Elliott of Harvard. One of them runs this way: "He who would bring home the wealth of the Indies must carry the wealth of the Indies with him. So it is in traveling: A man must carry knowledge with him if he would bring home knowledge." That was written about 300 years ago. It is in Boswell's "Life of Johnson," and applies just as much in procurement as it does in anything else. If you don't know what you are doing, you can't do a good job. I am sure you have recognized that in your line. I would like you to recognize it in mine.

The mission of procurement, very simply, is to get for the fighting man what he wants; get it promptly. If you can't get what he wants, get the nearest thing to it. Everything else is supporting to that. Every other action you take—all the papers, all the legal jargon, and all that—is all corollary to it. Procurement is to go out and get what the Chief of Staff wants; what the fighting man wants.

Now the human mind, very luckily, forgets unpleasant things; otherwise, I guess we would all go nuts, or something. So I find among a lot of my colleagues, and especially some of the younger men, that they are looking at procurement from the standpoint of 1944,

when, in the Air Forces, in the Navy, and in the Army the pipe lines were just bursting open. All you had to do was to turn it like a faucet. So I find our emphasis is going on efficient procurement, contracting, and distribution.

Get yourself back to 1940; there was really monkey business about procurement because we were in trouble. When you are in trouble you can't quibble over little details.

If you do any research on procurement, which you may have to do, please don't look at procurement as it was in 1944. Anybody could do it in 1944. There was no trouble then. It was almost mechanized. You could almost push a button on the thing. Industry was trained. The Army was trained. All of us were trained. But go back and look at 1940-1941, and so on, if you want to really do some research on procurement.

There is another thing. Some of you remember World War I, or else you have read about it. I believe World War I and World War II should be labeled in the books that any of us in uniform look at as the "gold-plated or fur-lined wars." You could use either one of those expressions. It makes no difference. But the point is that nobody ever said you couldn't have any more. I mean it. If anybody asked for anything, they said, "Sure! Just get it for him." There were no questions asked. There wasn't any bottom to the barrel.

The second thing is that we had allies out there covering the front until we got ready. It took three years to get these factories built. Our whole attitude was not to accept anything unless it was just right. They would not accept a rifle if it had any kind of a scratch on it. It was a perfect gold-plated, fur-lined war. If you have got to have a war, that's a nice kind to have.

But I judge, just from reading the papers (like Will Rogers), maybe the next war isn't going to be like that. Maybe these chaps, our enemies, are going to catch on. They will plot this curve and say, "Now we lost. America has won twice because we gave them time to prepare. Now let's sock them when they're not looking." That is something to be concerned about, gentlemen. It is my feeling that in approaching procurement for the future we must bear in mind, first, the possibility that we won't have much time; and, secondly, like General Lee, we may have to improvise; we are going to have some of the fellows wearing black shoes and have a rifle that is not cut just right, and eat something that isn't just quite approved, and all that sort of thing. Maybe we won't. But we ought to think about it. In other words, improvisation.

It is easy to read anything. Bill Jones can see they are to have these miscellaneous tanks, or so many boxes of serum. It is all there. They can read it in the equipment tables.

However, there is a more important phase to consider. Suppose you have to make the command or managerial decision. This stuff has to go over. If you don't send it over right away, they will lose the war. What can they go without? What can you substitute? You really have to use your head. This answer is not in the books.

So if, in your quiet moments, you have thought about this kind of thing, maybe you won't be so shocked when it comes up.

I understand you have already had Public Law 413 discussed very ably. I noticed in your curriculum book that Admiral Ring is going to talk to you on the coordination of procurement under Unification; that General Brannon is going to speak to you on the legal aspects of procurement. So I am not going to show you any fancy diagrams or talk to you formally.

However, I thought you would bear with me if we took up an actual item. It happens to be a land item. I like to talk about something I know about. On land, nowadays, the tank is pretty well recognized as being just as essential to the Army as the airplane is to the Air Force, or a battleship or carrier is to the Navy. I have also taken that because it is a complex item. The procurement of, say, soap, or things of that sort, is relatively easy. There are people making it and if you are willing to pay for it, well, they will be glad to sell it to you. If your demands aren't exorbitant, you will eventually get lots of soap.

Let's take a difficult one--a tank, airplane, or aircraft carrier. They are really hard. Suppose a war should break out and any one of you are "it." You have to get going on this tank business. You have just finished your course of study here in the College. You go out to your new station. They sent you because of your record. You haven't been there long enough to know about the customs and procedures. Yet, you have to get going on this tank business. Now what would you do? What do you have to do?

The very first thing you have to find out is if we have a design that the fighting man likes. Then, if you have that, you first must have some drawings and specifications. That just means you have to go out and tell people what you want. Again, the thing is so complex you can't recite it and say, "I want shoes sized seven, D width, and so on." It isn't enough. It would take you days and months to recite it.

You have to study the drawings. You might think that is a simple matter. An article like a tank is designed, largely, by the Government,

that is, by the Army in this case. There will be a large stack of government drawings, but they will not be sufficient. There will be thousands of commercial components in there for such things as generators, instruments, and things like that. You must have all of those. And they will have to be right.

Then there has to be a specification. Practically every drawing will say, "This has to be made out of this quality of forged steel, or this kind of brass, or this kind of copper or alloy." The specifications might make a nice 40 foot shelf. You must have all of those around. A fellow can't make something if you don't tell him what he is to do.

On your new assignment you would be lucky if you found all that in order. That is not criticizing anybody. First of all, these things are in a state of flux. For example, on the new M-26, or Patton tank, already in procurement, they are now making changes. So you have to get all those revisions in there and get all of those drawings together.

If you are lucky, you might have a set of those drawings in shape. Before you have that, you haven't anything. That is one of the things that industry can't help us with. The only way the Army, the Navy, and the Air Force can do anything about it is to have their drawings and specifications ready; we didn't in the last war. In many cases, I think we are better off now. But we are not perfect. It isn't a very romantic thing. It takes a lot of work to get out the drawings. It would take probably a year for a hundred engineers and draftsmen to get out the drawings, charts, and graphs that I mentioned.

So then you are ready to go to work. If you are lucky, you will have your drawings. You are not going out there with your mouth hanging open. If the manufacturer says, "What do you want? What do you want me to make?" you want to be in a position to say, "All right. Here are the drawings. The truck is outside." If you can do that, you have been victorious.

Before you can go to any manufacturer you have to know whether you can use him or not. Maybe there is someone from the Air Force already out there. He flew out. He could get a plane; you couldn't. Maybe the Resident Naval Inspector has already been there. He wants them to make torpedoes if the plant hasn't been allocated. All three of you have to wrestle with this chap in industry.

You see, our Government doesn't run like Hitler's. You can't just have somebody up here in Research and Development or the Munitions Board say, "That plant is going to make so and so" because the plant manufacturer will say, "The h--- you say." First of all, he wants to

make, quite naturally, something he knows about. Suppose he is a truck manufacturer. If you needed any of his trucks, he would first want to do that. Secondly, he wants to make something he thinks he can do. He doesn't want to make a bad performance for his country (or his corporation), so he must be listened to.

We do have the mandatory order. I can tell you, having been connected with spending over 15 billion dollars in the Ordnance Department of the Army, that in the last war the mandatory order was never used that I know of. You don't get work done in that way. The way you get the manufacturers working with you is to have them do something they know about and have them cooperate with you. So the first thing you must have is an allocation. But allocations are not given out unless the manufacturer agreed with it. You would be in competition with your Navy colleague, with your Air Force colleague, on this thing to see if you could get into the shop.

The ideal organization is that we have all these plants allocated. That doesn't mean just the main plants. Suppose you have the International Harvester's factory at Moline, Illinois. When they made tanks in this last war, they had some 3,300 subcontractors working for them. So, you see, it would be something to put them all together. So you have to get these foundries, gear-cutting works, wire mills, and all kinds of people to support this thing. Our staff in the Munitions Board is working assiduously with the three departments to get that facility allocation accomplished. Without it, there would be much more confusion. Another thing, I don't think there would be enough money in the country to have all of these ready on D-day. There is bound to be some scurrying around to get the stuff. The allocation of facilities is an enormous job.

That is not all--some of the departments are pretty lucky--the planning you can do for procurement. You can have all of the contracts written, with a red seal on them, ready here for the people to come in and sign. Everything is just as pretty as you would want. The thing is all filed with colored tabs. But even with all that, you are still playing paper dolls.

In my opinion, the greatest preparedness measure is to have a limited amount of production going on. The Air Force is doing that. It has been brought out in the Finletter report entitled "Survival in the Air Age." There is no preparation that beats having a little bit of something going on. It's like using a car. If you run along in first gear, you can accelerate much more quickly than if you have to start from a dead stop. That is even more so in the matter of production.

May be this poor man you select has never made the article before. The article he had been making was as much like what you want.

training at Fort Benning is to actually being over in the war. Therefore, somebody in our management must decide in each case how much money for procurement planning; how much money for actual producing of the articles. It doesn't have to be so very much for current procurement, but it should be continuous.

So please bear in mind that—I don't want to sell industrial mobilization (which is an element of procurement) short; I'll come to that later on as a part of my discussion—you have to try and see the big picture. You potential commanders and staff officers should always try to stand back and see the picture. Don't get oversold on one thing, like some of those people selling medicine that is good for both dandruff and flatfeet. There is no such solution in this game. So remember to stand back and get a broad view. Be sure you consider all the elements.

I mentioned briefly a little while ago selling the contractor. Well, facilities maintain in peacetime sales departments. In wartime they quite naturally maintain sales-resistance departments. For some good reason, no doubt, there are still a lot of small firms and even some good-sized firms that have never dealt with the Government. It is just one of those mysterious things. They are not accustomed to our system. They have been too busy to study it. Now your college is sending teams out to acquaint them with our problems.

Now when representatives in industry see that the Procurement Regulations look like a New York City telephone directory—they will get thicker later on—they immediately get frightened. You have to win their confidence. You have to convince them you are just an average American boy who, instead of going in the automobile business, went in the Army business.

You have to get acquainted with them. They are used to doing business with individuals. They don't want to come down here to the Pentagon. They don't want to see the director of such and such a branch. They want to get hold of some individual so they can proceed to do business.

In procurement, if you will make acquaintanceship with the keymen in industry, in the engineering societies and trade associations, your path will certainly be smoother. The pay-off is that you will know businessmen. They will give you all kinds of advice and help. If you write them an official letter and ask them what they think about so and so, they often won't commit themselves. But if you ask them over a cup of coffee, they may say, "Well, I think this whole thing is crazy, Joe. You ought to do it this way." It will pay off in wartime for the Armed Forces procurement personnel to continue the efforts going on now; to get industry to know what kind of people we are; to get to know individuals. You can't do too much of that, in my opinion.

I think this policy of the Industrial College is going to pay off a thousand percent in that way.

The second reason, of course, that they don't always like to do business with the Government is they don't want to be overloaded. The fellows who can stand on their own feet and make money in peacetime are the fellows who can do the job. Some of the dollar-a-year men, the smart ones, won't take on too much. So you are going to have to convince them of the importance of your project. They don't want to come a cropper on anything. If they had to manufacture anything like a torpedo, they would be afraid of it. They would say, "We don't want to do that class of work." You will have to convince those people and help them out.

You will have to convince the contractor that this thing won't hurt him; that he won't lose any money. He has been brought up, all his life, to stand on his own feet. There isn't any pay check coming in from any place regularly. He has been used to standing on his own feet. He has been used to thinking of efficiency and cost. Now he would have an entirely different thing to think about. You will be amazed at him; he will be amazed at you. If you live with those chaps--go out on one of those courses and serve a year with industry--you will learn from them and you will, at the same time, make it easier for us to win the next war.

The next thing you have to worry about with him is subcontracting. His natural desire in many cases will be to get you to erect some additional building, put some more machine tools in for him, and so on. There are a number of reasons for that: He is thinking of his past, usually. He knows that if he actually controls the whole operation he will make more money, and so on.

That is not so much now but, it takes a long time to change people. But if we have the bad situation of 1940 that I mentioned earlier, you will have to say, "Instead of putting up this building and waiting for all these milling machines, let me find you a place, say this brewery, down in St. Louis. You can send your gear blanks down there, for machining." He is often going to resist that. Certain industries are used to it; others will fight it. I know General Vanaman has had experience in this subject. That is a part of the procurement officer's job, you see. He has to get away from that desk, all those office people, and all that smoke. He has to get out and move around.

The next thing you have to decide on is the method of procurement. There are all kinds of views on that kind of thing. Our experience in the last war proves there are a lot of different ways to skin a cat. I advocate if you have a complex article like a tank--and it is complex--you try to get some strong management that makes automobiles,

or compressors, or tractors, or something like that, to take over the whole tank, or as much of it as possible. You don't want to have to hire all the expeditors, clerks, and lawyers.

The Air Forces use successfully a somewhat different system, with a very high proportion of government-furnished property. That, no doubt, will be discussed here later on. I don't know exactly the motivating factor but it worked. They got an awful lot of airplanes in a hurry.

Curiously enough, in the early days of the war--this actually happened--a small business group came down and said they wanted all the drawings of a tank. We told them how hard it was to make. However, they thought we would get this little shop out at Squeedunk to make the wheels and a furniture company at Jamestown to make the seats. Well, to make a long story short, they picked up all of the easy stuff, the easier parts of the tank. And right here I would like to say nobody was anxious to make the engine, armor-plate, or transmission, and in such a case, we would have to schedule all of that stuff from hundreds of contractors to assemble a complete tank. So don't close your minds to the method of procurement. It only shows that perhaps each type of equipment should be handled differently. In other words, if you are going to do a research job on procurement, study the Air Force Procurement method; then how it was done, say, in the Ordnance Department in connection with tanks; and perhaps the Navy has a third method, one with which I am not familiar.

I bring that up because there is something else in the air besides humidity. Someone always wants to standardize everything. I mean the shipping tickets are all going to be a certain length. They will all be of the same color. You are all going to do the same thing, whether you are buying ladies' hats, the Washington monument, or something else. But industry doesn't work that way. And I don't know whether we can do it or not. I think the activities and products of the Armed Services are too diverse. After all, we have to live with industry. We don't have a charter to make industry over although some of us may think so. Even in time of war we don't have a charter to make it over. We have to adapt our situation to industry. If we don't, I think we are sunk.

Now you have a factory for your tanks and some supporting subcontractors. The contractor has said he can handle that kind of work. "How many, Colonel?", he asks. Well, you hadn't been thinking about it; you had too much else to do. "What are the requirements? You find we have a new mobilization plan; we'll get the new requirements out next February." (It's November now.) The IBM machines are all busy on some other things--counting neckties, or something like that.

You wonder what to do. You are a well-trained officer. For twenty or twenty-five years you have always done what you were told and not strayed too far afield. What are you going to do? You are going to have the moral courage to estimate the requirements and give the contractor a figure. It doesn't make much difference whether you tell him 10,000 or 50,000 because he can't make many by the time they get those figures out, anyhow. The second thing is that he doesn't care about your requirements, believe it or not. All he wants to know is the monthly rate of production. I can't emphasize that too much. That is the only thing he cares about. How many a month do you want of this thing? That determines his pay roll; how many shifts he works; how many thousand square feet of floor space he needs, and so on.

He must have that. But if you don't give him that rate, the first thing you know—suppose you need 50,000 tanks—you say, "It isn't necessary to have them all right away." Well, suppose he builds a factory that can make 10,000 a month. If you are lucky, in five months after the factory is finished, you would be through. You would ruin our country that way. We did a little of that last time.

So you must set a production rate. That rate must be some compromise between the ability to make at the earliest what the fighting man wants and the ability of the country to handle the facilities. He will ask you for a rate. He is not remotely interested in the total quantities so long as you pay him from day to day. That matter of fixing a rate doesn't come up enough in peace. I don't know whether it is included in any of your literature down here, or not. But I can firmly defend that. I ask you to be sure to consider that question of quantity per month. In procurement you must state the rate.

The next thing this chap is going to talk to you about is facilities. You are going to have to fight against his desire to get new facilities, which is a natural growth out of his business success. Secondly, if he has a fixed-price contract, you will encourage him to do that. Suppose he has bid, under a fixed-price contract, on a queer Army design of an item, (say a chair), he had never made before. Well, if he has a great big order, it will pay for him to get a big streamlined factory. The bigger and better the factory, the more money he will make. That is the natural urge. He has made a firm bid. His next job is to make that chair. True, you want a lot of chairs but at the same time you don't want him to wait two or three years and build himself a brand-new factory if he could make use of some existing facilities. That is something you have to bear in mind: People don't change. This man has done this wonderful job of building up American industry by efficient production. In other

words, he is thinking unconsciously of the cost element, whereas you want to get something done quickly and partly regardless of the cost. But you have to furnish him, in any case, certain buildings, tools, equipment, jigs, and fixtures. That is an element of procurement.

I don't know whether I am trespassing on something that is in a later lecture or not, but what I am trying to say here is that procurement is not the simple meeting with people and saying, "Look, make a thousand tanks. What's your price? Please sign here," and so on. That is not procurement. That is not the kind of procurement we know of in war. You have to get facilities for this chap. You must try to wangle out of the War Production Board, or whatever agency we have in the next war that does the allocating, the things he needs. You will have to find them wherever you can--carbarns, breweries, or garages.

True, the contractor will do some of it, but you will have to do it too, especially if he is adverse to it. You may find he doesn't like it. In that case, you will have to win him over and show him that this stuff that the subcontractor makes is all right.

So if you have agreed on what he needs--the facilities, and so on--you have agreed on the rate, you have given him the drawings and specifications, you are now ready to sign the contract. For an article at least as complex as a tank--I believe with most aircraft also--judging from what I have seen of contract settlements, it isn't fair to ask for a fixed price. If the contractor asks for enough money on a fixed-price contract in order to protect himself, you will pay too much. If he asks too little, he will be likely to fail. You want him to go along, or he won't be any good to you.

You are forced to make a cost-plus-a-fixed-fee type of contract. The public has the erroneous idea, on that type of contract, that the more a man spends on the tank the more profit he gets. That isn't so. You will agree with him that this tank is estimated, when it gets into quantity production, at \$80,000. You are going to want so many of them. You agree on a fee. He gets that fee whether the price goes up to twice that or goes down below that set fee. So there is no urge to him to make the tanks more expensive.

You negotiate a cost type of contract which requires that the Government put auditors in there to see that the bills and the pay rolls he submits are right. When he says he bought \$1,000 worth of steel last week and so much copper, all of that must be in order. The Government has to audit that report. You must audit it promptly, too. You have to pay him. After all, he isn't running any charity organization. He has to pay these men. You can't charge it.

And in many cases, under laws which do not exist now, the Government will have to finance him--not many of the bigger companies

but the smaller ones will have to be financed. The inventories and pay rolls required are too great. They can't take care of it. So you will have to go to the Chief of Finance to arrange that. I don't know whether you are going to have a talk on that or not, but the war financing of industry is a very important thing. No matter which way you look at it, in the end Uncle Sam pays for everything in a war. You can't expect the manufacturer of a line of goods he didn't know anything about to take the risk. He hasn't any control over wage rates, by and large, or even the prices of commodities. So you can hardly expect him to take much risk. Just be mentally prepared for the fact that Uncle Sam is really financing this venture and hiring this man to do it.

Before the last war we had a procurement law that had virtually no flexibility in it. In the early days of that emergency, before we got seriously into it, our ability to procure was very much inhibited by that. We now have this new Public Law 413, that Mr. Andrews, Assistant Secretary of the Navy, spoke to you about. It states right on the very first page that when an emergency—it doesn't even say "war"—is declared either by the President or by the Congress, you can go ahead and buy without going through a lot of red tape. In other words, it makes our peacetime preparatory measures much more sensible than before. There are some eighteen exceptions, which you may have studied. They should have an enormously good effect on industrial mobilization and procurement planning. You can place a contract with a firm in order to keep it alive or keep it in operation if it is important to your war work; you can place educational or study orders; and you can also negotiate to get a standard article. These are the three most important features. These are things you couldn't do before.

When you get into this planning work, wherever you are, you now have a fine instrument that Congress gave us to accomplish the things you are learning here in the Industrial College in planning for procurement. It will help us to do a better procurement job in peacetime; much more intelligent and much better procurement in wartime; and more particularly, getting ready for it.

Now it isn't so flexible a law as people in industry are used to where they call up Bill (if it's paint they want) and say, "Look, send over so many gallons of paint." But it is a big improvement. People in industry recognize that. We must not abuse it.

One thing that General Brannon may make reference to is the fact that in the last war it took as long as a year to get a fellow to sign a contract. Hence there was an instrumentality called a letter-order in which you wrote very simply what you wanted. You, in all probability, will have to use that kind of thing again. It is very seldom used in peacetime, at least in the Army. On the other

hand, it's like good eating: One can overdo it. People would take the letter-orders and later they wouldn't sign up the contract. Signing a contract is a pretty essential thing, especially with the Government, where personnel changes frequently. Since you must have some written evidence as to what was going on, you have to use a letter-order to get things started. But I don't know. One lawyer friend of mine said if both lawyers were smart they could do a contract in a week. You ask General Brannon about that when he comes down.

You are now open for business. So you have to set up contract administration. You have to pick a contracting officer, or resident inspector, or whatever he is called in your Department; the different Departments have different names. He is a representative of your organization, resident there, who administers the contract and keeps it going. He has a lot to worry about, too. He has to do the auditing. He has to pay this fellow promptly. He has to look after government-furnished property; there will be some government-furnished property, whether you like it or not. There will also be a few special things made in some arsenal or navy yard, things under strict rationing, things made with one set of tools, or something like that. You will have to look after all that. One of the big headaches right now is finding some of this property that was issued during the war. You have to take care of that.

You have to set up for inspection. (I believe you are going to receive some special instruction in that subject down here.) Inspection is one of the biggest headaches for the very simple reason that, for a lot of practical reasons, nobody in the Services pays too much attention to it. It is easy to set up inspection and tell some boy to memorize that and go ahead and follow it. During wartime you want a fellow smart enough not to follow it. That is where it is hard to get people.

Going back to this contract we were talking about, your boss has promised a commander overseas that there will be 200 tanks leaving the Port of New York on December first. You have only one place to get them--out of a particular factory. All the others are allocated to the Pacific or some allied nation. You will find a lot of armor plate that didn't quite meet specifications. Are you going to take it, or not? The average Joe inspector would just reject it. Well, for one thing he doesn't know enough about armor plate. He doesn't know enough about the urgency. It will come up to you, the resident fellow, or you, the top man, and you are going to have to decide. Now even though that armor plate may be inferior in quality, you are going to have to say, "Why, sure! They've got to have these tanks. Let them go with that armor plate on them." And if it's too bad, you may catch hell for it. That is part of the moral courage you must have. You don't need physical courage but you do need a lot of moral courage.

You will be faced with that kind of a problem every day. You will have to adjust the fact that for this inferior armor plate the contractor doesn't get paid as much. Those decisions come up all the time. Are you going to take these tanks, these guns, this ammunition? That is why I make reference to this quotation on Union Station. If you don't know the best grades of armor plate from a billiard table, you can't make the decision. Someone in the procurement category of tanks or trucks must know enough about this inspection to make these decisions when they come up. And they will come up inevitably.

The bad headache in the factory is that the inspectors and manufacturers sometimes won't bring those things to your attention. Unless he knows you or your men (as I have advocated to you), he may not bring them up. He'll go in the back room and gripe, "Those dumb government inspectors turned down this bayonet because it was a sixteenth of an inch too long and the scabbard is one-half inch longer than the bayonet. What's the difference." The inspector is guided by the drawings. So you have to get those drawings changed, in this case. You have to correct the tolerances on those rejected bayonets and use them. It's a big headache. I don't know the answer to it, except to have an inspection course somewhere. But we can't spend all our life going to school.

Now you have contract administration going and everything is lovely. If there were any justice in life, you would be allowed to sit back, rest on your oars, wait for a promotion or an overseas command. But you've just started. Now you get out there and scratch—and I do mean scratch! There will be all kinds of difficulties. You have to go out and see that these machine tools promised you out in Cincinnati aren't picked up by some Industrial College classmate of yours in the Navy who wants them for some submarine project. He is an aggressive sort of fellow. Maybe he would go down and talk a better line than you do. You will have to be "on the ball" as much as in a game of football except in this case you don't get hurt physically.

You have to go out; you can't do it from your desk. You send a smart, aggressive youngster out. You tell him, "Go out there and don't come back until you have those milling machines. I want you to ride the train with them. -I want you to ride the train with them." This is the way we got stuff in the last war. It won't come flying in if you just sit there at your desk. So I can't advise you to do anything but just get out there and scratch.

I am reminded of a story they tell me about General Knudsen. You know, when we were in the war, along about 1942, they got out a Controlled Materials Plan, which was a very sensible plan, whereby critical materials were controlled and rationed. It was a rather complex thing. A number of lectures had to be given throughout the country in order to acquaint industry and its key people with it.

General Knudsen took part. At one of those meetings, after he had given his talk, a man in the back of the room, whom he evidently knew, got up and said, "I'm all mixed up. I'm a little worried. Tell me frankly how we get material under this new plan." The General looked at him and said, "You get it like you always got it when you were working with me: Get out there and scratch for it." No matter what the system is, don't forget that.

There, again, if you pick a good management, it will help you. It is used to the expeditors. It uses them. Expediting is a regular trade. That is one reason that, in my opinion, if you had a choice between placing a contract with a good management that had no plant and a poor management that had a big plant, I would pick the former. After all, in the mechanized Age it is still brains that win. They will get something out for you. Good management will make a lot of difference how successful you are and how successful we are.

I am going to mention briefly one more point: engineering changes. There are a lot of reasons for them. One is that the men who design things make mistakes. I don't have to tell you about that. You remember that on one new car the radiator wasn't big enough; or on a new airplane there was something wrong with the landing gear. They do the best they can. These things are very complex. You will have a lot of bonehead and other mistakes on drawings that have not been in production for a while.

You will find a lot of things on your drawings that you can't get. You have to get rid of them. In this last war, for instance, they first took all the aluminum out of the tanks; then they went back and ordered us to use all the aluminum we could. First it blew hot, then it blew cold. When General Vanaman wasn't using aluminum, we got some. Then, in time, it got sort of plentiful.

Nickel wasn't available for the making of many parts; so we had to change all those parts that had nickel in them to use carbon steel. The carbon is just about as good but the machining time is longer. So they had to change the whole setup in the shops. That is not something you will control, but you will get it all the time to manage.

Then the tactical requirements will be changing with use of your equipment. Troops will find things wrong with it in the States. The overseas combat commands will find things wrong.

You will get changes not by the dozen, not by the hundreds, but you will get them by the thousands. I mean that, literally. In the early days of production we used to get as many as 2,000 or 3,000 engineering changes a month on combat automotive equipment alone. I understand the figures were high also on airplanes. I don't remember the figures but they had plenty of engineering changes, I know.

610

I remember when I testified after the war before the Stilwell Board on equipment for the Army I was asked why we had to have so many engineering changes. Why did it take so long to put them in? Those are some of the things you have to know. They will inevitably come up. You will find this whole operation will be on you, on your inspectors. All of the headaches will come right up to you. That is why I say again to read that verse on Union Station. You will know at least what you are going into.

Then you will have spare parts to worry about. The manufacturer doesn't care what he is making. To him, it is all "parts." After he has made the part, he doesn't care whether he puts it in a box labeled "spare parts" or assembles the parts. It makes no difference to him. An airplane or a tank is just a bunch of parts, to him. He can deliver them any way you want.

In the early days of the war we made as many end items as we could and sort of forgot the spare parts. That happened. It isn't any theory. We were all a party to it. Later you will regret it.

It is going to take a lot of moral courage to say, "I have 1,000 engines here. I'm going to assemble only 700 tanks and the 300 remaining I'm going to keep as spares." The manufacturer will wonder; the people and newspapers will wonder, in the early days of a war. You have to show some courage to buck public opinion. However, in 1942, in the Ordnance contracts, we wrote in that for every hundred vehicles the proportionate spares must be delivered concurrently or makers didn't get their money. That helped a great deal.

Before I leave that, I would like to say you will find many of your business friends can't understand the number of spare parts we want. You see, they have been making an article comparable to ours and it is running on a nice concrete road. Further, the fellow who needs a part pays for it out of his own profits. That holds his demand down like the dickens. It's a good regulator. Just to cite an example, for one type of vehicle which was a commercial vehicle, not a tank, our demands were some thirty times the parts that that company had made for the same vehicle in peacetime. It was explainable; but you have to explain it. He is going to say, "Well, the colonel's pencil must have slipped." He simply won't believe it. He'll say, "What in the world are you going to do with all those parts?" He doesn't think you have room for them. You do need them, and we can demonstrate that need. It is just another case where you have to sell your idea because when a man isn't on your side you will get only cold acquiescence; you want hearty cooperation. It is a part of your job. Start it right by knowing the man in peacetime.

Both the Air Force and the Army found that you can't deliver the finished article from a factory with five gallons of gasoline, ready

for the customer to take off into the air or over the ground. So the Air Force set up Modification Centers; we called ours Tank Depots. There are a number of reasons for that. Different users, different theaters, different nations, wanted the end product a lot different. Also, we need a reserve. There were engineering changes that had to be put on at the last minute. If they were put on in the factory, it would have messed things up and delayed production. Don't do too much of that in the factory, for high production comes from stability.

Also, one contractor will take greater responsibility than another. From one man you will get a tank including the gun, already mounted, the ammunition racks, and all the rest. But another manufacturer is afraid and he will only make a tank minus the fire-control equipment and not much else.

So, since these tanks come in differently, you have to get them into this one central place--the "tank depot," a "creature" of the war. We have never dealt with so complex an article before. It is interesting, I think, to see that the Air Force, without any consultation, so far as I know, put in somewhat the same plan for airplanes. Didn't they, General Vanaman?

GENERAL VANAMAN: Yes, they did.

GENERAL CHRISTMAS: Now I would like to mention briefly interchangeability. It is a very expensive thing to have. It may have been decided for you in peacetime. But if you are one of these procurement project officers in wartime, it is not unlikely you will have to decide it. We had to.

In the case of tanks, complete interchangeability was almost prohibited by time and cost. In things like machine guns, where every part is gauged, you can take the parts and put them all in a big barrel and make guns out of them. You can take them apart, scramble the parts and again make machine guns. To do this takes a lot of time; it takes a lot of special, expensive gauges.

It isn't necessary to make a tank entirely interchangeable. You can and do make them off the same drawing, sure; but that doesn't mean they are interchangeable. For even though you make things off the same drawings, you can make errors. The machine can make errors. That doesn't mean they are interchangeable; not until you put something on to measure them, gauges.

But you may have to make the decision. There are things that must be interchangeable, things that wear out, like breechblocks and pistons. If the decision hasn't been made for you--and often it won't have been made for you--you must make it. It is something you

will have to think about. If you don't know whether something is interchangeable or not, and have to decide, you will hold up the job. If you don't have the information, it will be difficult to obtain. If you are lucky, those decisions will have been made for you. At any rate, it is something to think about.

So now we get to a sort of summary of what I would like to tell you about wartime procurement,

Nobody can tell you to ignore all you have learned--all the discipline, all the regulations, and so on. But if you have been a smart fellow, have kept your eyes open, and so on, the success you achieve in war procurement--and, through you, having our country be successful--will depend on your moral courage, your action, and your energy.

I remember one of the dollar-a-year men who came in to help the Government said to me, "One thing it took me a long time to learn while here in Washington is that some orders people obey and some they don't pay any attention to." If you have the moral courage, when these problems come up in wartime, you will know the right answer. True, once in a while you will get the devil for it. It all depends on the situation. You have to take that chance. That is where the moral courage comes in. If you don't do that, you won't get production. You will get just a lot of paper. It's an awfully hard thing to talk about. Later on the Monday-morning quarterbacks will tell you what you should have done. That helps, too.

I suppose I could take a few minutes to talk briefly about procurement in peacetime. It's all in the book. Up in the General Staff, I am head of the Procurement Group, Logistics Division. We have four main branches in my group. We have a Current Procurement Branch that prepares contracts for the Secretary or Assistant Secretary to act on to the extent required, first, by Public Law 413--it is the same as Mr. Andrews must have mentioned--and, secondly, by certain policies of our own Secretary. We work with Technical Services and see all the people who want business. There are a lot of them coming in. Current Procurement is a very active group.

Under this new single Department procurement the Army is buying all the food not only for the three Armed Services but for all of the occupied countries. It is about a billion-dollar business. It has to be worried about for a new law and new regulations are being tried.

Secondly, we have a unit devoted to procurement in the last war, known as the Readjustment Branch. It is sweeping up all these old property accounts. There are some of these war contractors who didn't get paid, or got paid too much. There was a war on. They made mistakes and paid too much, or forget to save their vouchers, and so on. That is the section dealing with the last war.

Then we have a section devoted to the next war, the Procurement Planning Branch. That section occupies itself with plans for procurement in the next war. It is the principal contact with the Munitions Board. Officially, it works through The Assistant Secretary of the Army, who is in charge of procurement. Actually, there is much direct contact and members of the Procurement Group are on many committees of the Munitions Board. I am on a number of committees of the Munitions Board, such as the Procurement Policy Council, Facilities Committee, and things like that. Some of these men in the Procurement Planning Branch are on as many as nine or ten committees each: stockpiling committees, committees to make a study of substitute materials, and all of that kind of thing. They work very closely with the Munitions Board, with our opposite numbers in the Navy (Materials Division), and with our opposite numbers in the Air Force.

The last branch we have is one which you will study in another part of your course. I will only give its name. It is the Standards Branch, which considers specifications, standards, inspection, and packaging. It works very closely with the Munitions Board's Standards Agency.

A necessary corollary to procurement is the specifications. Without them, you won't know what you want; you won't know where to look for it. Then, too, you have got to get some standardization. That standards work is a handmaiden to our other activities.

We are terribly busy in our Procurement Group with two main things: First, working with the Munitions Board on Unified procurement under a single department. Admiral Ring will describe this in more detail when he comes here. A lot of hard work is going into that. Secondly, there is a great deal of work being done on various standardization programs, and things of that sort. You will take that up in another aspect of your work. It isn't my business to talk about standards, but don't get standardization too mixed up with procurement. It isn't procurement. Procurement is getting things. Another thing is the improvement of procurement. I mean that is a separate subject. Procurement is getting what the commander wants, as soon as you can, and as promptly as you can. In peacetime, with our procurement somewhat limited, it is a struggle to get the right articles for the Services, especially right now.

In any case, procurement is a thing worth being in. It isn't a very romantic thing but it is essential. Since we must have it, I hope some of you gentlemen will get into it. I can't promise you that you will get any rewards out of it, or anything like that, but I do think you will find it interesting. I know it is absolutely essential. We found that in the previous wars people didn't pay much attention to it.

RESTRICTED

614

It's awfully hard to get a fine young fellow into something like that. He wants, instead, to get into some combat unit. But, someone has to do it. And if you put all of the punk ones in procurement, Lord help you, for at the other end, at the front, nothing will come out; you'll lack supplies and equipment.

In summarizing this whole thing, let me ask you to bear this in mind. You must, first of all, have ready some officers and civilians who know procurement and various categories of supply. I am not referring to the functionalized mechanics of procurement; the red-tape part of it. I mean they must know the product well and know how it is made. (You can see I believe in the product-type of organization.)

Bear in mind that quotation I read you at the beginning of this talk.

Then you must have your drawings ready. You can't begin to do your job if you don't have the drawings. You must have your specifications. You have to know or guess the requirements. (That isn't so much of a bugaboo to me as some people say it is.)

There has to be an allocation plan for the facilities and materials, or else there will be a dog fight. There can't be enough facilities for what we could use. I visualize it will be worse next time because I believe the logistic demand will be greater than the industrial capacity of the country. Therefore, you will have a much harder time.

Last of all, I'll ask you, if you get into this kind of thing, to get acquainted with industry. Its representatives can help you very much. After all, they are going to do this thing. If you tell them what you want, describe it and pay them for it, they will make it. And they can make it. They have demonstrated their ability. They want to do it. But you will have to communicate with them and get to know them.

Procurement in wartime may briefly be said to involve having the intelligence, energy, and moral courage to do promptly everything practicable, somewhere short of lawbreaking, in order to get the necessary supplies and equipment for the fighting man; to know the equipment, the laws and regulations well enough to take responsibilities and make decisions to further your mission; lastly, to be in all you do personally above reproach, like Caesar's wife.

Then, on top of all that, if we have a nice fur-lined, goldplated war, with plenty of time, if you want to streamline everything that's all right with me, It would be a nice thing to do. It would make a nice setup. But remember; first things must come first,

I thank you very much.

QUESTION: There seems to be some discussion on the relationship between procurement and inspection. Is it the procuring agency that does the inspecting or is it done by a separate inspection agency not necessarily connected with any of the procurement agencies?

GENERAL CHRISTMAS: I believe it is essential to have the inspection as a part of the procurement, for two reasons:

First, one department of the Army, in World War I, tried having inspection separate from procurement. That was in about the middle of World War I, when supply wasn't so serious as now; yet it was serious and had to be changed.

Secondly, if you will think it out for a minute, you will remember I bore down on the matter of moral courage that was involved here. If a man is in the inspection business only, he has just one goal in mind, that is, to get the very finest quality. He will be faced, at least in the kind of war we had last time and I'm afraid much more in the kind of war we have next time, with these cases where he must let go on the quality. It means we must often take specifications only as a guide. Emerson said, "Hitch your wagon to a star." But you don't always get up there. Therefore, if the chap, who is in charge of procurement, and who has this knowledge and knows what he is doing, hasn't the right to restrict the inspector, then often you won't get any action, any production on time.

But that has to be decided on a fairly high level.

QUESTION: But the point is, why was there such a clear-cut thought that the inspection should not be a part of procurement? Why is that still going on?

GENERAL CHRISTMAS: Well, there are different kinds of people, just like we have different kinds of churches. There are some who believe in what is called the "functional" type of organization. That means they would have the research and development, the procurement, inspection, shipping, and distribution, and so on, each a separate activity and responsibility. That type organization works best (I believe) for an organization that handles only one type of product, like a cement company. Any agency handling a diversity of things can best divide the things up on a product basis for management purposes.

Now, in a very large operation, this chief inspector, to whom would he report? If he disagrees with the procurement officers, who will settle it? Will that go all the way up to the Secretary of Defense? Someone has to referee this sort of thing at a decentralized level close to the essential facts.

In my opinion, the weak feature in having a separate inspection department and other separate functional departments is that all of the decisions have to go up to "papa." Eventually, he will be a nervous wreck. I don't believe in a big organization that would be so satisfactory. You can get a lot of good arguments on the other side, too, I'm sure.

QUESTION: In connection with this question of cost, do we have trouble now getting the manufacturer and the contractor to agree as to just what is cost on such things as research and development expenses?

GENERAL CHRISTMAS: Do we negotiate contracts now?

QUESTIONER: Yes, sir.

GENERAL CHRISTMAS: We have had a reasonable amount of trouble about that thing. But there is about to be published by the Munitions Board—it has been agreed to by the three departmental secretaries in charge of procurement—a book on cost principles. Either by reference, or inclusion in the contract, the contractor will be told before he does any business that there are certain things the Government does not pay, those it will pay. There was a lot of argument after this war on contract settlement on things like that.

In one type of contract you pay him for all reimbursable expenses; on the other type, you negotiate a fixed type of overhead. You check only his pay roll and bills of materials. When you negotiate the overhead, you leave out these non-allowable things, of which advertising is one; certain excessive salaries, high traveling expenses, and things of that sort. Donations is another thing they argue about. Most companies help the American Red Cross, the YMCA, and so forth. But Uncle Sam is going to miss that one also, I think.

CAPTAIN MILLER: This new Army organization we read about in the papers, will that affect your procurement organization?

GENERAL CHRISTMAS: I believe not. It has this effect: There are two Deputy Chiefs of Staff. One worries about the present, the other about the future. As you heard briefly, the Procurement Group handles both aspects of procurement.

However, there is one change that affects logistics but does not affect procurement; that is, the assistant Secretary of the Army, at the present time Mr. Gordon Gray, where formerly he had charge of procurement only and was my chief (through the Director of Logistics), is now in charge of all logistic activity. So he is the Director of

RESTRICTED

617

Logistics--superior all the way across the board. No change has been made in procurement.

GENERAL HOLMAN: Gentlemen, I think there are two things that are most outstanding from the fine talk we have heard this morning: The first is the requirement for vital leadership all the way through any procurement or production program. Secondly, there is never a dull moment in procurement or production work.

General Christmas, we are deeply indebted to you. I am sure we will all remember this most excellent discussion for a long time.

GENERAL CHRISTMAS: Thank you very much. I enjoy talking on this subject.

(1 February 1949--750) S/mmg

RESTRICTED

1944

1945

1946

1947

1948

1949

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

1961

1962

1963

1964

1965

1966