

THE ARMY SUPPLY CONTROL SYSTEM: DETERMINATION OF
PROGRAMMED PROCUREMENT, PRODUCTION PLANNING
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THE ARMY SUPPLY CONTROL SYSTEM: DETERMINATION OF PROGRAMMED PROCUREMENT; PRODUCTION PLANNING

COLONEL NEIS:

Gentlemen, we have the opportunity this morning of hearing from an officer who for a long period of time has been assigned to duties in connection with production activities in ASF. Colonel Murray, to my knowledge, has been engaged in production scheduling work and related activities for the past two years and his production experience cannot be found documented anywhere within the War Department. We are extremely fortunate in having Colonel Murray here with us this morning. Colonel Murray.

LIEUT. COLONEL MURRAY:

I have been asked to talk to you about the determination of programmed procurement and about production planning under the Army Supply Control system.

The Army Supply Control system, as previous speakers have probably told you, involves the assembling of all the data with respect to Army supply for a given item onto one piece of paper. We did not have such a system until about the middle of 1944. Prior to that time, we had what we called the Army Supply Program. This was simply a document which stated, for specified yearly periods, the desired quantities of material and equipment that were required. The periods covered were usually the current year and the next following year. This system was not entirely satisfactory for our needs. The annual requirements were very important but many, many times we missed the boat. We would not know exactly when a specific item was needed; for example, the entire quantity might be required in the first quarter. However, it is true that this information was probably available in the technical services.

What I particularly want to talk to you about is the functions of the Production Division of Headquarters, ASF, in procurement planning and in the establishment of programmed procurement. As you probably have been told, the Production Division, along with the Requirements Division in Headquarters, ASF, is responsible for the planning of the procurement program. All of the detailed computations as to what is needed and all of the original estimates as to how it is to be provided are made in the seven technical services. After they have made their computations, based on all the theoretical factors--I say "theoretical" because a great deal of it depends on the troop basis, which we found was very often behind the times or not sufficiently accurate--and depends on operational plans which many times were quite indefinite or in some cases entirely unstated (I am thinking now in terms of conditions back in early 1942), we had to figure out what we wanted to do and how we were going to do it.

After the Requirements Division had analyzed all features of requirements planning and were pretty sure the stock on hand was accurately estimated, the future demands (based on the troop basis) were then computed correctly. They applied the proper number of days of replacements to determine replacement demands. They also included demands for operation projects, which are those special things required, in addition to troop equipment, for any operation. They completed these computations and arrived at a mathematical number.

Now this number was called the computed procurement requirement. They applied some judgment to this requirement. Sometimes, if it varied only slightly from the number previously computed, they said, "Well, the variation is not significant; we will let it stand. This figure was called the procurement objective." Once the procurement objective was set, by agreement with the technical services, and was approved by the Requirements Division of ASF, that was the quantity which ASF needed. It was an "agreed" need.

When the troop basis and all the other data which go into the computed requirements were sent down to the technical services for computation, a different computation was made. After they all got it computed nicely then the production and procurement personnel came into it. In the case of ordnance, for example, perhaps they called in somebody from the Tank Automotive Center in Detroit and said, "Here is what we have computed we need. What can you do about it? Can you make the total quantity? Can you get it phased, as indicated in the Supply Control Chart?" Many, many times they said they could not do it or would not recommend trying to make the total quantity even if they thought they might possibly do it.

In any event, the procurement personnel in the technical services finally decided on a quantity recommended for programmed procurement. When this was submitted to us--by "us" I mean Headquarters, ASF--it meant a good many round-robin conferences between the Requirements Division and the Procurement Division. First of all, we argued about the validity of the requirements: were they realistic? Were they necessary? There were also other factors involved in this. Finally everybody was pretty well certain of the requirements side of it--of course, theoretically, the procurement personnel were not supposed to know anything about requirements, but, after all, you do get pretty much interested in these when some of the problems presented to you appear to be almost unsolvable. At any rate, after this procurement objective was set, then the Production Division established the programmed procurement through consultation with the technical service involved. The technical service would recommend what it believed was reasonable and what could be done.

Let us digress for a minute and go back to this Army Supply Program. When we had the Army Supply Program, it was published sometimes twice a year and then you had the book thrown at you. In other words, there would be changes in every item in the book. Some of these changes were very large; only a few of them were not significant.

It was therefore, utterly impossible, with the sort of review we had, to try to coordinate all these revised programs. That is the particular problem we had in the Production Division. The Ordnance Department would recommend what they thought they could do, irrespective of what effect it might possibly have on the Engineers' needing something out of the same facilities.

We had only about a week in Headquarters to resolve all these conflicts. What we normally did was to base our determinations principally on the availability of facilities. We did not have the time to compute the material requirements; besides, we were pretty sure there would not be enough materials to make all the items any way. Now I do not say there would not be enough to meet the ASF program, but if this program was met then Navy or Maritime Commission or Air Forces could not meet their programs. Therefore, the establishment of the program was based on the availability of facilities.

In many cases this procedure resulted in the wrong answer. We might have had plenty of manufacturing facilities, for instance, to make steel-

plate landing mats, but the critical and controlling thing was, how many steel sheets could be obtained? The fabrication of the item itself was not too tough a production job, but the vast quantity of steel sheet required was the bottleneck. Landing mats were the biggest steel-consuming program in the Corps of Engineers. By reason of this the program was one wherein we used, in large measure, a sort of kitty. If we got into a jam and just absolutely had to have some steel for another program we would divert it from the landing-mat program, particularly if sheet steel was required.

As I have already stated, this programmed procurement quantity was based pretty largely on the availability of facilities. But, even then, we could not possibly make a physical study of all the facilities in the United States, and Canada too, because we got some things from Canada. So, what we attempted to do was to evaluate facilities in terms of perhaps some significant, controlling item--a component, say--such as an engine. In the engine field, for instance, a critical shortage existed generally throughout the entire war. Therefore, when we had a new program approved we got into the question of relative urgency, which is also important in establishing programmed procurement.

I believe I can say (the Ordnance Department has said it all during the war) that we can make anything. But when we say we can make anything we are speaking of some specific something. If we want to make that particular something, we can make it, but it may involve a lot of interference with all the rest of the programs. Because of this matter of relative urgency we had to resolve the question of what was really needed most. The Requirements people, of course, were always quite certain they just could not do entirely without any item listed in the program. But in deciding whether to go all out for one program, or to make a reduced proportion of that program in order to level off some of the rest of the programs, we got into the relative urgency program.

This was a very important thing, not only in the establishment of programmed procurement but also in production planning. In the early days of the Army Supply Program, when production planning was simply a matter of how much we needed for the year, we would divide by 10 and schedule all the production in the first 10 months. We assumed we would not get all of it in these 10 months. Sometimes we would and then, on the other hand, sometimes we would not. When we did, we had some facilities that did not have any business for November and December unless the requirements went up. In these cases we had to have production reserves.

The ASF established production reserves and set up a crude system for establishing them in 1943, originally; but we did not have many until 1944. At that time, as you all know, the European phase of the war was getting along very well. Everybody said, "Well, it's just a matter now of months." So, with all this optimism and cutting back of requirements even in connection with the troop basis there was some tendency toward reduction--we were faced with the possibility of losing a considerable number of facilities. In so far as the ASF was concerned, when we lost facilities that we needed the Navy always got them. So, if we wanted them again perhaps some time later, we were out of luck.

We therefore established production reserves, which meant that, pending a resolution of the strategic situation and in order to save uneconomical production, we would permit production in excess of requirements on certain military items--I am speaking strictly of military items; this would not apply to civilian items. We would set a minimum production rate, which was to be maintained in order to keep the facility available for demands that were stated and known to be required during the following year.

In some cases the establishment of a production reserve enabled us, over a two-year period, to meet the total requirements for the two-year period. If we had tried to produce them as they were required--a small quantity in the first year and a large quantity in the second year--we could not have done it. By building up in advance we were able to meet the two-year requirements with existing facilities.

Another factor which also had to be considered was the matter of exorbitant cancellation costs. Our production was well along. In other words, we had the components and materials scheduled and available in the facilities. When requirements were reduced, the costs might have been pretty high if contracts were canceled. Although requirements perhaps fell to zero in one year, or dropped to practically nothing, we still had requirements for the next year. In these instances we allowed the services, if it appeared advisable, to accept delivery of some additional items, beyond those which were currently needed, in order to have such items available for the next year's demands and to save the huge cancellation costs.

The termination of production under the Army Supply Control system was another of our headaches. We found that requirements fluctuated very widely, and in those cases where they went down, reducing the demands during the remainder of a given year to zero, or to a very small quantity, we had to terminate production. Now on the military-type items, as I have indicated in connection with production reserve, sometimes we did not terminate; we simply reduced the schedule to a minimum operating rate. But with respect to the civilian items, we did attempt to terminate production as fast as possible. This was desirable; it saved materials and labor and perhaps components which could be used in some other programs.

In 1944 the War Production Board became much concerned about the labor shortage because, presumably, the Army was taking all the people and there were simply not enough laborers to go around. They set up a special committee for reviewing all of our major cutbacks. The Air Forces and Navy also were placed under the same controls. We had to get the approval of W.P.B. when making cutbacks. If there was any remaining production on a cutback item we had to assure them we were distributing it among the various facilities so as to help relieve labor shortages; in other words, to make labor available in the critical areas and to retain it on programs in areas where it was not critical.

During the war the matter of priorities and the application of preference ratings was a very important feature in procurement planning and in all phases of production. We went through a number of systems. Many

Many of you are familiar with some of them, or at least have heard of them. For instance, in the earlier "PRP" days we had a certain percentage of the program that could be rated with top preference ratings and the rest of it got lower ratings, on down to some of the lesser ratings. The system looked very good, but trouble developed since there was no assurance that even the top ratings could be met. In other words, the plan lacked provision for the definitive control of what was actually available. "Hunting licenses" for materials and components were issued, without knowing how much was really available.

This failure to take into account the available supply was cleared with respect to materials when the CMP was inaugurated. We think, from the ASF standpoint, that the Controlled Materials Plan was a definite improvement over anything that had been tried before. Right now we would not know of anything to recommend with respect to controlled materials, under conditions similar to those existing during the war, than the Controlled Materials Plan.

The Production Division was responsible for the staff supervision of CMP. We had to direct the technical services to compute the amount of materials and products that they needed. These computations, of course, were based on the production schedules, which were established as a result of the approved programmed procurement. Many times we found, however, that we had set the programmed procurement slightly on the incentive side and in some cases too much on the incentive side. I think we usually gambled on the long side, which was desirable from a production standpoint in order that we could set up a high enough objective for industry so that they had to work at maximum capacity to get anywhere near it.

When it came to materials, however, it was another matter. If we could not use the materials, then we should not be claiming them. Therefore, after we had computed our material requirements, which we had to submit to the Requirements Committee of WPB, we had to adjust our available allocation of materials as given to us by WPB. This allocation was generally less than our stated requirements. These adjustments seemed to work out pretty well. We found, for example, that in the Ordnance Department many of the programs called for tremendous quantities of steel, involving many, many facilities--hundreds of facilities in some cases. It is pretty difficult to say just when the required materials are going to come into the plants. You can establish very complete component schedules and also schedules for each item that goes into the components, but a labor strike in one facility or perhaps a flood in the Middle West which stops production in one plant--all those things interfere with the schedules and upset the whole plan. We tried to retain, from the quantities of materials which were allotted to us by WPB, a little kitty to use in emergency cases.

The headaches in connection with procurement were principally ones caused by changing requirements. Just when we got our programs going along nicely, some of the requirements would be doubled or tripled for a reason not apparent to us, but undoubtedly based on very sound policy. We always seemed to be able to work out some solution to these problems

We tried, as I have said, to keep out a little kitty of materials which we could toss into an emergency program, whenever necessary.

One of the factors which affected us very materially was this matter of planning for operational projects. I am getting now into the establishment of requirements. The procurement program was inevitably associated with the establishment of requirements and the urgency of the requirements. Early in the war, operational requirements, particularly those of the Corps of Engineers, who really were the big operators in this field, were large and important. Air-fields had to be built, weather stations established, and other operations carried out, which seemed not to be related at all to troop bases. No, I will not say "related at all"; they were possibly related in some way or other.

How many air fields had to be established and operated was generally a matter of conjecture. These operational requirements were originally estimated on some theoretical basis, but the Corps of Engineers had some basic information on which to start procurement over the next six or twelve months. But inevitably, as the time of operations arrived--for instance, when we went into North Africa--thousands of things were needed, and greater quantities of specific things, some of which had been overlooked or had not originally been considered necessary. This, again, got us into hot water.

Then we got into the problem: should we divert material or components from one program to another? We need some steel. Where do we get it? Where does it go? I think if the Production Division, Headquarters, ASF, has played one important part during this war it has been in the resolving of these relative urgencies, not only between our own ASF, technical services but also between the Navy, the Air Forces, and other claimant agencies. We were the ones who had to do battle with Navy when their requirements interfered in some way or other with ours. My own experience in this work has been very favorable. We always got along very well with the Navy. For instance, we talked with the Navy people and never could convince them they didn't need everything they said they did. Likewise, they could never convince us that we didn't need everything we said we needed.

Many, many times when the Army needed something we would call up and get Joe Jones, over in the Navy Department, and he would say, "I'll fix you up if you will repay me in, say, 60 to 90 days." Sometimes we would agree to this. On the other hand, sometimes it also happened that the Navy was low on some particular item on which we were also short. I, personally, think that a unification of Army and Navy procurement might well resolve this problem of buying common items.

Then, too, we found that although the Army and Navy specifications maybe were different and we could not accept a Navy item under our procurement contracts because it did not conform to our own specifications, the fellow out in the field did not care how it was packed, maybe, or what the specifications were if it would do the job for him. That was all he wanted.

In this resolution of conflicts with the Navy we got involved, for instance, in the Landing Craft Program. When an all-out directive was issued, that large quantities of landing craft would be produced and would be given Top Priority over other programs, we did all we possibly could assist, and we believe that we helped the Navy a great deal in getting them. Our experience has been it did not hurt us, when we knew it was coming and when we were able to plan for it and were able to anticipate the fluctuations and changes to come.

One of the things in procurement planning that would be desirable is to get a firm strategic plan. We never got a troop basis which would hold for a little while. In the original days of the Army Supply Program, when we had a semi-annual computation--when we got to the Supply Control system we had this same thing for every month--the periodic gyrations of the procurement requirements were something terrific.

We had a great deal of trouble convincing the Requirements Division of the fact that we could not be prepared to change production every month. Sometimes we wanted to change schedules, if there was something really significant about the change in requirements that should be implemented immediately. Eventually, we persuaded the Requirements Division so that instead of stating what we called pure requirements (which were actually the computed requirements), they took into account demand trends, the necessity for immediate implementation, and other factors.

In connection with production planning I have indicated that the technical services did the major portion of the work. It was up to them to make recommendations, which they did very effectively. We kept a number of controls on what they were doing. We had detailed schedules for all principal items, which included all significant procurement items, and these were reviewed as often as they came out, normally monthly, but on some tough items weekly. These were reviewed for compliance with the desired procurement schedule. In some cases we found that on a given job they were exceeding their schedule. In those cases we simply tried to bring them in line with what was required.

The Supply Control system was a very good system. It covered in detail, in these monthly reports which I have mentioned, about 1800 items. These items involved, I should say, approximately 65 to 70 percent of our procurement program. At its peak, our procurement program reached about two billion dollars a month. I think it was last March when we hit two billion dollars.

Now with respect to the secondary items, and with respect to the Production Division's responsibility as to what the technical services were doing about procurement of these items, we generally delegated all of our authority to the technical services. If they were 50 percent wrong on some of those, it was not considered too serious in the over-all. We did, however, keep check on how things were going by means of systematic and regular spot-checks and by visits to their supply control points in their procurement districts. In general, the technical services follow the same procedure which we had set up in connection with the principal items.

I should like to allow a good deal of time for questions. I have already had a few questions fired at me by some of those who are working on these problems in some of your committees. But in concluding I should like to sum up a few of observations from my experience in the Production Division. Let me say that before working in the Production Division I was in the Requirements Division; so I naturally got both sides of the requirements and procurement battle.

From the procurement side, I think something should be done with respect to procurement planning so that we shall not have all these sudden changes in requirements, something to minimize the changes in some way so as to get a procurement program going and keep it going. Principally, this has to do with lead-time, which too often was disregarded by everybody all along the line--even some of the people over in Europe on the battlefields. After all, you cannot change lead-time. Lead-time is the time it takes from the date an order for something is placed to the date when some deliveries of it are ready to ship.

Of course lead-time varies a lot with different items and with different conditions. For instance, we found that it took the Crane Shovel manufacturers about six months to get into production. On the other hand, the Navy had a zero lead-time on that since when we canceled our contracts they came along and took them up. But you cannot be so fortunate, usually.

In long-range planning there ought to be some fixed basis which should be adequate enough to allow for all the fluctuations which you know are going to occur. You should give the procurement personnel in the districts and also the fellows who talk to the Osgood Shovel people some leeway--within limitations, of course--and not cover all the fluctuations monthly, or even every two months. It ought to be at least six months, if possible.

One thing that I think was very wasteful in this war was duplicate procurement organizations in the field, particularly with respect to expediting. Sometimes there were an Army expeditor and a Navy expeditor in the same plant, each trying to convince the manufacturer that his was the more important program and the one on which work should be pushed, leaving the poor manufacturer slightly confused, possibly leaving him to decide which was the more important or else to yield to the better talker of the two service representatives.

We also got into some disputes with the Navy Department and with our own Air Forces, which, in many cases, interfered facility-wise and material-wise with our programs. We tried to solve these problems and agree as to some sharing of a facility or some sharing of materials. In those cases where we could not agree, the WPB made the decision, with the Army and Navy trying to justify their positions to WPB but being unable to tell everything because of security restrictions. We could not tell them all our operational plans because we had no assurance that, as soon as we told them, our plans would not be in the newspapers. Therefore, in the final analysis, we had a civilian deciding the issue, on the basis of what we could or did tell him. This situation was not satisfactory. I think there should be a military decision on conflicts of this type, and I think it possible that such a thing could be done.

On the common items of procurement, I have stated that in some cases we got help from the Navy and the Navy, in turn, got some help from us. Coordination of procurement and actual combination of procurement operations, such as has already been effected in some of the fields, particularly in medical and some quartermaster items, is very desirable. It seems to me that it could be extended to a great many other items and into a great many other fields.

This elimination of competition would be a material help in getting production in individual plants. Where you had an Army and a Navy expeditor, each battling individually for production in the same plant, total production suffered in the end. We did not get as much out of the plant as we would have if we had not been battling. So, in the end, the militia actually had a loss.

These are my own, personal comments and I invite any questions that any of you would like to ask.

A STUDENT:

We have had a similar experience in the Navy of fluctuating requirements being made by CMO and then passed on down. If we should pass them on to the contractors themselves, they would simply go up in the air.

Now I would like to ask you at what level you think this smoothing-out should be done?

LIEUT. COLONEL MURRAY:

I suppose you are thinking of the level of organization.

A STUDENT:

Yes, sir. For instance, in the Navy we operate or do it at the bureau level.

LIEUT. COLONEL MURRAY:

I think, with respect to ASF, that it should be done at the Headquarters, ASF, level. Our own experience has been that we were familiar enough with the problem out in the field so that we knew how impossible it was to solve. We got enough complaints, for instance, from the contractors calling us up directly. We knew what the troubles were.

I think a great many things should be resolved at the Staff level. I do not think you ought to ask the procurement districts to shuffle their schedules around each month or, in some cases, oftener. Actually, what you can do on a short-term basis is very little. Requirements can change quickly. What you will get next month is really what you planned for six months ago.

What you are talking about now is a change in schedule: what is going to happen three months from now, say, unless you want to give it Top Priority.

A STUDENT:

Colonel, I have a question on this matter of interchangeability.

To begin with, the purpose is entirely different. For instance, you can use cast-iron in lots of things. If, where you should use steel, you put cast-iron in instead, that immediately becomes a weapon of the enemy. The first time you get the ship hit, that stuff will start flying, and, as some of our British cousins found out, it is almost as deadly as the projectile itself.

Now if your people know materials well enough, they can tell immediately whether you can schedule it. There are, of course, as all of you know, standard steels and products. For example, if our production item is a little more expensive than expected, why we can then use gun-metal which usually has a higher tensile strength, and so on.

Now if we can supply the Army with a better piece of equipment, your technical service can certainly tell you that, because we can tell very quickly if we can interchange.

I do not say that common purchase is going to be the final solution to the problems which are so much opposed to each other.

LIEUT. COLONEL MURRAY:

I did not mean the common purchase of items which were not the same. I was thinking, generally, of really common items. We had cases, for instance, with respect to the Corps of Engineers' procurement and your Seabees' procurement, where the Seabees went through the development period and then finally specified certain things. The Corps of Engineers was doing the same thing at Fort Belvoir. They also specified certain things. When they issued the specification to a contractor it usually meant something different to him. The equipment ultimately was going to be used to build an air-field somewhere, perhaps in New Guinea. Maybe some of the stuff procured by the Army is now used by the Seabees, but under a new heading.

A STUDENT:

Most of our stuff would be an organization function; for example, the Bureau of Ships was one of the big purchasing agents.

LIEUT. COLONEL MURRAY:

I think there is a duplication, however, in that, and some of it is okay and some of it is not.

I am thinking now of the expediting in a particular plant. Supposing we were talking about the International Harvester plant in Moline, Illinois. That plant, let us say, is making tractors for the Corps of Engineers; maybe it is also making some gun parts for your own Bureau of Ordnance. Now I am not convinced that some one single organization in that plant

could not do the expediting. In other words, by liaison with that manufacturer, try to find out how he is doing. If he is not measuring up to what he is required to do, attempt to solve the problem at that level, or carry it on to Washington, or some higher district level. Do anything to get whatever is needed to remedy his problems.

A STUDENT:

If there was a conflict, the attention of the Navy Department was called to it and they went to the people and discussed it. In a number of cases the service which had paramount interest was given control of the plant and the other service went over and requested an allocation just as the various services requested allocations of material.

LIEUT. COLONEL MURRAY:

That's true.

A STUDENT:

I honestly think that can be done very easily and simply without having a common procurement system.

A STUDENT:

He is absolutely right on that. You all were just talking about the Seabees. We purchased caterpillar tractors through Army contracts and the Army did all of the inspection and even handled the cutbacks and closed out the contracts at the conclusion of the job. The same thing with the International Harvester trucks. We bought all our trucks through the Army and some through the Marines.

LIEUT. COLONEL MURRAY:

Now let's take that tractor proposition. It was true in connection with the end items, but in spare parts it was different. For example, when the Navy wanted, say, six crank-shafts they were always something different.

A STUDENT:

We should have got together.

COLONEL FAIRCHILD:

Colonel Murray, the Signal Corps organized what they called ANEPA, Army-Navy Electronics Production Agency, an expediting agency, where a group of Army and Navy officers were located together under one head, in the Office of the Chief Signal Officer, for the purpose of expediting electronic equipment throughout the industry. In both the headquarters and the field locations they all worked together for the combined interest of the Army and the Navy, and were, essentially, one expediting agency.

Do you happen to know, Colonel, if any of the other technical services had any similar cooperative expediting agency?

LIEUT. COLONEL MURRAY:

I do not think there was any central agency, although Air Corps and Bureau of Aeronautics had the ARCO office, which did much the same thing with respect to materials and expediting that you did in ANEPA. I do not think it is true in any other organization I can recall.

A STUDENT:

Now one thing about the ANEPA organization was the fact that the military actually decided the priorities or precedence of various items, based strictly on military necessity in the field. You see, by having a common expediting agency you can go right into any plant and push the material through. If an Army item had high priorities, they had to give way to it. Everybody recognized that. It was decided on a military level first and not on the basis of the availability of raw material. That came along later.

LIEUT. COLONEL MURRAY:

That procedure was also used in Signal Corps procurement, which involved a tremendous number of components that could be used in a great many end-items. So, therefore, the end items had to have precedence to effect the proper distribution of scheduling.

A STUDENT:

I wonder, did you have a common purchasing agent for anything? For instance, it comes to my mind I never got orders twice for evaporators from the same office or person. Sometimes they would come from New York and sometimes they would come from right here, locally. I never knew who was going to call up next. No one ever knew who actually represented the Army. The last order I can recall is one from your people for a hundred evaporators. They never picked them up and I still have them.

Then there were some ice-machines. You talk about your office going to expedite-- for whom? MacArthur, for instance, wanted six barges of ice machines--concrete barges. You may have heard of them.

LIEUT. COLONEL MURRAY:

Yes, we have.

A STUDENT:

Well, we expedited those ice machines, and did so without any orders. We did a lot of things like that for the Army and the Maritime Commission. We would expedite for each other, and although we never, to the best of my knowledge, had any orders from York and some of the other big companies, we did help out when we could, although that was a tough item for all of us.

LIEUT. COLONEL MURRAY:

I do not mean to say we did not cooperate and coordinate because I think we often did, but we were forced to it. I think that by planning ahead of time many of the things we were forced to do could be done better.

A STUDENT:

Well, one of the problems, as I see it, is the same system that operates in the procurement of small arms. They all accepted the same standard item. One of the services bought it for everybody, when you had two or three plants and two or three sources of contracts.

LIEUT. COLONEL MURRAY:

That is all true, but you cannot convince the development fellows that any two items are identical.

A STUDENT:

The question raised by Colonel Fairchild is the semi-official basis of procedure so far as airplanes is concerned. In every single one of our six procurement districts we had Navy officers detailed on the expediting of airplane parts. We did all of the expediting. They simply sat in the office, got the information from their plants, and we expedited it for them.

LIEUT. COLONEL MURRAY:

Irrespective of whether the Army or Navy needed them?

(No response)

A STUDENT:

I have a question as to just how the War Production Board functioned with ASE, and so forth. Some of the WPB historical reports indicate that they went down into the individual plants and called in the managers of the various plants and talked it over with them.

I wonder, could you say a little something on that?

LIEUT. COLONEL MURRAY:

The way WPB worked was simply this: We in the Army scheduled the items, generally. But the scheduling of a lot of the components was done directly by WPB. Engines and scarce and critical components were actual schedules by WPB. They had the order boards of the facilities brought in periodically and actually told them specifically what they were going to build. They always did that after consultation with the personnel from the Navy bureaus and from our Production Division branches, who were located right in the War Production Board.

Now WPB did this scheduling after listening to the different claimant agencies as to what they needed and how badly they needed it. So the scheduling by WPB extended pretty widely and consequently affected us very materially. As I have said, the trouble with this scheduling is that, although there was a central agency to schedule it if the Army and Navy and Air Forces did not agree, obviously we had to have someone in WPB designated to do it.

A STUDENT:

What is the thinking in your own office at this time relative to designating certain facilities as job-shop producers for certain items? What I have in mind is picking some organization who is long in know-how--right on down to its setup people--with the idea of throwing your changes in requirements pretty much into that one plant, thereby concentrating them in that one plant for a number of items, and having personnel capable of being shifted from one job to another. In other words, pretty much centralizing them and making them, say, specialists in requirements, forcing production.

LIEUT. COLONEL MURRAY:

Well, I don't think I would like, personally, offhand, to give you a quick thought on it. It seems to me this-- for instance, say we are building tanks- I would always depend on what item we are talking about. You always get costs down to a meticulous or specific item. In tanks you have a limited number of facilities. Now you cannot throw all your force into one of them. Maybe you are producing at capacity, or maybe you have some other items you are scheduling to come in. So, generally speaking, I think you are better off to have these fluctuations scattered over a number of facilities than to take them up in just one facility.

A STUDENT:

Colonel, I don't think it works out that way in actual practice. I think the Ordnance Department has tried that. Perhaps there is someone here from Ordnance who might bring us up to date on that.

One of the things you can't sell very well to these people out in the field is first saying that you must have stuff and you must have it else the whole war is lost and then coming out at 2:30 the same day and telling them you don't want it. You can do that just about two or three times and then you are all washed up so far as those people are concerned. I know that.

LIEUT. COLONEL MURRAY:

That is true; yes.

A STUDENT:

Ordnance, I know, has done it in certain plants. Where I saw it, it worked out pretty well.

LIEUT. COLONEL MURRAY: *Directly with the...*

In connection with ammunition, particularly, I can see how it would work out well.

A STUDENT:

In the arsenals it should be done as much as possible. In the arsenals you can do it without any political interference. If you can possibly make adjustments in schedules in the arsenals, you should do it there first; or else you can take the best manufacturers--those who can do it best. In the final analysis, it is really all done by a board.

COLONEL NEIS:

We have had a most interesting discussion. Colonel Murray has provided a questioning period which I think has been very instructive. He has most clearly pointed out to us the inter-relationships of the various activities related to production.

Colonel Murray, I want to thank you very much.

(21 February 1946-200)