COMPUTATION OF MILITARY REQUIREMENTS

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Brigadier General John H. Hinrichs, USA, Chief of Field Service Division, Office of the Chief of Ordnance, was born at Sandy Hook Proving Ground, New Jersey, 10 July 1904. After one year at Pomona College he entered the United States Military Academy and was commissioned a second lieutenant of Field Artillery upon graduation in 1928. General Hinrich's initial assignment was to the Tenth Field Artillery, Fort Lewis, Washington. In 1932 he received a B.S. degree in Mechanical Engineering from M.I.T. He was graduated from the Army Ordnance School in 1933 and transferred to the Ordnance Department in 1935. From 1933 to 1936 he was stationed at Aberdeen Proving Ground, Maryland, as a proof officer on various ordnance projects. After his graduation from the Army Industrial College in 1937, General Hinrichs served at Frankford Arsenal, Philadelphia, for four years. While on this assignment he participated in the design of small arms ammunition plants built just prior to and during World War II. In July 1942 General Hinrichs joined the 14th Armored Division as its ordnance officer. Following this assignment he became executive officer to the chief of the Maintenance Branch, Field Service Division, Office of the Chief of Ordnance. In 1945 he went overseas for two years as deputy ordnance officer for USAFPOA. After graduation from the National War College in 1948, he served for two years with the Joint Logistics Plans Group of the Joint Staff. He then returned to the War College as a member of the faculty where he served until January 1952 when he was assigned to his present position. General Hinrichs has been awarded the Legion of Merit and the Bronze Star Medal. This is his first lecture at the Industrial College.

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COLONEL BARTLETT: Admiral Hague, General Greeley, gentlemen: I would like to set the stage for our lecture today by reminding you of a fact that is so obvious we don't sometimes give it its due importance. We all appreciate the vital interest that military personnel have in the subject of requirements. We live with it and work with it everyday of our lives; but I would remind you that in addition the military requirements are of significant importance to all the Federal agencies which have any sort of security responsibility. Finally, because of the high dollar cost, it is a matter of great concern to the general public and, consequently, to the Congress.

In making your general observances in your papers and work, I urge you not to overlook the concern which is shown by other people in military requirements.

Our speaker today has major Army responsibilities at the technical service level in the field of requirements. He is well qualified, by both his previous experience and his current assignment, to discuss the computation of military requirements and the difficulties involved.

In addition, he has the distinction of being a graduate of the Army Industrial College and the National War College and a former member of the faculty of the National War College.

It is a pleasure to introduce Brigadier General John H. Hinrichs, Chief of the Field Service Division, Office of Chief of Ordnance. General Hinrichs.

GENERAL HINRICHS: Admiral Hague, gentlemen: I understand I have some distinguished colleagues who sometimes get mad at me because they or their people and mine are engaged in this battle of requirements. Some of us in the Pentagon, particularly General Cotulla and his Requirements Branch, work almost night and day at this job. I am going to stick pretty close to my text, a practice which I decry, and I hope you will forgive me for doing it.

Under any circumstances, the computation of requirements and the general business of computing requirements with respect to budget estimates (many of the things we do) are a nightmare. It involves long hours of nightwork. It is not so much because the theory is bad, or the mechanical computations are bad, or hard to do, but largely because of the shifting ground rules that seem to overtake us, usually, just before we catch

the answer to the first set of ground rules. It's hard to assign any blame for that, and I am not going to do it. It is a fact of life which we in the requirements business live with.

If you will bear with me this morning--because, as Colonel Bartlett said, most of you here, and many not here, who are both military and civilian, are concerned with this requirements business. You will be affected by it one way or another after you go back to work. I am going to try to make this as relatively simple and as logical as the subject permits me; I hope I don't oversimplify it. I hope to show you some of the pitfalls and to be able, during the question period, to give you at least a 500 percent batting average on the questions. That is a rather dubious goal to set for myself.

I have a certain number of convictions in this area and, while I am going to try to be calm and reasonable this morning, I am going to let you see my "crumbling and ugly fangs" on one subject, to start off with, and establish one of my pet peeves, or real beliefs. Actually I think Gertrude Stein could do this part of the lecture better, because she would say, "A requirement is a requirement is a requirement is a requirement," and I would add, "and not another d--- thing." The point I want to make is that a requirement--to us in the Army Technical Service, Navy, AMC, whatever it may be--is what we say we need in order to do an assigned job. It is not dependent on budget; it is not dependent on the political climate; it is not dependent on anything except the troop bases and the mission that we have been given to do.

In the requirements field the same people work at budget estimates that work at requirements. We are constantly under pressure, particularly when we get into the budget area, to say "This is our requirement" when we are putting up a budget story. It is not our requirement; it is our budget estimate. Any of you who have been working in that field, I think, can appreciate what I am speaking about.

Well, with that off my chest, let's see what we do to get some of these requirements. I am speaking in the Ordnance field, but the same principles apply across the board to the other technical services. What we are trying to do is to compute what quantity of the item we want at what period, time phased in the future, in order that we can supply the troops with those things which they need.

In Ordnance our total computations run across the board to about 400,000 items; but the ones we play with most of the time amount to about 900--those being the high dollar value, the critical combat items, and so on. We review those continuously. They are the guns, tanks, trucks, ammunition--things of that nature. The balance of the 400,000, many of them spare parts, are minor items from the standpoint of dollar value. We do from time to time a review in supply control on all of them--at least yearly.

I am going to plunge right into this subject and I am going to use examples which are not specific to any item; and the figures are not specific to any real situation. Therefore, there is no classification on this material.

Chart 1, page 4.--The three fundamental elements which we use in starting off our requirements are shown on this chart at the top in lines A, B, and C; the allowance documents, which are the T/O&E's, the T/A's, and so forth; the logistic policies and priorities manual; and the programs and guidelines.

I am not going into great detail on any of those. Most of you, I think, are quite familiar with them. The tables of organization and equipment (T/O&E's), the tables of allowances (T/A's), and the equipment modification list (EML) are on this chart. They stand for the troop unit, for the installation, that is involved, with what that unit or that station is authorized to have.

We deal with about 2,000 of those documents in our work. Many of them change frequently. They change both as to content and as to format. Basically they are not designed, really, for computation of requirements; they are designed as guides to the man who is in command of such a unit or such an installation for his requisitioning and to tell him what he is authorized to have on hand; but they are discretionary, within limits, in his judgment. They are not precise and accurate documents, such as we would like to have in figuring out specifically our requirements.

Now, let me deal with a few mechanics here. We take those basic documents on lines A and B and convert the information in them to a deck of cards which can be run through the electrical accounting machine (EAM). We try to keep those cards up to date with the changes in the T/O&E's and the T/A's. We use those cards later, as I will bring in.

The logistics policies and priorities form in line B is a rather important document to us. We usually refer to it as the LP&P. It is a formal Army publication, revised two or three times a year. It gives us, among other things, some general and specific guidance in the composition of our requirements. It defines certain areas of requirements. For example, it tells us what will be construed as current requirements, and that the period for which we will figure will be usually two years for our current requirements. It defines what the mobilization requirements will be for the support of a war plan, and it tells us priorities within the program which we must consider in our computations.

The programs and guidelines are essential to our work. These programs set up special projects. They tell us what the Army programs for manpower, organization, and so forth, are and they set up the percentage that the civilian components, for instance, will get as their part of the pie when we buy things. During peacetime, for instance, the National

CHART 1

BASIC COMPUTATION OF THE GROSS REQUIREMENTS BY AREA-FOR EACH ITEM

LINE	BASIC ELEMENT	COMPONENTS OF REQUIREMENTS		AS OF CUT-OFF DATE	CURRENT FISCAL YR. 1ST QTR	CURRENT FISCAL YR. 2 ND QTR	CURRENT FISCAL YR. 3RD QTR	CURRENT FISCAL YR. 4TH QTR	2ND FISCAL YR 1ST HALF	2ND FISCAL YR 2ND HALF	3RD FISCAL YEAR
A.	ALLOWANCE DOCUMENTS T/O & E's, T/A's, EML's										
B.	LOGISTICS POLICIES & PRIORITIES MANUAL	INITIAL ALLOWANCES	EP	56	100	127	127	127	100	100	100
C.	PROGRAMS & GUIDELINES										
D.	REPLACEMENT FACTORS SB9-101 & SB9-107	REPLACEMENT ATTRITION	C	XXX	3	7	11	15	21	27	39
E.	AUTHORIZATIONS FOR LEVELS & PIPELINES(LP&P)	LEVELS & PIPELINES	EP	3	6	8	8	8	6	6	6
F.	PROJECTS	PROJECTS	C	4	4	4	4	4	4	4	4
	TOTAL AREA REQUIREMENT		C	63	113	146	150	154	131	137	149

Guard may be equipped at half its T/O&E, and Organized Reserves at a third--figures of that nature. We also get through those documents our information on the amounts of levels and pipelines that we will be allowed to carry in the ZI, in transit, and in the theaters.

The specific programs or projects, shown in line F, are usually one-shot deals, and very frequently we don't actually compute them; but they are sent down to us to be put into our computations. However, we do get in on the review of those things, or their makeup and totals, mainly from an assistance standpoint in some of the details.

The programs and guidelines, I might mention, are based on decisions which are taken in many instances outside the Army, and, in theory at least, from some decisions of the National Security Council, the Office of the Secretary of Defense, and the Joint Chiefs of Staff. If you haven't already had discussions on that, I know that you will. My impression is that you have already been introduced to the influence those higher bodies have on our computations and our planning.

You have probably noted that in the three fundamental areas, A, B, and C, there are frequent changes and fluctuations in the information contained in them. All these changes affect requirements. There's very little that is stable. So one of our nightmares, as I said earlier, is the constant recomputation, going over the same ground, but with different ground rules.

The basic component of our requirements shown here is the initial allowances. These initial allowances are the authorization for the materiel which the troops may have and, taken across the board, for the entire Army, it amounts to a sizable volume of hard goods, supporting equipment, and parts. The troop program, published annually, gives the data as to how many of these given units are going to have initial allowances.

I have taken here some examples, and I am using this chart as representative of only one area of the worldwide force deployment. I assume that, in this area, at the start of the period that we are computing, on the cutoff date for our study in that area on this equipment, there will be 56 allowed. Using our basic data and our troop program, we go across, quarter by quarter for the current year, and then by half year, and finally by full year, for the computing period. We'll say the troops are augmented sufficiently, so there will be 100; in the next quarter that goes up to 127; then there's redeployment, and troops are taken out of that area; and the final allowance goes back to 100.

I want to discuss very briefly a subject which is a very contentious one, and which maybe some of you people would like to go and study. It's a dilly! It's replacement factors. Replacement factors are now contained in these documents, but most of them are based on World War II experience.

Currently, or up until very recently, however, we were using Korean experience figures in our computations as they applied to that area. But for other areas we are still, in most instances, using World War II replacement factors.

It's obvious, if we have a certain amount of material in an area, that it will wear out, or be lost, or damaged, and therefore we need a flow of material to keep that up to its level. The replacement factors for each different item will vary. In our example here I have used an item which has a replacement factor of .01. Let me go briefly into how we use that.

In the illustration here, obviously, on a given date--the cutoff date, you have no replacement problem; that is past history. But for the succeeding periods you will need to establish attrition or replacements to maintain this level. The first quarter replacement factor, using .01 and looking at the 100 items that we are supplying, comes out to three items for the attrition. That's .01 x 3 x 100. Now, similarly for 127 for the next quarter, we come out here, rounded off, to 7. Actually the figure is 6.7. So on, across the board.

One thing I want to point out here is the column I have labeled EP and the one labeled C. EP is an "end of period" entry. The entry is assumed for the end of the period. C stands for "cumulative," and you will notice as we go across that we continue to build up on up towards the end.

In order to maintain a certain amount of pressure on the flow of supplies, we know that we are going to have to have in our ZI depots a certain number of items; that a certain number will be in transit; and that a certain number will be in the depots and in the backup of the theater. Each technical service is authorized a level of supply in the ZI, a certain amount in transit, and a certain amount overseas. The easiest figures to use in most instances are the relatively close and stable figures of 60, 60, and 60, for a total of 180 days, which constitute this level and pipeline authorization. Those are, again I repeat, expressed in days of replacement, and roughly, in most theaters, and for most areas, it totals 180 days. In our example we are going to use the 180 days, which is attributable to that area, and figure what the factor will be, what the entry will be. I want to point out that this is a one-shot type of deal, and our factor for 180 days makes six months. Using again our .01 replacement factor, we have .01 times that six months, and we had 56 in that initial allowance up here, so, mathematically, we take those together and it comes out an actual figure of 3.36, which we have rounded off in this case, taking the lower side of the break, to 3.

I said that this was attributable to that area; the reason I say that is because all of it is not authorized to be in the area. I repeat, some of it is held in the ZI, some of it is considered to be in transit.

In our next quarter, when our allowance is 100, applying the factor again we get the figure of 6, and so on across the board. That again is an end-of-period, or a one-shot factor. Now, the levels are very important in our supply business, as well as our requirements, because we want to insure that we get a flow of material forward.

The next component we consider here is the projects or special reserves. An area may be given several operational projects, such as a mapping project or a special training project. It is not going to be a continuous deal, but again a one-shot operation. An approved project sets up a certain number of a particular item, based on factors which are developed by G-3 or by the theater commander and furnished us.

For our example here we have assumed that there is one project in the theater and it is authorized four of this particular item. While this line is labeled "cumulative," there are people who care to call it an end-of-the-period factor because it is the same across the line. We call it cumulative, normally, because most of the time there is one project and you do accumulate projects through the period as you go across, adding up the various projects that we have.

In order to find out, then, what our gross requirements for the area are, we add up these totals, come out with these figures, and then, to get the requirements for the whole world, obviously, we add up all the different areas, plus the ZI. Then we have a total worldwide gross requirement for each item. That tells us what we ought to have in the supply system. It doesn't say that we have it, so the next step is to find out what we do have.

In computing what we do have, there's one ground rule which bothers us--me, particularly--in that the ground rule states that no matter where we have an asset, it will be counted as part of our worldwide asset. To illustrate what I am talking about, supposing that we have 155 howitzers in Korea, and supposing that the war plans say that we will not maintain our troops in Korea, but that we probably will fight a delaying action, a defensive action, and that we will eventually try to withdraw from Korea back to the Japanese mainland. Let us also say that possibly the Japanese forces, that is, our forces in Japan, will be reduced by one, two, or three divisions, and be redistributed. I think you will agree that the facts of life are that the chances of taking all those 155 howitzers available back to Japan and then redeploy them around the world on time, are rather remote. The same thing is true of ammunition. If you have thousands of tons of ammunition stored in Korea (and gentlemen, we have) it is a difficult task to move it back to Japan, back to this country, or anywhere else. It is, particularly in time of war, likely to end up being left behind in a hurry to move; but nonetheless, in computing our assets, we are required to consider this as available to the total worldwide stock and not just to that place.

The reporting of these assets which are not in Ordnance hands, except in the ZI, is directed by G-4. The theaters report in their stocks of assets. For purposes of illustration I am going to move to chart 2.

Chart 2, page 9.--We will assume that FECOM is the reporting agency. In the first place FECOM will report what is in the hands of its troops as of the cutoff date, and in this instance it is separate from the Eighth Army report, which is of course part of FECOM, but which is handled as a separate part of the FECOM report. Between AFFE and the Eighth Army, they get the status of the number of items that are in the hands of those troops. Now we also get a status report of what they have in depot stocks of that item overseas, as shown here.

Those reports come in to us, correctly in most instances, but we have some difficulties with their accuracy. We have some difficulty in knowing just what the cutoff dates are. We have some difficulty in knowing whether they have picked up the last three ships that have come in or whether they have not picked them up. In that area these reports have to be tempered with a little judgment and a little seasoning back here in our shop.

Similarly, from EUCOM and all the other outlying areas we get reports of what is available. Those in the hands of troops, as well as in the hands of the ROTC, ORC, and all the other components, are added together to give us the worldwide asset picture.

We have done that here on the chart on the cutoff date, adding 118 for FECOM; 80 for Eighth Army, which includes ROKA, and so on. The overseas stock we add to what we have here in the zone of interior in our own depots and in the hands of our own troops. The total of all those, therefore, shows our existing assets.

We have some potential assets. We have some material, particularly in Ordnance, which is in our hands for rebuilding. We can rebuild a tank or a truck, turn it back in ready for issue, and count it as an asset at some future period. Therefore, in the potential asset area we need to know what our rebuild schedules are. I have shown those in line 6. A rebuild schedule on this particular item occurs throughout our planning period. In addition to that we have the potential of production of this item coming from the manufacturer. That I have shown down here. Adding up this total, and going to the cutoff date and the production across here, gives us our total asset for all areas for this item of general supply.

We have been talking so far of worldwide assets, potential assets, and what our gross requirements are.

Chart 3, page 10.--Now I am going to move to another area and consider it. We will move into the computation of our net requirement for all areas. I have run through that on this chart. You will recall that

REPORTS & CONSOLIDATION OF ASSETS - ALL AREAS - GEN. SUPPLIES

LINE	REPORT	FREQUEY	SCOPE OF ASSETS		AS OF CUT-OFF DATE	CURRENT FISCAL YR. 1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	2ND FIS. YR. 1ST HALF	2ND HALF	3RD FIS.YR.
GROUP I- IN HANDS OF TROOPS												
1	UNIT & INSTALLATION EQUIP. STATUS REPORT (RCS-CSGLD-263)	Q	ACTIVE ARMY, ORC & ROTC. - IN HANDS OF TRPS. ALL AREAS (Z/I & O/S	BP	110							
2	8TH ARMY REPORT (RCS-CSGLD-312)	M	U.S. ARMY, UN, ROKA & A.F. IN HANDS OF TRPS.	BP	80							
3	NATL. GD. STOCK STATUS RPT. (RCS-CSNGB-45)	Q	NATL. GD. - IN HNDS OF TRPS. ALL AREAS	BP	20							
GROUP II - O/S DEPOT STOCK												
4	OVERSEA DEPOT STOCK STATUS REPT. (RCS-CSGLD-279)	Q	OVERSEAS DEPOT STOCK. ALL AREAS	BP	20							
GROUP III - ORD. DEPOT STOCKS & POTENTIAL ASSETS												
5	STOCK STATUS DATA FOR SUPPLY CONTROL CSGLD-28 (R5) 00 FORM 1527	M	TECH. SERV. CONUS DEPOT STOCKS	BP	20							
6	DEPOT MAINTENANCE REPT. DA-778	M	CONUS REBUILD	C	XXX	30	35	35	35	35	35	35
7	ARMY PROGRESS REPT. 9A	M	CONUS PROD'TION	C	XXX	20	40	60	80	115	165	265
TOTAL WORLDWIDE ASSETS				C	250	300	325	345	365	400	450	550
BP = BEGINNING OF PERIOD												

CHART 2

CHART 3

OUTLINE COMPUTATION OF NET REQUIREMENTS
ALL AREAS

LINE	ELEMENT		AS OF CUT-OFF DATE	CURRENT FISCAL YEAR				2ND FIS. YR.		3RD FISCAL YEAR
				1ST QTR	2ND QTR	3RD QTR	4TH QR.	1 ST HALF	2ND HALF	
1	INITIALS	EP	350	375	375	375	400	400	400	400
2	REPLACEMENT	C	XXX	14	32	51	73	118	163	253
3	LEVELS	EP	32	37	37	37	45	45	45	45
4	PROJECTS	C	5	5	5	5	5	5	5	5
5	GROSS PTFMR	C	387	431	449	468	523	568	613	703
6	WORLDWIDE ASSETS	C	250	300	325	345	365	400	450	550
7	PTFMR SUPPLY STATUS (NEG.=SHORTAGE) (LINE 6 MINUS LINE 5)	C	-137	-131	-124	-123	-158	-168	-163	-153
8	MOB. RESERVE MATERIEL REQUIREM'NT	EP	1020	1020	1020	1020	1020	1020	1020	1020
9	OVERALL SUPPLY STATUS	C	-1157	-1151	-1144	-1143	-1178	-1188	-1183	-1173

in computing our requirements we need to know what the initial issues are, what our replacements are going to be, what our levels are, and what our projects are. We have been through those computations on the others very hurriedly and assumed that they are correct. Then we add them up across the board and come up with what is known as the Peacetime Force Mobilization Requirement. We refer to it as PTFMR.

That PTFMR is a very key part of our operation. On chart 2 we figured out what our gross worldwide assets are of the moment, and projected them here. In our business, when we balance off those two items against each other, in most instances it comes out negative. There are in the group here today, however, people who have managed to get us into a supply position where that is positive; so positive that if war was declared today I could support, on certain items, a much bigger mobilization than we have ever had before, if it is a longer war. You may have heard rumblings of that from time to time.

We take our plans here and come out, then, with a shortage; a net position, net requirements for all areas, for the time period we are studying.

Chart 4, page 12.--I am going to go to chart 4 and then back to chart 3, because I want to demonstrate that we are also interested in mobilization. This calculation so far has been based not on mobilization but on current planning data of the peacetime force in being and as projected. Again we go through the same mechanics to deduce our mobilization requirements and what is the key in this, the mobilization reserve requirement. We must for this purpose assume an M-day, and we must assume a certain production potential in many instances. It is very important, however, in our calculations that we assume a specific M-day. Usually M-day is assumed to be at the end of our current peacetime planning period; and in this illustration I have done that.

We step off from M-day, then, and figure, normally, the first four years of war by quarter, or by six-month periods, up to the third year, and then by year. The same elements go into this computation as have gone into the others. Again, we must calculate our initial allowance, and we have done so. Again we must calculate our replacement, as illustrated here. We must estimate other levels and pipelines. We must put in the projects, class IV, as they are sometimes known. They are treated before, on chart 3, under the simple heading of "Projects."

We must know what our gross requirement is. Now, in chart 3 we developed a requirement for the end of the third year, and we have assumed for this purpose that our M-day is at that same period. So our gross requirement we extract from the previous exercises and enter under M-day, chart 4. Then, calculating across the board, we come up with our gross requirements for the various periods.

CHART 4

COMPUTATION OF ARMY GROSS MOBILIZATION REQUIREMENTS AND MOBILIZATION RESERVE REQUIREMENT

LINE	ELEMENT		M-DAY	IST YEAR		2ND YEAR		3RD YR.	4TH YR.
				M+6	M+12	M+18	M+24	M+36	M+48
1	INITIAL ALLOWANCES	EP	400	450	550	900	1600	1650	1650
2	REPLACEMENT	C	XXX	40	90	175	335	665	995
3	LEVELS & PIPELINE	EP	45	55	90	160	165	165	165
4	CLASS IV	EP	0	5	10	15	15	15	15
5	GROSS ARMY MOB. REQUIREMENTS	C	445	550	740	1250	2115	2495	2825
6	GROSS MOB. REQTS. LESS PTFMR (OF 445)	C	XXX	105	295	805	1670	2050	2380
7	POST M-DAY PRODUCTION POTENTIAL-ARMY	C	XXX	75	175	350	650	1450	2250
8	DEFICIT (LINE 6 MINUS LINE 7)		XXX	30	120	455	*1020	600	130

*= P-DAY COLUMN (THE PERIOD OF GREATEST SHORTAGE)

You will recall that we are entering this area with a force in being, and we have figured out what we have on hand for that, and that, therefore, must be considered as a credit--something we already have. We take that item and subtract it from each one of these requirements as we go across, and that gives us our net, here.

Through various and sundry studies of a similar nature, we come up with our production potential, based on mobilization planning for the assumed M-day, on, forward, for this item, and we enter that potential here. Now, in theory, certainly, if we have a production potential, and we have a requirement, and we balance them, we will find what the deficit may be for this period.

In our calculations it is very desirable to know what the worst place will be, and in this illustration you will, again assuming our arithmetic is good, find that in M-day plus 24 period we have a net shortage of 1,020 of this item. That amount of this item, if it were on hand, would satisfy the worst condition we have across the whole planning period. Therefore, that figure becomes extremely important. Incidentally, that particular period is called P-day--the day of maximum procurement requirements--and that item is the mobilization reserve requirement.

Having determined that, which is the worst condition, let's go back to chart 4 and do something with it. Since that's the Mobilization Reserve Materiel Requirement, that's the amount of this item required to satisfy the worst condition. We enter that across the whole period, and we then strike a balance on our overall supply status. I break these two lines as we go across. That gives us our overall supply status. For our illustration again it is negative, but I can tell you there are some things that are really in pretty good shape. Unfortunately, we come up with noncombat items frequently, such as benches and cabinets for shop, trucks, and things like that, which are in my depots a drug on the market. Having gotten that overall supply status, or that requirement, then we must do something about the production end of the business, in order to fill that up and satisfy that requirement.

Incidentally, I would like to go back just a minute and speak about this Army potential here for production. Under the current information--we have a current status of planning--the production pie has not been cut up definitively as among the Army, Navy, and Air Force, and we have gotten no straight guidance in that field. We have gotten guidance, but it has not been definitive. Therefore, in our current requirements work we have to assume how much the Army will get of the particular total available production potential, and we do that by a very simple device. We get figures on the total requirements for the Army, Navy, and Air Force; then we find out what the Army requirements are, take the simple factor and apply that to the production potential which has been developed through mobilization planning. It is not a very accurate factor, but it is the best we can do, at the current writing.

There is another factor that has come into the picture lately, and I think there has been some mention of it in the papers. That's the floating M-day. A floating M-day means, to me at least--and incidentally, I am departing now from straight requirements into budgeting and production--that we are trying to become not quite ready as slowly as possible. (There's a mathematical way of saying that: That is to become horizontally asymptotic, if you can recall the curve.) And, arbitrarily, we have to get the percentage which we will assume is a satisfactory state of readiness; that, in general, is 85 percent. If you ask where that 85 percent came from, I will have to admit it is a matter of judgment. It is like the saying that one of our friends is alleged to have set the 38th parallel. He didn't know why, either.

We have 85 percent as a rough goal. It is tied into our war-readiness productionwise--for maintaining a going base rather than having a cold base and a lot of stuff in storage. There is good reason for it, and I am not too unhappy with it. I will say this--it doesn't make our job easier, because in this production-requirements cycle we keep going back over the same ground, always trying to get it right and not to do it too fast (which is a nice little trick) and it does keep some production going; we don't have the whole industry shut down. I think probably later on you may get some more words of wisdom in that area.

You remember at the first of this talk I stated a strong conviction, that "requirements are requirements and nothing else". However, you know full well that this type of computation and these studies go into budget computations, as we have indicated right along in the procurement studies. The deficit in the mobilization reserve, chart 4, line 8, should be our production schedule, but, because of this "floating M-day" goal today, it is not.

With regard to budgets--a subject with which I am very unhappy!--many things can happen to them. Budgets are in a way like willow trees that shift with the winds, politically or otherwise; but I do object to having someone tell an Army technical service, the Navy, or Air Force that a request for money is a requirement, because it is not!

We had a little flurry around our shop a year or so ago in which I think I got rather violent, unfortunately, but we were trying to make that point stick, not only within the Army, but on up through the Office of the Secretary of Defense and the Bureau of the Budget. It finally got to the point where we were losing ground so rapidly in that area that I got the boys to cut a rubber stamp, which was put on every one of the sheets we sent up for a while. It said, "This is a budget estimate, not a requirement." Well, that got up to about a three-star general before he called me up one day and said, "I admire your spirit, but you can't get away with it." We took the stamp off. We still have it.

When you gentlemen come over to the Pentagon Building or go back to your own bureaus, you might well remember this one point about requirements:

That is, a requirement must be based on a time-phased troop deployment and a war plan which assigns to us a mission. That is our requirement. If we can't have enough money to do it, then we have to go back into the area of capability or feasibility studies and do these computations over in a new light to come up with answers which are new estimates. If we get a new plan from that then we have a new and lower requirement; but if we keep the old plan up there, the requirement is right up there all the time.

I want to tell you one story, by the way, in closing this talk on the requirements business, which reminds me a little of a cross-eyed judge. One day he was holding court, sitting there in back of the bench, and three frowzy prisoners were brought in. They were all corss-eyed, as was the judge. He looked at the first one and asked, "What is your name?" The second one said, "Jones." The judge said, "Shut up; I didn't say anything to you," and the third one said, "I ain't said nothing."

COLONEL BARTLETT: General Hinrich is ready for your questions.

QUESTION: General, I would like your comment on the mobilization production planning program that was put out by the Munitions Board about six or eight months ago. Do you think that was valuable?

GENERAL HINRICHS: Let me start this way. This is going to be a speech in answer to a question, really. Several years ago, when I was on the Joint Logistics Plans Group, it appeared to several of us that one of our difficulties in this entire area of mobilization planning was the fact that we did not have a plan for planning. The secondary consideration there was the fact that the Munitions Board and the National Security Resources Board seemed to have the attitude, with respect to the services, specifically, that "You (the service) tell us what you want, and we will tell you what you can have." Whereas we wanted to get first some idea of what we could have.

This Munitions Board program was in part an answer to that, and as such I think it was a step in the right direction, although it was extremely complicated in application, as we got it. That program was designed, as I see it, to tell the services what they could have, so that they could cut their cake from that one rather than mix up a lot of dough and then throw away the greater part of it.

That Munitions Board program, as I say, was extremely complicated in its application, and I am not sure it accomplished the purpose it set out to do; but at least it was a try, on one hand, for someone to tell the services "You can have so much of the national pie and production. Now, what can you do? How shall your strategic plans be cut to fit the part of the national product that you can count on?"

Does that answer your question?

STUDENT: I was wondering, General, whether you knew what action would be taken by people like ODM as a result of the figures determined by the Army and the others.

GENERAL HINRICHS: I can't answer that specifically, because I don't know. That particular study, as I recall right now, shall I say, has been overtaken by events.

Do you know, Lou? We have an expert here. Maybe he can tell us.

GENERAL COTULLA: I think probably what the questioner had in mind was the mobilization studies, the mobilization requirements, of all three departments; then the check by the Munitions Board as to their feasibility, whether or not the country itself could actually produce the stated requirements, in terms of dollars, of hard goods. That was the old OMP-51 computation chart checked for feasibility, and the Munitions Board came up with the statement that it was not feasible. There has not been any recomputation by us on a revised mobilization plan across the board by all three departments since that time. That was 18 months ago.

I think perhaps that is what you are shooting at. There has been no revision of the mobilization plan, no revision of the computations across the board by all three departments, and no test of their feasibility against the productivity or the production capacity of the country.

QUESTION: General, do you have any recommendations as to how we can ameliorate this lack of stability? How can we reduce that a bit?

GENERAL HINRICHS: Yes, I have some recommendations, but I don't think they will be accepted. The first one is to make up your mind, somebody, somewhere, and then stay with it for three months. The next thing is this--that I think we are actually overdue for a new medium-range plan. For instance, in the light of our experience, going back to your question, on previous feasibility studies, and so forth, as to what we can support in the way of commitments, the key to this deal is planning and having a stable plan, in the light of our national economy, in the light of our political commitments around the world, making up our minds what we are going to do and then staying with it.

We are in an interesting period, from the standpoint of the economy drive of the present Administration. It makes our job tougher, but I can say quite wholeheartedly that I am for it; and I think we can do better in the services--I think we can in the Army, specifically in Ordnance--in our application of the principles we have developed here, and in our supply control and management area. We can get along with less than we used to think we had to have in order to do the job.

I think that the simplification of the ground rules under which we work would help. One of the difficulties we have is in the area of

communications. I think some of us use words one way; other members of the same team and allied teams use them another way. We have that problem very frequently. After three weeks of argument, we finally end up by saying, "Well, that's what I said in the first place." It is a pretty difficult area. We need some more precise definitions in this area. They would be helpful, too.

QUESTION: General, on the subject of "requirements are requirements," it seems to me that the only area in which they can attack you successfully would be in the spares factor or the replacement factor. If you have an initial requirement for an item, for instance, you know what you have in stock and in the pipelines. I am sure all the services are plagued with this problem. Is Ordnance in a position to successfully defend its replacement factors? I would like to get to the bottom of this trouble. If so, how do you manage to do it?

GENERAL HINRICHS: Well, this morning I was running through this exercise on the basis of a major item "a", a tank, a truck, or a howitzer. The spares that go into the maintenance base for a tank are a very tender area. The replacement factors for the tank itself are probably pretty sound. If we accept World War II experience, modified by Korean experience, and some judgment, we can defend reasonably well those major-item factors in the spare-parts area. We have been in the process of trying to justify the factors which go into saying how many of this particular item, this particular spare part, are needed to support a given number of trucks, and the things that enter into that are administrative lead time, procurement lead time, and the distribution of the major items which are being supported in transit time, stock levels overseas, and so on.

In the area of the administrative lead time and in the procurement lead time I think we have made some strides in firming up our factors. It is an area, however, in which there is additional work to do. Administrative lead time can be cut in many fields; production lead time very rarely. One of the areas in which discretion is essential is the quantities necessary, based upon commercial experience versus the quantities considered necessary by the military, based upon military experience. I think we can defend and have defended the statement that production lead time for a key item is a pretty constant figure. There is an area in administrative lead time which can be pulled down.

As to their numbers, the spare parts which are required in a key depot to support the major items in that area again can be argued. In our total quantity buys, we are now on a basis of not being able to order or reorder these until a point is reached which includes three months' stocks on hand within the depot, plus production lead time of six months. That means that every six months we have to review these items and place new orders. Given another hour and one-half, I could demonstrate to you conclusively that, under that system, in certain areas, I would be out of stock, all except one day every three months, when I would have some

stock, but I would be out of stock and in a back-order position all the rest of the time.

There's an area, again, where rules need to be opened up; not have a hard and fast rule across the board, but some discretion, depending on reorder lead time and production time.

Have I answered your question? I am not sure that I did.

STUDENT: Yes, sir, you covered it very well. It seems to me we keep coming back to the point that our trouble in the military is to get the budget people to accept the factors which we say our experience has taught us are right. It seems to be a pinwheel. We are going round and round, and we come back to that. They say "Take the water out." The water factor is in our experience, our computations.

GENERAL HINRICHS: It is a pinwheel. The orbit is becoming smaller, however, and I think we are making a little headway. Now the pendulum has swung over and it has begun to get back to a place where we can live with it. We have two very good areas in which to make it work. In some areas we cannot make it work.

COLONEL BARTLETT: General, when you spoke of World War II experience and Korean experience, it reminded me of your early study dealing with replacement attrition factors. You recommended it to the students as an interesting problem. Do you mean the problem of the Korean experience, where it varies from World War II experience? I wonder if you would be more specific, or give us an example of the field of that problem.

GENERAL HINRICHS: Yes; I just happen to have a paper here. Let me illustrate with four items--the M-1 rifle; the 105 howitzer; the medium tank; and a jeep. Those factors we now have and consider in our studies. Incidentally, the average factor I used in the objective, worldwide, for this particular item, was the average of several area factors; and instead of its being .01 in the first area, it came out to .016 for this computation. Here's the table on four illustrative items in peacetime for training.

The M-1 rifle factor is .001 for the continental United States; for Europe, the same; but for FECOM it is twice that, .002.

The mobilization wartime factor for the same item, for the continental United States is .005. The overseas factor for an inactive theater is .005 and for an active theater it is .09; for Korea it was .04.

The 105 howitzer factor is .001 for training in peacetime, across the board. For wartime, continental United States, it is up to .002 and is the same for an inactive theater. For an active theater it is .03. It matches Korean experience.

The medium tank factor is .001 for continental United States and Europe in peacetime, but in FECOM it is twice as much. For wartime, for the continental United States, it is .005; and the same for an inactive theater. For an active theater it goes up to .110. That's quite a jump. Those are World War II needs. For Korea, the actual experience was .6.

For the jeep we have a factor of .007 for peacetime throughout. For wartime, in the continental United States it is .01; in an inactive theater it is .015; in an active theater it is .03, again matching Korean experience in that instance.

Now, our problem, if we ever had time to do it, would be to get some people off in a room with all the backup data on this subject, people we think could possibly come out with some new geographical area factors and some new across-the-board factors; so that we could then have a reasonable degree of assurance that we are up to the minute on this thing.

QUESTION: General, in computing your total requirements, do you include a requirement for military aid, and if so, particularly in the case of ammunition, do you use your own consumption rates or the NATO consumption rates?

GENERAL HINRICHS: I hoped somebody would ask that question. None of our computations today, for either requirements or budget or anything else, includes anything for NATO. You know and I know we are going to support NATO, but the people who send down the ground rules don't say so. So we have nothing in our computations; outside current MDAP, it is a fact in mobilization that there is not an item, not a nickel, lined up for support of our allies.

STUDENT: On your current MDAP business, do you know when you use the same rates as the others?

GENERAL HINRICHS: In most instances we do know. In some instances we use their consumption rates. It depends on experience in the country and what we think they can do with it. It is pretty much on a by-item basis. Largely, to answer your question, we use our own experience.

QUESTION: You have been speaking to us as an Ordnance officer. Do the other big services employ that same procedure? Is that standard throughout the Defense Department or is that peculiar to the requirements of Ordnance?

GENERAL HINRICHS: No. Certainly, the principles are standard. The application, the mechanics, possibly, of bringing out this information may vary from service to service; but the principles still remain exactly the same. We may use EAM machines; somebody else may use the old steam-driven model by hand; but the principle is the same. General Cotulla would give us h--- if we didn't abide by the principles.

QUESTION: Do you go through this for each of the 400,000 items that need to be computed?

GENERAL HINRICHS: Certainly not every item. Most of our computations are based on the 900 or so major or very important items that constitute the bulk of the program--80 to 90 percent of the program. On the balance, for instance, in Ordnance we have around 1,700 major items that are our stock in trade--so, obviously, the balance of them are nuts and bolts and parts for a big percentage of that 400,000.

STUDENT: Things you can get in a hurry?

GENERAL HINRICHS: Some things we can get in a hurry. There are certain kinds of spare parts we put a lot of attention on, and do study almost invariably. For one of these computations I mention such things as the spare gun tubes or spare recoil mechanisms. Those are spare parts; but there are certain instances where we do study that type of thing each time.

QUESTION: How long does it take you to go through this computation?

GENERAL HINRICHS: Well, it takes about two or three weeks, depending on the speed required. Of course, these things always come up with a deadline of the day before yesterday. During that period, if you put it in man-days, I would be hard put to give you an answer right off the bat. But it will involve in my shop anywhere up to 40 or 50 people working up to 18 hours a day over a period of two or three weeks. It's a tough racket.

QUESTION: How responsive do you think the budget program is, how responsive can we make it, to our war planning threads, there? It seems to me it is not responsive currently and has not been in the past. Do you think we are going to be able to make it responsive?

GENERAL HINRICHS: I think we are making a great amount of progress in that area. The things that are important at the moment, however, still have tremendous effect on our budget, but in many instances not too much relation to the war planning. I think when we come into that area, a great deal depends on the personnel--the specific individuals who have an interest in this business. It takes a lot of stout and prolonged defense to make the point stick that this today is going to be important to us three years from now if war comes. It is a very tough area. I do see some hope in it, however. I agree with you that in the past it has been very hit or miss, mostly miss. I do believe (a) there is developing slowly an appreciation that this planning should not be done in a vacuum and (b) that it should not be forgotten after it is done.

Illustrative of that progress--pardon me for going back to a personal illustration--I mentioned earlier this question of plans for planning. That came up when I was down in the JLPG. I personally worked on that paper for about eight months. It then got started on circulating through

the rest of the Joint Staff. That lasted another six or eight months. About that time I came back over here to the War College on the staff; a year and a half or more later I went back to the Pentagon. The original paper which I had been working on a year and a half or two years before had then finally gone "into the green." That was the "plan for planning," program for planning. Let's see--that was almost two years ago. Maybe now it is beginning to sift out to the service staffs, and maybe in another two years we will get something more concrete. I do have hope, because that paper finally got into the green.

COLONEL BARTLETT: General, on behalf of the Commandant and the staff, I want to compliment you on a marvelous job of explaining your ideas and technique in the field of requirements. Thank you very much, sir.

11 Feb 1954--750)S/fhl