# THE NECESSITY FOR RAPID DETERMINATION OF MATERIAL REQUIREMENTS

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# THE NECESSITY FOR RAPID DETERMINATION OF MATERIAL REQUIREMENTS

4 January 1951

CAPTAIN HARRISON: Gentlemen, this morning we come to the last formal lecture of our requirements course. I am sure that many of you are not quite happy with the determination of requirements process as to methods and speed; and, from what I read in the press, I am sure that other people are not.

Our speaker this morning is interested in this subject. It is of particular interest to him, because he was recently the chairman of a committee that submitted a paper on how to reduce the time between the approval of a JCS plan and the determination of military requirements. As you know, he is Chief, Petroleum Division, Munitions Board. He has had a great deal of logistics experience. It is a great pleasure to welcome back our old friend, Admiral Biggs, who will talk to us on, "The Necessity for Rapid Determination of Material Requirements."

ADMIRAL BIGGS: Gentlemen, before we start on this windstorm, there is one thing I would like to make very clear; that is, I am here this morning in purely a personal capacity. Anything I say should not be taken to be the opinion of the Navy Department, the Munitions Board, the Joint Chiefs of Staff, or even the Petroleum Committee.

Now, if any of you came here of your own volition, which I doubt, expecting to hear some world-shaking, brand-new exposé of the determination of requirements, I advise you very sincerely to make yourself just as comfortable as possible and sleep with the minimum of noise.

It is a "well-known secret" that "the determination of requirements" in the military establishment has been probably one of the most overworked phrases in the whole Department of Defense. Miles of type have been expended on it. Some of our finest columnists and editorial writers have covered acres of space to develop the theme that a large proportion of our troubles, both national and international, can be traced to the lack of a statement of military requirements. There is one great difficulty, as I see it, and that is that none of us use the expression with the same connotation. All of us have a slightly different idea of what we are talking about.

Now, the very much overworked computers of requirements in the Army, Navy, and Air Force have been making the welkin ring for lo, these many moons with these questions: "Requirements for what and for whome? Are we preparing these figures for the Joint Chiefs of Staff, the Munitions Board, the Bureau of the Budget, the National Security Resources Board, the appropriations committees of Congress; or, perchance, does our

Secretary have to make a speech to the Congress of Industrial Organizations or the National Association of Manufacturers? Or is it possible that some long-suffering operational commander is going to have to base some of his decisions on these figures?"

Now, the terrible fact is that the results of these computations may be used for any of those purposes. Does that complicate the matter? It most certainly does.

Some of the things that we would like to know about these figures--and the computer wants to know them too and frequently has great difficulty in finding out--are: First, who wants the answer? Second, what will he do with it when he gets it? Third, what will be the effect upon military readiness in so far as my particular military department is concerned? That is what he wants to know.

I believe all of us are pretty well acquainted with that eternal cry from the front office, "Where are those budget figures?" We have been harassed with those things since time immemorial. It has to be done. It is part of the business. But that particular wolf has camped outside our door so long, beyond the memory of the oldest of us, until we got pretty used to him. In fact, we have practically taken him in as a member of the family. But, like that stray cat we took in some time ago, we now have a whole family of cats or wolves and we have to detail an expert to listen to the various howls and try to identify them.

What has brought this about? The thing that has brought it about is a change in the character of wars per se. You don't just fight a war these days with an army, a navy, or an air force. You have to fight it with all the industrial capacity and with all the human and other kinds of energy that is available to you.

You cannot superimpose your military requirements, even after they are determined, on top of the national economy just as a layer. There is a complicated process of integration that has to be gone through. Unless the integration of your essential civilian requirements and your military requirements is done, you may find yourself at a point where your essential civilian support has collapsed and thereby your military has been rendered practically impotent.

If we consider this concept of total war just a little more, take a quick look, we find many other things. We observe that there are numbers of vital materials which lie outside the United States. In order to get those materials, we must make some sort of arrangement, not only with allied powers, but with associated ones and with these peculiar new ones, the benevolent neutrals. It is going to be extremely difficult, I am afraid, to make that type of arrangement without having a rather

definite idea of what we want; and, furthermore, some sort of a relationship between those vital elements and some determination of their degree of criticality.

We seem also to be getting some notice about this war situation. Heretofore we have been proceeding, I believe, on the concept of an all-out, unexpected, sudden attack. As a result we have been making certain plans and certain assumptions, and those are based upon that philosophy. As a result we have gone through the cycle of a planned infeasibility, and then writing another plan which is worse than the first as to feasibility. However, at the present moment it seems to me that we are given a little more time. Certainly the danger signals are hoisted. Therefore, if we have a little more time, wouldn't it seem appropriate that we get our basic plan lined up, that we present our requirements under that plan, and that then we join with the other agencies of the Government in making the basic decisions? Maybe we haven't enough time, but at least we have more than we had before.

The next question is, In What terms shall these requirements be stated? Here we have to go back to "Who wants the answer, what will he do with it, and what will be the effect of the use of this answer on military readiness?"

There are three very broad classifications under which we can state requirements. The first one is the cost--money. The next one is end items--items ready for military use. The third one is basic materials.

The Bureau of the Budget has been in the dollar business, as I said before, for many moons. So one of the first things it wants to know is, How much does it cost? The formulation of a budget is the basis from which stem tax laws, appropriation laws, and many legislative acts bearing on our national economic health. That is really where it all starts. So the congressional committee wants to know, How much do all these items cost? What are you going to do with these items? and Why, oh why, do they cost so much? Quite properly, those answers have to be furnished.

What are the operational factors in our delivering that answer? If too much emphasis is laid on one item, it is rather obvious that it is going to weaken the others. If you emphasize too much getting airplanes, you may find that you have airplanes and no gasoline to put in them. You can make your own decision under the table, so to speak; but when you present it to the Congress, you have to show the relationships, so that you can get a balanced answer, so that you don't have too much of one thing and not enough of another.

So much for this dollar business. It is obvious that this is one type of answer that could be used for a certain type of activity, but I don't think you would insist that it has unlimited use.

The end item is the next thing, items ready for use by the military services. At one time or another we have all seen Joint Chiefs of Staff plans, and in one section there is usually a set of tabs called "force tabs," I believe. Those force tabs are a statement of the military requirements--one big Army, one big Navy, and one big Air Force. They are very excellent euphemisms for the public speaker who doesn't have to define what he means by "big" and doesn't have to explain what he means by the plans. I am probably the outstanding representative of that animal at the moment. Whether or not I remain in that category in the opinion of a lot of people inevitably doesn't make much difference; but, unfortunately, this statement of requirements does raise a principal question. The question is as to how many tanks, how many airplanes, how many ships.

Now, the Army needs tanks and trucks, the Navy needs ships, and the Air Force needs airplanes; but each one of them needs personnel and more personnel. So there is another type of requirement.

The Joint Chiefs of Staff want to know right away how much equipment it will take to equip this "force tabs" force. The Munitions Board wants to know the requirements for personnel and everything else that goes into this plan. What use can them make of that information? At least the Joint Chiefs of Staff can figure out some time phasing of the military operations which they expect to conduct. The Munitions Board can figure out where the bottlenecks are in the most critical items. That is a concummation devoutly to be wished.

Even if we knew the dollars, the number of types of end items, and some information as to the capacity of the actual production lines for making these things, we still would have a tremendous gap in our answer. Where are the basic materials that go into the steel sheets and the aluminum sheets and what-have-you? Where do we get them?

After two world wars the United States finds itself in the position of having the indigenous supply of a lot of these vital materials reduced. You don't equip armies, navies, and air forces by the mere matter of setting a production goal and then setting up production lines to build the materiel. There was a time when we were in that position. Now we have to plan all the way back to the basic materials, through the end items and the personnel, till we get back to such things as iron ore and bauxite, until the day when that finished item is delivered to a trained man in a unit, and there it becomes a specialized charge against our productive capacity and our sources of energy.

In order to plan for those basic materials, we must have some sort of current estimate of the civil and military requirements. How do you arrive at a current estimate when the national and international picture is changing almost daily? I think you are going to have to do it by a

system of quick approximations for certain purposes. When you get down to the operational level of any particular campaign, that is something else again. But in order to make these approximations what machinery have you?

The Air Force has had under study for a considerable period of time a proposition of the use of factors and multipliers. It takes a large air unit and reduces it to its component parts. I think that is an approach that will yield results. Recently the Signal Corps of the Army got out a very interesting and useful study on electronics from the standpoint of breaking it down to the resistors and what-have-you, and from there to the brass manufacturers and so on. It does it on the basis of money, but it indicates an impact which can be translated into something useful. The Navy has its tables of functional components for advanced bases, its factors for consumption, this and that. Unilaterally we have a lot of information. The boys in the back rooms in the technical services and the bureaus have a lot of tools that they use.

For some reason those tools don't get sold high enough up the echelon, in my opinion. Why don't they? One of the principal reasons, I tnink, is that these same personnel are so busy putting out "current brush fires," to the detriment of the advanced planners. You can't do everything at once. Therefore it would seem that there should be a central office somewhere with separate personnel who can ride herd on these boys and make a continuous study of procedures and make changes where necessary. That might mean 500,000 dollars a year on each study. I don't know whether that is so much or not when we are talking in terms of 50 billion.

The Air Force recently established a directorate in its headquarters to attack this, I think, along those general lines. However, that again is a unilateral activity. The Army and the Navy have organizationally, on the books, a central outfit to take care of this trouble. But I personally doubt that they have the necessary authority to convince the technical services and the bureaus that they should make an effort to make the work easier for these central offices.

In order to start the general melee, I am going to read a small excerpt from a staff group report dated 28 February 1950, which probably most of you have seen.

> "Based upon comments and recommendations obtained recently from the military departments, it appears that the most pronounced and influencing factors bearing directly on the requirements determination problem fall into three main subject areas. Briefly, these three main areas may be described as follows:

"a. Organizational and functional problems: The staff elements of the military departments are organized and operated with predominant emphasis on dealing with current problems even at the expense of essential advance planning. This situation is aggravated further by the dual assignments of operational staff work and planning staff work to the same individual and staff segments. The pressure of current events results in the subordination of systematic and adequate logistic planning in favor of 'current brush fires.'"

* * * *

"b. Planning factors problem: In order to compute quantative requirements for millions or even thousands of items in an expeditious manner, it is necessary that the computation process be reduced to the maximum degree to a factor multiple process. /I might interject here that this factor multiple process is used to a great extent in the three services./ It is by this means that prior experience is injected into the calculation for each item in a systematic manner. There appears to be an acute lack of acceptable joint planning factors /I emphasize the word "joint"/ and requirements tables and a significant lack of such planning data suitable for logistic planning and expeditious requirements computations in the military departments. Short-cut methods for computation of materiel requirements are possible only if the majority of the problem elements /this is the big one/ have been resolved previously and reduced to the form of usable and acceptable factors, tabulations, and numerical relationships."

That is the big job that the directorate that I mentioned in the Air Force is attacking.

"c. Procedure and communications problems: /This isn't radio communications./ In order to develop, in a systematic manner all the many elements of a sound logistic plan and the related requirements computation, it is imperative that clear-cut operating procedures be prescribed and enforced or else the parts of the resulting plan and computation will not mesh in proper relation. Such procedures are not known to exist in adequate form in the Joint Chiefs of Staff, the Munitions Board, or the three military departments at the present time. /That is February 1950 translated to January 1951./ Considerable effort has been applied along this line but no positive planning procedures or planning outline has been evolved to guide the whole mobilization and war planning process for the Department of Defense. A plan developed in many parts, by successive stages of development /that is another quarrel/ and by various organizational entities, must be divided into specific segments of

a pre-determined and pre-scheduled character or else undue delays and complications will arise in the planning and requirements computation process."

There is a high percentage of gobbledegook in there, but I hope there is also a little sense.

There accompanied this discussion a proposal that a central staff agency be established in each of the military departments and one in the Munitions Board, these central staff agencies to be charged primarily with the development of requirements data. That doesn't mean that they would figure "A plus B plus C" for any specific item. This development was to include the development of factors, methods, and procedures for the acceleration of the requirements computation process.

At a much later date the following draft of a letter to the military departments along this line hit the "merry-go-round":

"1. Under present conditions of partial mobilization, the determination of military requirements assumes immediate urgency. /You can read that in the daily papers./ Existing legislation provides authority for necessary controls and other actions to assure the delivery of military items. The delivery of these items, however, must be programmed in a manner which will hold to the minimum the disturbance of our economic stability.

"2. The mere statement of billions of dollars required to carry out the military programs furnishes no real basis for the exercise of controls nor expansion of critical industries. Requirements in dollar value can show only one broad view of possible effect on the national product. The determination of end item requirements (planes, ships, tanks, etc.) is another inadequate measure of the effect of military demands. The translation of end item requirements into basic materials is another partial answer.

"3. All three of the above requirement statements are necessary to the proper functioning of the defense effort. Not only must these statements of military needs be computed but also each military department must make a careful evaluation of the end result of the computation. This evaluation must include a consideration of the factors and methods used in the computation process. The extension of these processes into the field of mobilization and war planning is essential.

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"4. The Munitions Board is charged with the responsibility of 'Assembly and review of material and personnel requirements. . .' In addition, the Board is the claimant agency for the Department of Defense for these requirements. It is essential, therefore, that the Board be furnished not only the statement of requirements in terms of dollars, end items, and basic materials, but also the factors and methods used in the determination and evaluation processes of the military departments.

"5. In order that the necessary requirement information can be furnished the Munitions Board expeditiously, each military department will provide a central staff agency charged with the development and evaluation of requirement data. This staff agency shall be the primary point of contact with the Munitions Board for requirements determination purposes. This staff agency must be clothed with the necessary authority to maintain a systematic review of factors and methods used in developing requirements and the initiation of actions leading to the most rapid possible system of requirements determination."

Gentlemen, I invite you to take it from there.

QUESTION: Admiral, I wonder if you would comment a little bit further in connection with the Signal Corps figure of requirements for components. I have particularly in mind a paper that I have to write here on the subject of determining the requirements of key components for stockpiling purposes.

ADMIRAL BIGGS: The approach that was used in the Signal Corps was that you took an end item, such as a radar set of a certain type, and said, "O.K. I can build one of these for so much money." Then you analyzed that set and said, "O.K. It has three cents worth of resistors per dollar in it. It has so many tubes. Each tube is composed of so much glass and so much filament material, and so forth." That was the approach that was used. It was primarily on a cost basis.

Having determined that you need a certain amount of tungsten for various programs, you take that and match it against your material resources of tungsten, and evaluate the difference between your requirements curve and your availability, and say, "All right. If I stockpile this much out here, I will get over the hump; and in the interim we will develop other methods of producing maybe the tungsten itself or a similar thing."

They have gone through that on the materials end to a great extent. Our materials man made the statement yesterday afternoon that he had these material requirements, but somebody else in the hierarchy said he didn't have the end item requirements. Obviously the question was,

Where in the name of heaven did he get the material requirements if he didn't have the end item ones? He said, "Oh, I just used a multiplier process." That left me flat. I don't know what the multiplier was.

But the basic idea is the need--take airplanes, for instance, which are the big consumer of aluminum--to try to get a picture of how much aluminum would be required to produce a certain number of airplanes. The Aircraft Committee in the Munitions Board has some pretty good information on that. Then take a look at our capability, the pipelines, to produce that basic aluminum. We have to go back and see if we have the bauxite to cook. But from that figure of availability and the actually existing production lines and those that we are building, we try to make our stockpiling wedge look something like that (indicating). That is the approach. Does that answer your question?

QUESTION: That partially answers it, but there is one other question that I want to throw in there. Isn't obsolescence a very great thing in that requirements figure in the electronics field?

ADMIRAL BIGGS: Yes. And it applies to airplanes too.

QUESTION: With the rapid advance of technology is it feasible even to determine requirements for key components?

ADMIRAL BIGGS: I think it is, within limits. And the reason I say "within limits" is this: I don't believe, in spite of the experience and the ability of the people who write Joint Chiefs of Staff plans, that anybody would call it an exact science. It is, we hope, a fairly educated guess. Therefore I do not believe that it is necessary for you to go too far into that detail. I think you can stay on a much broader basis.

Now, as you know, in this electronics business you have certain component parts. A type of rectifier, I believe, used to be about so square (indicating) and now it is about so big (indicating). In fact, we got it down to the point where we can put it in a fuze. However, on the other side of this picture, we have several other components that used to be this square, and now we have to cut out a place so big (indicating) to put it in on board ship. We have had the progress going both ways as to the amount of critical materials that go into them.

I don't believe we can determine our component requirements down to extensive detail, on account of this same obsolescence that you point out. But I do believe that we can establish a target to shoot at.

QUESTION: My question has to do with the accuracy of requirements determination. In any plan, strategic or logistic, there are obviously supporting it many assumptions that are necessary to be made. These assumptions, I presume, take the place of known factors. They cannot be in all cases considered to be too accurate. Possibly a percentage of accuracy might be given. But doesn't the accurate determination of requirements depend on the accuracy of the assumptions? In other words, if you are to assume that these things are 25 percent accurate, aren't we wasting time in attempting to compute requirements down to a thousandth or a hundredth?

ADMIRAL BIGGS: If that is the best assumption we can make, then we have to take it from there. We take as many facts as we know.

For instance, we would assume a certain consumption of fuel for, let us say, a fast carrier task force. I use that example because I know a little something about it. There are several ways that can be approached. We can make a set of assumptions that the force will steam at 16 knots in a relatively quiet sector, that the captain will speed up to 18.5 knots as he gets a little closer to the objective, and the last 12 or 24 hours he will steam at 25 knots. Now, we can take that set of assumptions and develop a rather detailed estimate of how much fuel he will burn. That is one way of doing it. However, on a planning basis I have found from experience that one of the better ways of doing that is to take the amount of fuel that was consumed by a cruiser assigned to a fast carrier task force over a period of 30 days of actual operation, divide it by 30; and from there in that was the magic wand for planning purposed.

I also found that the average speed for a month's operating with a fast carrier task force was 18.2 knots. So, regardless of what the book said about how much fuel that particular type of ship burns, it represented 1,000 barrels a day to me; and it was officially that. That is a different approach. We could have assumed originally that this fellow would average 18 knots, and taken a consumption on the old scale, which probably would have given us an awful beating, because it was based on different things. But, until those historical data are available to you, you must perforce make an assumption of the type you say.

To work Dave over here into this for a minute--he had nothing to do with it, but the man who did it was meteorologist. When we went in the Gilbert Islands in November 1943, I was annoying the meteorologists on how fast the wind blew in the Gilbert Islands, because that had a very great effect on how fast the carrier had to go to get its aircraft in the air. The very best information we could get, using 30 years of statistics, was that the wind averaged between 5 and 7 knots. So, instead of figuring an aircraft carrier at 22 or 24, I had to figure it at 27 to 30.

Well, that wind blew between 10 and 15 knots the whole time we were down there, practically; and everybody made colossal fun of me when we got back to Pearl Harbor because I had 500,000 barrels of fuel left over. Now, there is a typical example of your assumption, but that particular assumption was backed up by 30 years of empirical data.

We will always have those assumptions to cope with. The best thing to do is the same thing I used to tell the Gunnery Department when I was a gunnery officer. They objected because I insisted on their taking two minutes of error out of an elevation receiver. They said, "Several things can happen between here and the target that will vitiate it." I said, "Yes, I know that; but only the Lord can control those, but you can control those two minutes of that elevation receiver." So the best we can do is to take care of those things that we do know about and then make the best educated guess for those that we really don't know.

QUESTION: We have heard much about the deplorable state of our present knowledge of requirements. Sometimes I think it is exaggerated. But in any event, when we get into an all-out war, it seems to me we are going to push the civilian economy to whatever it will bear. The time element is very much a part of requirements. My question is, In what particular respect or what particular phase of our requirements problem would we be better off if we had working today the most perfect system of calculating requirements that any one of us could imagine? Do we know of any particular field where we would be in a much better position today than we really are?

ADMIRAL BIGGS: Well, we could answer one question that has been propounded, Do we have enough synthetic rubber plants? Rubber is one item for which we have very definite essential civil and military requirements. We think we have an approximation on that. Of course, it applies also to the steel industry, because it takes so long to build a steel plant. The lead time in getting production facilities scheduled, when we are being told from some very high places to do it, is one very important item.

QUESTION: Your air of frankness has given me courage to ask a question that I haven't had the courage to ask before. This is on these material assumptions. In your last appearance here and again this morning you said you have to translate all these requirements back to basic materials. That has been my personal life--basic materials. You have made the statement that we should make our best estimate on things we know and our best guess on things that God will take care of. One of the things we are supposed to know is how much raw material we have. We don't know our basic reserves within 35 percent. That is gospel. Where then is the value of estimating end item requirements for various other elements down to decimal points?

ADMIRAL BIGGS: That is what I have been trying to say. I wound up with 500,000 barrels of oil to the good. A gentlemen in the command headquarters said, "That was the lousiest estimate I ever heard of." It so happened that Admiral **Raymond** Spruance was within earshot of that remark and he said, "Look--wait till he is 500 barrels short some time. You won't have to worry about him then. I will take care of him."

It is true that we do not know what our total availability is. I have that same argument in the oil business day after day.

QUESTION: Do you think that 35 percent applies only to the United States?

ADMIRAL BIGGS: No. But the point is that if we can get some sort of measure of this relationship by making assumptions within what we do know--maybe we don't know it within 35 percent--we still don't know which way that 35 percent applies. Is it a guess that we have 35 percent less or that we have 35 percent more?

QUESTION: Either way. That is a 70 percent spread.

ADMIRAL BIGGS: That makes it difficult, because I don't believe we can do anything except to make some assumption as to where that level is.

The other day we wanted to hire a tanker. Yesterday I saw the vice-president of the oil company from whom we hired that tanker. The boys called me and said, "This is a big haul job. What do you think we ought to pay?" I said, "Well, offer him Maritime plus 35. He will offer you 40, and probably you will get the tanker for 37.5."

That was just one of those accidental guesses. We got the tanker for Maritime plus 37.5. There were no empirical data with which to back that up. It was just a pure unadulterated guess as to the way this guy would react. I think it is as intangible as that.

QUESTION: You have given me courage to ask a question and, just within these walls, to make a recommendation. The military forces seem to wield a great deal of weight. In time of emergency they wield almost all the weight. How would it be for the military forces to begin to throw their weight around and demand that we find out what our resources are?

ADMIRAL BIGGS: I think that is being done to some extent. From what I have been through in the last 72 hours, it will be done more so.

What we have done, for instance, in my own particular bailiwick--and I might remind you again that I am completely out of my bailiwick this morning in talking about this particular business--we have required a semiannual estimate from the Military Petroleum Advisory Board (MPAB) of our petroleum reserves. We take the estimates of the MPAB and then those of the Bureau of Mines. We talk to representatives of both the MPAB and the Bureau of Mines at once and attempt to maneuver in the way of "Let you and him fight. All we want to know is the decision." We inject into that as much intelligence data as we can pick up from various places and try to adjust those figures to one that at least we believe. That is our approach.

The Petroleum Administration for Defense is about to receive a blast from me today, if I can get back to my office in time after this assignment, on that same general subject.

I do know that recently Mr. Small, of the Munitions Board, has been building large fires along the line of getting some really usable estimates of what we have to shoot at, so we won't have to go over to them with a set of completely fantastic requirements. That is one thing I know that is being done, and that will be accentuated.

I might remark in passing that a gentleman by the name of Wilson will probably build one very effective conflagration along that line. He is that kind of man.

Strange as it may seem, I made a perfunctory effort at the Naval Academy to teach economics and political science. Why, I shall never know. I came in from the outside and was told, "This is what you are going to do." I think we are in exactly the same position here this morning that I was there. This, of course, is the oldest pedagogic approach known to man. I would get up before the section and make the most radical unsupportable statements that I could think of. If the midshipmen didn't challenge me, I went completely on and on, doing just that. As you fully appreciate, I can talk for hours and say nothing. The situation would eventually develop where somebody in the back row would say, "But, sir, the book says so and so." And then I went through the old familiar drill of taking up the book and saying, "Yes, but you will observe that on the back of the book there is only one man's name. It is only one man's opinion, and I think he is full of the juice of the prune."

The argument started from there. And the reason why I am boring you with this story is that this is what we are doing right now. Half of the section, who were bright enough to know that a textbook wouldn't have been accepted by the academic board unless it had some standing, would take one side of the argument. The other half would take the attitude that if they disagreed with the professor, it was going to be

exceedingly bad. So from there on all I did was to act as referee. As soon as one side got the advantage, I would try to feed the other side a little ammunition. Frankly, gentlemen, that is exactly what I have been trying to do this morning.

QUESTION: How far back along the chain of computations of materials for such a program would a tank order fit into the original computation?

ADMIRAL BIGGS: Of course, I don't know much about tanks; but I have heard it stated that the materials that are required for that tank order are back here about 18 months. I don't know whether that is accurate. There are probably a dozen better-qualified gentlemen in this room to answer that. But that is approximately it, starting from the basic materials. I have no actual figures. I saw some statements the other day, but unfortunately I don't remember them very well.

QUESTION: What do you think is a reasonable time from the time of completion of the strategic plan until the NSRB should know what effect that plan would be likely to have upon the national wealth?

ADMIRAL BIGGS: The very day that plan is approved.

That may bear a little explanation. I say that for this reason--now I am really getting off on a tangent--my contention is that unless the Munitions Board's representatives and the Joint Chiefs of Staff representatives sit down together when the strategic plan is only a twinkle in the JCS eye, we will have lost a year and a half, because there is no such animal, in my opinion, as consecutive planning. I may get shot at sunrise for saying that, but I still believe it most sincerely.

There is a very solid bulkhead between my Requirements Section and my Resources Section, so they won't look over each others' shoulder too much. The Requirements Section in my particular bailiwick spends approximately 60 percent of its time sitting down in the back room with the Joint Logistic Plans group trying to estimate on a bulk basis more or less how much petroleum this particular idea might require. If you follow that through to its logical conclusion, you should have a fairly reasonable concept of your major critical requirements by the time that the JCS put the red stripe on it.

Yesterday I was asked, "What requirements do you have for what plan?" Well, I have several sets, but the best set, I think, is a set of requirements for a plan which the JCS has not yet approved. That is true. The one that has been worked over the hardest and in which personally I have the most faith is attached to a plan which the JCS has not yet put a red stripe on.

I think, of course, that actually all the three services will tell you that the big block of time which is used up between the promulgation of a strategic outline plan and the requirements drill is all of the intermediate plans that are built up within the services before the boy in the back room is asked to figure out how many tanks and personnel will be required to man it. Again, you get pretty much back to waiting for too many details.

CAPTAIN DAVISSON: Admiral Biggs, it is always a pleasure to have you with us, and I assure you that today was no exception. Thank you very much.

(8 Feb 1951--470)S.

Murray