

REQUIREMENTS INFORMATION ESSENTIAL FOR MOBILIZATION
PLANNING AND WARTIME OPERATIONS

7 December 1950

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DR. REICHLLEY: On the subject of requirements we have previously heard from speakers from the Joint Chiefs of Staff, the military departments, and the Munitions Board. This morning we complete the broad picture of the requirements cycle by hearing from the National Security Resources Board. The NSRB occupies a central position in national security planning, particularly so in regard to requirements. The National Security Act of 1947, establishing the NSRB, gave it the function of advising the President concerning coordination of military, industrial, and civilian mobilization. It should be remembered that the NSRB is not an operating agency, but it does wield tremendous power in apportioning the productive capacity among the various claimant agencies.

Our speaker this morning is the Director of the Office of Resources and Requirements; consequently, he can speak with authority on requirements and mobilization planning. It is a pleasure to welcome back to the Industrial College Dr. Glenn E. McLaughlin.

Introduction

DR. McLAUGHLIN: General Holman and gentlemen: It is a pleasure to come back over to the Industrial College and to talk to you again on certain aspects of requirements estimating and on our program-balancing operations.

Last year Mr. Endler of NSRB and I discussed with you the feasibility test we had conducted of a mobilization plan of the Department of Defense. That test was completed in the spring of 1949. This morning I shall deal more generally with the subject of requirements estimating and shall tell you about a new operation in which we are engaged; it should be of great usefulness in the current situation. On the plans and status of the current test of full-scale mobilization, I shall be less detailed, because much of that was discussed last year and you have a record of it.

As you know, Colonel Matthias is not noted for modesty in his suggestions as to the scope of our lecture subjects. Today I am going to outdo him somewhat and add to the rather broad coverage which was suggested. As you know, the topic set was "Requirements Information Essential for Mobilization Planning and Wartime Operations." Broad as that subject is, it doesn't really cover quite the type of work that we are spending most of our time on now, namely, the measurement of the impact on the economy of current programs, that is, the requirements of the programs as now projected. So I shall discuss with you this morning primarily some of the urgent problems we are facing in establishing goals for defense production and for accomplishing the build-up of national strength so clearly called for by recent events.

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Therefore I will cover three kinds of situations: first, the present phase of partial mobilization and preparedness; second, the planning for full mobilization; and, third, at the end, a short discussion of the operations of the wartime economy.

My reason for making this distinction is that the problems inherent in the three situations are different. They require different treatment, have different objectives, utilize different source material, and call for different degrees of detail and precision.

Requirements for economic planning are a measurement of dynamic forces at work. Characteristically, there is great interplay between forces, which involves the analyst in a circular process to some extent. For example, steel production requires coal and transportation; transportation requires coal and steel; coal production requires steel and transportation. You have to break into it some place.

That is a common problem, as you know, in requirements work. It is common to all three of these situations that I mentioned. But the scope and nature of the task, of course, differ.

Programming in the Period of Partial Mobilization

Since Korea the Government has been engaged in accelerated preparedness measures. The passage of the Defense Production Act, and the designation of various agencies to carry out the several parts of the program, with the Chairman of the Resources Board acting as coordinator, has brought forward a need for national production goals toward which all agencies can work. We are now embarked on this task of defining national production goals, with a view to achieving a state of preparedness which can be, if necessary, indefinitely sustained by the economy, and which at the same time will provide a firm base from which full mobilization can speedily build.

We call this operation programming. It is clearly related to the feasibility tests of full mobilization needs, which we discussed last year. There are some major differences, though. For example, at present one of our major areas of investigation is the degree to which new capacity is needed in basic industries, including steel, electric power, aluminum, copper, and so on. We believe that these industries should be expanded as promptly as possible to a size which will be sufficient to take care of the Nation's full preparedness needs, and, more important, its full mobilization needs if war comes. The period of preparedness should see these expansions essentially accomplished. In time of war we may not have time or resources to build up capacity in these basic industries. For the most part, as you know, we have to fight a war with the industrial resources available at the beginning of the war.

In the requirements work now going on, the Resources Board serves as a central coordinating agency. It sets forth the specifications for the type of information it needs and the scope and objectives of the tests to be run. It designates the agencies to perform specific tasks, providing

them with common assumptions and arranging for the orderly consolidation and review of the data. The job is handled by working through various agencies responsible for the development of plans for expansions of capacity and for adjustment of demand to availability. This makes it possible to arrive ultimately at a balanced program designed to meet national objectives.

As an advisory agency to the President, our organizational position in the structure of the Government makes us responsible for the coordination of work in other agencies in this field and carries with it an obligation to draw upon them in every possible way, thereby avoiding unnecessary duplication. With respect to the National Production Authority, for example, its responsibility for defense production, including the distribution of those scarce materials within its responsibility, is clearly set out in the President's Executive order of 9 November 1950, with which I am sure you are familiar. We review the policies which guide NPA in the development of control orders and we are working with it in the development of requirements information and the establishment of a reporting system. We shall not duplicate their operations.

Preparedness Program Operations

With the passage of the Defense Production Act in September, it became evident that coordination would be needed to insure that the operations of the several delegate agencies were pointed toward common goals. The setup, as you know, is somewhat diffused. There are at least four major agencies. It is a much more dispersed setup than we had during World War II. The definition of these goals is the purpose of our programming operation. We are interested in developing balanced preparedness programs which consist of that combination of goods (munitions, industrial facilities, exports, civilian goods) which is considered the most likely to advance national policy and which is at the same time economically feasible. These programs must be measured in relation to the present economic strength of the country as well as in terms of feasible expansion of capacities.

We view the operation as one which needs to be repeated from time to time as the size and make-up of the various security programs change. In other words, we expect to examine the development of programs every few months, or perhaps more often if necessary.

One of the important considerations at the present time is speed. In designating our procedures, we have had to arrange for simultaneous calculations by various agencies of related programs. It probably would be more satisfactory if we could carry out the calculations first and then consider the programs which are derived from them. For example, in considering the expansion of the steel industry, it might be better to arrive at the estimates by waiting until we had a summary of all the industrial needs of the various military, security, and civilian programs. However, we are trying now to set up first approximations of the amount of additional steel capacity that will be needed on the basis of the level of over-all activity. We figure out how far the economy might go, what the

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total output of goods and services might be, and what that would mean in the way of steel capacity. We are using that as a rough approximation in this current go-around. Later on we will adjust the estimates to the nature of the requirements as they come in. We need to do this not only from the aspect of speed but also because of the great complexity of the economy, characterized by the interrelationships between resources.

In approaching the programming question, we decided to view economic activities as both programs and requirements. We ask each agency to state its program, what it is trying to accomplish, and then to estimate for us the demands that those programs place on basic resources. For example, we ask the Department of Agriculture to give us the food production programs, with appropriate explanation and justification of what additional assumptions they may have to make as a basis for estimating the amount of steel, copper, and aluminum to carry out those programs.

We place equal emphasis on programs and on requirements. We want to know what the agency's program is, the wants it is satisfying, and the contribution it makes to the attainment of national objectives. Of course, we want to know that not only for the purpose of the few materials we are analyzing on this particular job, but as the basis for analyzing other resources later on.

When we are all agreed that the program objectives are adequate and proper, we examine the impact on the basic resources. The sum of these demands measured against available supplies gives us an indication of the prospective surpluses or shortages and permits appropriate adjustment of estimates, the development of control measures, and the formation of capacity expansion plans.

We made our assumptions consistent with the national objectives proposed at the level of the National Security Council and adjusted for the size of the various military programs consistent with those national objectives. In order to express these objectives in economic terms, we have estimated the gross national product, that is, the total output of goods and services, beginning with fiscal 1951 and extending through fiscal 1955. These estimates of the national output include the amounts of defense expenditures divided between so-called military hardware, that is, guns, tanks, planes, ships, and so forth, personnel expenditures, and other government expenditures. We made allowances, as I indicated before, for rough estimates of capacity expansion, residential construction, and the continuation of essential public works, the continuance of a certain volume of activity in civilian production. The programs at the present time are not big enough, as you know, to eliminate a lot of our big civilian industries, one example--such as the automobile industry. These calculations have resulted in estimates of consumer expenditures over these years. They provide, in short, common economic assumptions and permit each agency to start on its task from the same base.

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The selection of agencies to participate in this operation is guided by Executive Order 10161, which implements the Defense Production Act. We have received the cooperation of the following agencies: Commerce, Interior, Agriculture, Housing and Home Finance Agency, Defense Transport, ECA, State, Labor; and, of course, on the security programs, the Department of Defense and the Atomic Energy Commission and the security aspects of the Maritime Commission's work.

In selecting the individual programs to be reported we first made the decision that the resources to be covered in this test were carbon steel, alloy steel, copper, aluminum, and manpower. While limiting our calculations to these basic resources, we cut down on the work load; but we expect that we will be able in terms of these resources to obtain reliable indications of the resources-requirements balance in many subsidiary areas. These are key limiting factors. On further study, we may find that tungsten, manganese, or some other material will be more of a limitation. In determining the petroleum program, for example, or the electric power program or the transport program, the delegate agency will necessarily have to make estimates of supply and demand and possible expansion in order to support its program estimates. From the final figures on alloy steels and carbon steel we shall be able to make estimates of demands for many of the subsidiary and related materials, such as manganese, tungsten, and, to some extent, nickel.

In laying out the work with the delegate agencies we have arranged to obtain construction needs for their programs, selected equipment needs, and rough estimates of MRO—supplies for maintenance, repairs, and operation. For construction programs we have asked the agency sponsoring the program to estimate the materials required for these programs. Most of the general industrial equipment needs, however, will be estimated by the Department of Commerce for broad product groups. This helps us speed up the work. For example, pumps and pumping equipment are needed in all the programs—in petroleum, in shipbuilding, and so forth. The estimates of the demand for such will be made by the Department of Commerce on the basis of the general level and nature of the economic activity.

This will make it possible for us to get a quicker estimate than if we asked all the individual agencies to come up with a lot of these detailed common industrial types of equipment. In a few cases, such as the needs of the transport system for locomotives, freight cars, and trucks, the delegate agency will estimate the number of units needed and also translate them into materials. In these cases the agency has the bills of materials. For the most part, however, it will be the Department of Commerce which will translate equipment into materials.

In much the same way the civilian manpower requirements will be computed by the Department of Labor. The military needs for uniformed and civilian personnel will be obtained from the Department of Defense. Then we will put together a manpower picture consistent with the assumptions as to maximum economic activity that we have made and consistent with the military programs.

In making the calculations of programs and of the material requirements for such programs, many estimating techniques will be used. In some cases, as in the case of railroad transportation, there is a historical relationship between over-all economic activity and the size of the program. In this case it is the ton-miles of freight that we are particularly interested in. In other circumstances, program estimates will be based on current levels of consumption projected forward with allowances for the kinds of controls that we have now or that we see in sight in the course of the next few years still assuming no war.

In the translation of programs into materials, use will be made in some instances of bills of materials, although for the most part the translation into materials will be based on experience consumption ratios, either those that applied in World War II or those that applied in civilian industry in the last two years.

One key area which calls for a great deal of work is that of military requirements. Unfortunately, the information now available in the Department of Defense for future time periods is still pretty rough, at least beyond the next two quarters.

In times like these, when conditions change swiftly, and when there are severe limitations on the size of the staff available for requirements work, it is altogether understandable that there should be gaps in the presently available information. I mention it here because many of you on leaving the college will go into the requirements estimating units of your services, and I hope that while you are here at the college you will turn your attention to the problem of how requirements estimating can be speeded up and improved, so that when you go back to your jobs at the Pentagon or in the field you can apply yourselves to the improvement of techniques and the institution of new procedures which will simplify and accelerate the requirements cycle process.

At present the military system is geared extensively to the development of schedules of procurement. This means great detail and a tremendous amount of coverage in terms of items. There is, moreover, an enormous amount of time between the adoption of strategy by the Joint Chiefs of Staff and the development of departmental as well as joint operational plans which serve as the basis for the calculation of departmental materiel requirements.

What we need for purposes of planning is a system which will provide in a short time broad estimates of requirements of munitions, manpower, and materials, estimates which will give the strategic and economic planning agencies a base from which to test the feasibility of their plans. We need a system that is sufficiently flexible so that it can calculate the relative advantages of alternative plans and not be geared to a single set of more or less rigid assumptions. At present it takes so long and costs so much to test the feasibility of a strategic plan that only one plan can really be tested at a time. Moreover, when a verdict is finally reached, it is somewhat academic, because the world has moved in the meantime, new situations have

emerged, and new concepts have become necessary; it is exceedingly difficult to make the allowances and adjustments in the calculations to tailor them to new circumstances.

At present we do have some rough dollar estimates of the 5-year military programs. But these were described recently by a high Pentagon official as a dubious basis for industrial planning. Consequently, we have had to make certain additional assumptions of our own, and they may still be pretty dubious. Although we have these budget estimates from which material requirements have been factored, as we say, worked out by ratios to some previous situation, we do not have the intermediate step of what equipment is needed in these programs and we can't wholly understand how it is possible to get dollar estimates or raw materials estimates without having a pretty adequate estimate of the material requirements base itself, that is, the equipment required.

I might add that the Munitions Board is now initiating a review of military requirements estimating, of the whole process in the Department of Defense, with the aim of finding out how requirements estimates are now being derived, the various procedures, the various allowances, and so forth. The Resources Board is following this review closely. It may not lead to a new system, but it should make it possible for us to understand better what kind of figures we are dealing with, how the estimates are derived, and whether they are consistent with each other.

Returning to the programming operation, the estimates will soon be coming in to us from all the civilian agencies concerned. We shall then consolidate these estimates, check them for internal consistency, and arrive at a balanced set of programs which we will have to discuss again with the agencies, and, if they are adopted, accept them for the time being as national production objectives.

Feasibility Test--Full Mobilization

We are at this time running another feasibility test of war mobilization plans. It is somewhat broader in scope than the test that was run in 1948-1949. Its scope covers manpower, steel, copper, aluminum, lead, and 15 other basic materials, petroleum, a few selected common components, electric power, and transport. Here again, as in the current programming operation, we shall look at both the programs and the requirements of those programs in terms of these materials and resources.

Also, we are preparing detailed assumptions consisting of certain strategic and political assumptions, plus a projection again of the gross national output for the first three years of the assumed war period. We have brought in to assist in the calculation a number of agencies, essentially the same as before--Atomic Energy Commission, Agriculture, Commerce, and Civil Defense; and we are using certain parts of NSRB itself--the Production Office, the Manpower Office, and the Materials Office. It will also include assistance from the Department of the Interior, and basically the Department of Defense.

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In selecting the programs and products for which requirements estimates would be made, we have selected those which in World War II were major consumers of steel, copper, and aluminum, as well as the other materials we have added this time. In preparing for the calculations of product requirements for feasibility testing purposes, we have had to set up a list of individual products groups, which are in wartime the principal users of steel, copper, and aluminum, such as electric motors and generators, containers and nuts, bolts, and rivets for special analysis. The remainder of the requirements for steel, copper, and aluminum are to be estimated on a lump-sum basis.

We shall cover construction and MRO in terms of mill shapes and forms but exclude fabricated products or production machinery or equipment.

Military requirements for the feasibility test are being calculated in accordance with the Munitions Board directive of 25 May 1950, with which you are probably familiar. It calls for estimates of certain major types of military equipment, a limited number of civilian-type items, and for estimates of materials, common components, and manpower. We have received the military manpower estimates and other estimates are scheduled to reach us by the end of the year, although with the new effort in Korea and with the limited amount of personnel available in the services and in the Munitions Board, these estimates may be somewhat delayed.

On the civilian side we have made arrangements with the agencies, but the work may be delayed there too because of the present emphasis on this current programming operation. However, we hope that this second full-mobilization test will be completed early next year.

On the levels of civilian requirements, we are taking, as we did in the last feasibility test, a general level for the initial calculation which will be roughly of the same magnitude as the 1944 civilian consumption. It will probably be somewhat less proportionally than we used before. But it will be adjusted for population increases and for increases in the size of the economy, so that the total allowance for steel, copper, and aluminum may be somewhat greater.

We are not asking the agencies to calculate alternative levels of civilian requirements, including so-called "minimum" levels. We have found that this got us into a lot of arguments that couldn't be settled within the time period of the task. We believe that these lower, more or less "siege levels" of civilian requirements can be estimated later on, if such seems desirable.

Perhaps I ought to digress a moment here and emphasize the basic belief of the Resources Board that effective mobilization planning cannot be approached by setting an arbitrary level of civilian requirements and then assuming that everything else is available to the military, a point that I referred to last year. It is a temptation, I admit, to approach the task in this way; but it overlooks the basic relationship between military and war-supporting civilian requirements. They really go up and down together. Because in time of war, military requirements are the independent

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variable, they are what you start out with. We can't very well start out by making an arbitrary set-aside for civilian needs. Second, the relationship between the military effort and the broad area which we call war-supporting and civilian is so complex and so close that they cannot be handled separately. They have to be handled together. Any major change in military requirements does produce a reaction, sometimes upward, in nonmilitary requirements, and often changes in requirements will directly affect supply. Thus, the nature of requirements to some extent determines the structure of the availabilities, since the production mix will be shifted to meet the requirements as much as possible.

Wartime Operations

In order for the wartime control mechanism to operate effectively, an enormous volume of statistical information must regularly be fed into the control agencies. This includes requirements information regarding future needs and performance data against which to check requirements estimates.

The requirements estimates in time of war are necessarily much more detailed than it is possible or necessary to have for peacetime planning purposes. In wartime the kind of detailed requirements system which the military is currently using is really necessary. It provides the detail on timing, on individual plants, on contractors, the requirements for individual product programs, and it makes available to the control agencies at all levels specific information which is then necessary.

For the civilian requirements in time of war, something approaching the detail of the military estimates may be needed. It will be simplified by the likelihood that many types of consumer durable goods which now raise very formidable statistical problems will simply be prohibited, thereby greatly easing the estimating task.

There is a difficult task now, because the civilian programs continue, while the military programs are large. The decision on how much a civilian industry is squeezed down is a very difficult one to make. And once you set a level for the civilian industry, you have to allow it the copper, the steel, the aluminum, and so forth to carry on. In fact, those needs even have to go ahead of the needs of the stockpile.

The National Production Authority is now giving attention to the initiation of a requirements committee structure, similar to that used in World War II in the War Production Board, that is going to be the basis for materials allocations. The NPA is working hard to get ready to set up, if necessary, something like a CMP, perhaps by the middle of next year. This system should embrace a detailed requirements estimating and review structure comparable in size and detail to that used in World War II. In fact, it may have to cover more materials which are scarce and to some extent are just as important in limiting the size of programs as copper or aluminum.

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On the performance side, a small beginning is now being made in the Plant Operations Report, which has been worked up by an interagency committee, adopted by the NPA, and is being sent out to industry. In that way we will find out what some of these plants are really turning out at the present time. We will have a basis for making adjustments in the civilian program and for tailoring this limited military program to what can most effectively be done in industry without unduly disturbing some of the civilian programs.

Summation

To sum up the requirements estimating process, whether for current needs, full mobilization planning, or in wartime operation, the success of the activity depends in large part upon the validity and timeliness of estimates of resources and requirements. I have talked mainly about requirements, but we have similar problems with respect to the estimates of availabilities of the key resources. That is really just as important, although it is not nearly so tough a problem. For each operation different degrees of detail and coverage are needed, suited to the purposes and the amount of time available to make the calculations, to say nothing of the availability of experience of the staffs employed. And we certainly need a lot more staff on this operation in the Munitions Board and in the services.

I think that we have had a substantial measure of success in the organization and conduct of our studies thus far. We need substantial improvement, and I would stress again improvement in the military area, as an important aspect of it.

I should like to leave with you the thought that a speeding-up of the whole cycle of requirements work and the introduction of simplicity and flexibility into the calculations are important objectives. I don't know whether in the military departments the present system should be supplemented by the creation of special units, using statistical analysis techniques, making these estimates for the Secretary of Defense and the Joint Chiefs of Staff, or whether the present far-flung and somewhat sprawling mechanism can be adapted to serve these special needs as well as its traditional procurement needs. In a world, however, where conditions change as fast as they have in the past ten days, it should be evident that we must be able to appraise in a short period of time the impact and implications of such changes in strategy on production and on the problem of military supply.

QUESTION: You commented that it was not possible in advance to divide either manpower or resources between the military and civilian endeavor. We have been led to believe that an all-out war will tax probably all our capabilities, particularly manpower, and require more than will be available. When the military submits a figure, to which the Munitions Board has added the requirements for producing munitions of war—and we anticipate that this figure will probably be all available able-bodied people—will you then, when you send it back and say that it is too much, say how much too much it is, or will they merely be told that it is too much?

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DR. McLAUGHLIN: Last year, when we finished the feasibility test based on full-war requirements, the demands for labor were too much. Of course, the more men you have in the armed forces, the more equipment you need; and the more equipment you need, the more men are required in the manufacturing of equipment. We pointed out then that we couldn't tell exactly how much military needs for manpower would have to be cut back, because it would depend on the kinds of readjustment the JCS and the services might make in their plans. The nature of these readjustments in turn would determine how much would be needed in the way of manpower and equipment for the revised plans. But we did point out that total manpower requirements were so many million too high, and we made a suggestion that a cut in the military of about so much might bring manpower into balance. But we really couldn't tell. You see, it depends on what kind of equipment you are going to have under the new strategic plan. It makes all the difference in the world whether ships are to be emphasized or not, whether planes are the dominant element, or whether ground army equipment bulk is the largest. You can't draw a dividing line between civilian and military requirements without knowing what the over-all production job is.

QUESTION: Does the NSRB advise the President and government agencies as to what strategic materials should not be shipped to foreign countries? If so, I heard something rather astounding over the radio last night, that I assume is right; that is, en route to Communist China today are five shiploads of tin plate and two ship loads of penicillin. Does the NSRB have any control over that? Does it advise high-level government agencies as to whether that would be advisable or not? Both those items are critical.

DR. McLAUGHLIN: The Government does have control over what is shipped abroad through export controls operated by the Department of Commerce. These controls are pretty effective, but in some cases foreign buyers have found means to circumvent them. As loopholes are discovered the regulations are tightened. Just today, the Department of Commerce issued a stricter order covering transshipments.

QUESTION: In discussing the military requirements you emphasized the need of simplifying and speeding it up. I think I understood you to say that one of the difficulties or deficiencies of these military requirements was the fact that you just did not have the equipment requirements. I wish you would define that. Do you mean plants and machine tools when you say "equipment requirements"?

DR. McLAUGHLIN: No. I really mean military equipment. So much of the work seems to have been done on a kind of budget basis, of setting dollar limits and then translating that into materials. If we could speed up some way the estimating of the military equipment needs consistent with certain force figures and certain strategic plans, then it seems to me we could make quick estimates of the resources--the copper, steel, aluminum, and the industrial labor--that it takes to produce the equipment.

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We shouldn't start out with dollars. Dollars should be the result of the planning. The budget estimates should be the result of a series of steps in the planning process rather than some initial arbitrary figures upon which equipment needs are based. That was the point I was trying to make.

QUESTION: In your manpower estimates do you figure that we will have national service legislation? If you do figure that way, would you care to make any comment as to a military force of 15 million?

DR. McLAUGHLIN: National service legislation is one of the alternatives that have been proposed with respect to full mobilization, that is, with respect to all-out war. So far as I know our staff has not come up yet with final recommendations with respect to manpower, but some method of channeling workers to essential jobs would undoubtedly be necessary. This would involve first the narrowing of the choices open to individual workers.

Now, whether you could support a force of 15 million depends again on the kinds of equipment and the lines of supply that are involved. That big a force might be a little hard to raise and maintain considering the way we equip our forces and the kinds of reserves we set up.

One of the big problems in the mobilization planning task is the question of whether or not there is going to be, as you fellows probably know, a real shipbuilding program, both naval and merchant, but particularly a merchant program. A big merchant shipbuilding program would really take steel, manpower, and transportation; and to some extent it would limit the size of the armed forces that you could get, particularly during the build-up period.

QUESTION: You have indicated that your conclusions are more or less dictated by the assumptions that you make. Would you please elaborate on how you arrive at those assumptions and how they are coordinated with the military departments and other government agencies, as to what effect they have on the final conclusions?

DR. McLAUGHLIN: We use what assumptions we can get. We don't want to create any more assumptions than we have to on the military and political side. We work out with the civilian agencies the necessary collateral economic assumptions, for example, productivity, hours of work, and length of work week.

The basic problems are to get these military assumptions. That in a way is the big task of the National Security Council--to define what the national objectives are and to define the size of the forces needed in any particular area at any particular time to back up that national policy. That is particularly true of this current task, where we have this 5-year build-up of partial mobilization.

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If you are working on a war mobilization plan, then the assumptions are the JCS assumptions. They decide the size and type of forces, the kind of materiel, and the kind of reserves. The JCS assumptions go to the chiefs of staff of the services, and they add further assumptions. The services thus spell out the logistic support needed for operations. It is this process which sets the immediate basis for determination of materiel requirements.

QUESTION: You have posed as one of the key problems the necessity of speeding up our plans and our estimates, and you stress the importance of doing that in terms of equipment. Have you explored thoroughly the possibility of using some perhaps specialized sampling technique to meet the conditions of that problem?

DR. McLAUGHLIN: I think that is an important point. If we could properly select the key types of equipment which each service wants, that should give us some indication of the total requirements. That has been the effort in the services and in the Munitions Board. By and large we have picked such large groups and such large numbers of items that it has again slowed up the whole process. If by selection of typical or more or less representative items there is a good chance of getting quick estimates of military requirements and still reasonably accurate estimates, we ought to go ahead with that suggestion. Here is a field that ought to be pursued further.

QUESTION: Do you know if there are any plans being worked on at the present time regarding a postmobilization period? By that I mean, is any thought being given to demobilization?

DR. McLAUGHLIN: Well, not particularly, except in making the allowances for industrial needs in a period of war. We have assumed here, as before, a 5-year war period. We do allot enough material and equipment and labor to keep the economy going at an efficient rate. We in effect allow maintenance to run down a little, but we don't squeeze industry so hard that at the end of the assumed 5-year period the economy will collapse. We keep it so that, if peace comes, there is a basis for conversion and for maintaining the total output of goods and services at a fairly high level. There is no effort to run the economy down so that you in effect have a postwar depression.

QUESTION: In a seminar the other day it was developed that in the mobilization planning taking place in the military services no allowance was being made for allied requirements or other than the United States requirements. I wonder if the National Security Resources Board is including any estimates of requirements of our allies in mobilization planning.

DR. McLAUGHLIN: We certainly assume in our estimates of availability of copper and aluminum no more than we think we can really get without jeopardizing the reserves of our allies or without promoting a trade war in getting materials. There is a tough problem, for example, with respect to the distribution of Canadian aluminum--where it goes, what it is used

for, and what kind of reserves are to be built up in Canada or in England as compared to the United States.

Just yesterday our government representatives were sitting down with the British and discussing this problem, particularly the question of international allocations of raw materials.

On the requirements side, we do make allowances for United States exports. Military aid to allies is included in the Department of Defense estimates. Nonmilitary lend-lease and commercial exports (and in peacetime, ECA) are estimated by civilian agencies. But the whole, global approach of matching total world requirements and total world supply is not yet in effect.

QUESTION: At the present time production is being controlled through the use of DO priorities and also through limitation orders. You have indicated that probably by the middle of next summer we will go to a sort of CMP system. When that goes into effect, will that be paralleled by a priority system in addition to the direct allocations?

DR. McLAUGHLIN: It may be a continuation of priorities, but soon the production authority will probably have to direct the materials to recognized programs.

One reason we may have to come to that is because of the abuse in the present system and the lack of control of the use of the DO's. The Munitions Board made an estimate for us in respect to one material, as to how much was needed to produce the equipment on the orders that were out and going out in the course of the next few weeks. The amount of DO's that came back around to the suppliers of the metal from the subcontractors was several times the amount of the metal that was needed.

The NPA now is driven into a very difficult situation. It doesn't know whether to believe these DO's or not. So in the case of one of the metals they are about to get out an order to the suppliers to give no more than 50 percent of the metal on any DO outstanding, subject to appeal.

Well, that is unfortunate, because on a critical munitions item which really has to be produced, that kind of order is going to cause confusion. The manufacturer will appeal and may have to come to Washington. Of course, he will get the metal. A direct allocation system, when it can be set up, will be more effective.

QUESTION: In connection with trying to determine requirements we have been told frequently that our requirements exceed our national capabilities. Are we going at it the other way--to prepare information as to what our maximum capabilities will be, so that we can more or less tailor our military requirements within the limitations of what we will practically be able to get and also to have some indication as to the relationship between the increasing uses of the military and the decreasing civilian use? In other words, are we going to turn around and start from what we can get and try to work within that?

DR. McLAUGHLIN: Yes; we are, of course. We are measuring better all along the line what the limits of the economy are. In that last feasibility test we, I think, got the judgment of the various experts around town as to just how much steel could be turned out for a war that was assumed then to start as of the middle of 1949, and the same with respect to aluminum and copper.

We are driving all the time to get more industrial capacity and that does give the military some guide as to the feasibility of a program. The military should no longer have to come up with a program, as it once did two years ago, that called for more steel for direct military use than could be produced in the country as a whole, without leaving anything for railroads and industrial plants.

But that should be only a general limitation. It seems to me it is the responsibility of the military to solve the strategic problems and to indicate what it thinks is needed for the best war plan for a particular situation and leave the economic problems to somebody else. One of the tragedies, it seems to me, of two years ago was that the military finally got itself in the position of trying to adjust its plans to an economic situation. That is outside the scope of the military, and it seems to me it gets out on a limb any time it takes any responsibility for adjusting a strategic plan to economic limitations. Let somebody else take the rap for that.

GENERAL HOJMAN: My question is rather general, Doctor. It seems to me that right now the consumers, military, industrial, and all the rest of us, are probably in what we might call a psychology of plenty. We still think in terms of plentiful supplies, very extensive production potential, and in terms of a wealth of raw materials except in maybe two or three categories, where we realize that there is a pinch and will be a greater one. It seems to me also that at some place along the line we will have to think in terms of the psychology of scarcity.

Now, the question is in making that transfer in the mass of public opinion across the face of the Nation. People who are consumers and people who are producers, if we are going to exert our very best efforts, have to think in terms of conservation and substitutes, before we reach a psychology of scarcity, before we are alert to that situation. What will it take to make that transfer in the public mind? I don't know whether that question even has an answer. We certainly would appreciate any thoughts you might have on it.

DR. McLAUGHLIN: I think the American people are willing to take whatever degree of hardship is necessary to produce equipment and supplies and to furnish manpower, whatever is needed by the strategic plans and concepts that can be effectively supported. It seems to me it is up to the security agencies to get their programs defined and to make it clear that those programs don't hit the resources any harder than they have to; that as we have conservation on the civilian side and also limitation orders, we must have a comparable re-examination of what is needed to turn out military equipment.

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For example, I should think that all the services ought to re-examine their specifications to see whether they really need the material that is called for, whether some of the parts of the equipment can't be completely eliminated. I think it does grave damage to the whole need for the military requirements when cases become known in the civilian economy, known to civilians, of unnecessary use of material by the services, either in terms of designing the equipment or in terms of the reserves of equipment and supply that are kept on hand, or of the nonuse of the equipment, or the continued production of obsolete equipment. There are, as you men must know, some sad stories of the terrific waste of materiel in the last war, not only in the specifications but in the reserves of equipment on hand, in the use of equipment, and in the junking of equipment which was still in good condition. I think the economy can stand whatever it is convinced it has to stand.

QUESTION: In your opinion, Dr. McLaughlin, does NSRB believe that we have good information about our raw material resources? If we need a continued reappraisal of military requirements, how about a continued reappraisal of the raw material base?

DR. McLAUGHLIN: Yes. I think that is a good idea. We do need to study what is available in this country, to re-evaluate, for example, the ore deposits from the standpoint of new techniques and the standpoint of substitutions. A certain amount of that is under way. But it is not so much as it should be, because we may be cut off from a lot of foreign sources. There are, however, many investigations being made now by the Bureau of Mines of mineral reserves that might be pulled into use in time of war. And at the present time there are many of these reserves or mines that are being reopened. We are about to reactivate some high-cost aluminum plants. We are about to reactivate some of the mines in the West that are marginal in production costs. You have a good point.

COMMANDER CARLSON: Dr. McLaughlin, we greatly appreciate your taking the time from a very busy schedule to give us this timely and important contribution in our requirements study. For the Commandant and the faculty and the students I thank you very much.

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