

THE MUNITIONS BOARD

27 October 1948

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THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

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27 October 1948

GENERAL VANAMAN: The Industrial College of the Armed Forces is greatly indebted to our speaker this morning both for his contributions from this platform and for the advice that he has given us on various occasions.

From the lectures you have heard on the Joint Chiefs of Staff and on the National Security Resources Board, together with this lecture you will hear today, you will have an over-all view of the three top agencies in the National Military Establishment that are concerned with the problems of economic mobilization.

As Director of Staff, General Lutes is very well qualified to give you a close-up view of the Munitions Board. I take great pleasure in introducing an outstanding soldier and our friend, Lieutenant General LeRoy Lutes.

GENERAL LUTES: General Vanaman, members of the faculty, and gentlemen: Thank you very much for the privilege of addressing you this morning. It is always a pleasure for me to join with the student body and the faculty of the Industrial College.

The subject of the conference this morning is "The Munitions Board"--what it is, what it is expected to do, how it goes about its business, and a few of the major programs that are now under way.

Generally speaking, the Board has two major tasks: the coordination of the current procurement and distribution plans and programs of the three Departments and the supervision of the military phases of industrial mobilization planning. The monitoring of current plans is a new function of the Munitions Board staff. We did not have that function prior to the Unification Act.

The National Security Act of 1947 established the Joint Chiefs of Staff, the Research and Development Board, the Munitions Board, and the War Council as statutory agencies within the National Military Establishment. These four agencies are under the immediate direction of the Secretary of Defense and are charged with specific statutory responsibilities. Also, they perform such additional staff functions as may be assigned to them by the Secretary of Defense. I would like you to bear that in mind. It is quite a blanket order. It enables the Secretary to pass on to the Munitions Board staff, for example, many management engineering studies pertaining to the three Departments that heretofore have not been the function of any agency.

The War Council considers and makes decisions upon broad military problems and policies referred to it by the Secretary of Defense or brought to its attention by any one of its members.

The Joint Chiefs of Staff are charged with the preparation of strategic plans and the strategic direction of the combined military forces.

The Research and Development Board integrates the research-and-development program of the Military Establishment and advises the Secretary of Defense with respect to the military implications of scientific research.

The Munitions Board is charged with making plans and carrying out measures in support of the strategic and logistic plans prepared by the Joint Chiefs of Staff. It consists of the Chairman, Mr. D. F. Carpenter, of the Remington Arms Company; the Assistant Secretary of the Army, Mr. Gordon Gray; the Under Secretary of the Navy, Mr. John W. Kenney; the Under Secretary of the Air Force, Mr. Arthur S. Barrows; and, of course, the staff working for the Board. It is in this organization that most of the military phases of logistic and economic mobilization planning are performed. Under the National Security Act, the Munitions Board is charged with:

1. Coordinating within the Military Establishment of industrial matters, including procurement, production, and distribution plans;
2. Planning the military aspects of industrial mobilization planning, including the screening and coordination of the requirements of the three Departments;
3. Making recommendations for the assignment of procurement responsibility (that is, who will buy what?);
4. Evaluating of the logistic feasibility of the strategic plans and operations;
5. Determining of priorities for military procurement programs (that is, the priorities between the three Departments, in consonance, of course, with the strategic plan);
6. Recommending measures designed to increase the efficiency of service and supply systems (this function comes under the over-all blanket order I spoke of a while ago); and
7. Supervising of stockpiling operations and the maintenance of reserves.

These responsibilities were further delineated and interpreted by a directive issued by Secretary Forrestal last June. The Board, in addition, as I stated, performs such other duties as the Secretary of Defense may assign to it.

At the present time the Munitions Board staff is composed of eight divisions that deal with procurement, facilities, manpower and utilities, military requirements, materials, foreign trade, and statistics. (Chart--page 19 ). The Chairman, Mr. Carpenter, and members of the Board are assisted by economic, legal, statistical, and industrial advisers. Recently we added a Program Analysis Division for the purpose of coordinating and analyzing the logistic plans and activities of the Board staff. We found this necessary because, frankly, there had been an overlap and duplication of activities between the divisions of the Board staff. The reason I do not show a chart this morning indicating the organization of the Munitions Board staff is that we now have under consideration a reorganization of that staff. Whether it will be reorganized or not, I do not know. I have outlined for you the seven important functions that are performed by the staff. The program Analysis Division coordinates these functions and analyzes, integrates, and correlates various programs. Programs, procedures, and policies are reviewed by the Program Analysis Division with a view to recommending the elimination of unnecessary duplications or the installation of improvements designed to promote either economy or military efficiency.

The National Security Act provides the organizational framework within which the strategic, logistic, and military phases of economic planning for war are performed. Coordination in planning and in formulating policies and procedures is provided through interlocking memberships. In general, the membership consists of the civilian or military chiefs of the next lower echelon or level of the organizational hierarchy. For example, the Secretary of Defense is a member of both the National Security Council and the National Security Resources Board, where the political and economic implications of national security are given careful consideration and are correlated. The military chiefs of the three Armed Forces are members of the Joint Chiefs of Staff and of the War Council, where broad military policy is formulated. This is one interlocking directorate. The Assistant Secretary of the Army and the Under Secretaries of the Air Force and the Navy are members of the Munitions Board. We have an interlocking directorate in the Munitions Board, where logistic plans are compared and coordinated with our industrial and economic capabilities. The membership of the Research and Development Board consists of individuals who represent purchaser and user interests in the National Military Establishment and civilian scientific talent as well. These interlocking

memberships permit full consideration and coordination of the international political, strategic, logistic, economic, and scientific implications of all policies and programs.

Of the organizations I have described, the Joint Chiefs of Staff, the Munitions Board, the logistic groups of the three Departments, and the National Security Resources Board are the agencies most intimately involved in logistic planning and coordination. It must be emphasized that the National Security Resources Board engages in planning for all requirements and coordinates over-all planning for military, industrial, and civilian mobilization. By that I mean the civilian economy versus the military requirements. The Munitions Board, on the other hand, supervises the development of military requirements, which include end-items together with the manpower, facilities, and transportation required in the production of finished munitions.

A specific example may be in order. The National Security Resources Board makes broad allocations of materials and manpower to the National Military Establishment and to other claimant agencies as well; for example, the Atomic Energy Commission, the Maritime Commission, and so forth. On the other hand, the Munitions Board makes allocations of facilities and materials among the Army, Navy, and Air Force and established priorities and schedules governing the procurement programs of these three Departments. Matters pertaining to price control, rationing, wage stabilization, monetary policy, and the utilization of small business fall within the purview of the National Security Resources Board or some other agency that might be established, such as an Office of War Mobilization.

Another example may be useful to you. The Munitions Board is interested in the petroleum products, the iron ore, and the tin available for military programs and makes allocations of these materials among the Army, Navy and Air Force. The National Security Resources Board necessarily makes plans involving the same materials, but it concerns itself with the allocation of the Nation's total supply among several claimant agencies, of which one claimant is the National Military Establishment. I would like to emphasize that, because many of our older officers, who hark back to the days of World War II, recall the Navy, on the one hand, and the Army (including the Air Forces at that time), on the other hand, as separate claimant agencies from WPB fighting for their cut of materials, manpower, and so forth. Now the whole National Military Establishment acts as a single claimant agency.

I have asked the Commandant this morning to distribute a chart entitled "Development of Requirements and the Procurement and Distribution of Munitions." This chart is an attempt on my part to delineate the steps taken in the development of requirements and in procuring and distributing munitions. Please refer to the upper left-hand corner of your chart, where the functions begin. (See chart page 20).

At this point I would like to indicate that, in my opinion, the title of the Munitions Board is a misnomer. When we speak of finished "munitions," we mean finished "end-items for the military forces"--all military items, whether they be shoes, bullets, tanks, or ships. I think the title of the Munitions Board should be changed because it is somewhat confusing and misleading to the general public. Munitions, in the mind of the general public, means ammunition and guns.

Logistic planning is a complicated process. It can, however, be described briefly. As stated before, the Joint Chiefs of Staff is the agency responsible for the development of strategic plans. Of course, it is aided by the Research and Development Board in the development of new weapons. Such plans, to be useful to the logistician, must include a description of the composition of military forces by types; they must indicate their deployment by geographic areas; and they must establish the priority of their utilization. This is simply the military way of describing what is to be done, how it is to be done, in what order and when it is to be done, and who is to do it.

After receiving a strategic plan, the Munitions Board supervises the Army, the Navy, and the Air Force in working out details such as the number of men, ships, planes, guns, tanks, and other supplies and equipment that are necessary to support and carry out the plan. In the Army, this means divisions organized into suitable categories, such as infantry, armored, and airborne divisions, and supporting troops (which breakdown is necessary because each different type of division and supporting troops has different types of equipment), and the provision of adequate training centers (which gives rise to a construction program and the requirements for such a program). For the Navy, we must have the different types of ships (destroyers, submarines, and so forth), planes, naval bases to be constructed or expanded, and the training installations. For the Air Force, we need the same type of information broken down into the different types of airplanes, air bases, and training centers. For all three of the Armed Forces, we must have ammunition, trucks, spare parts, food, clothing, gasoline, oil, housing, and all the common items of supply and equipment.

The total of all these supplies becomes the basis for determining the demands of the three Departments. These demands then must be adjusted to reflect unfilled orders, forecasts of issues, supply pipeline requirements, stock levels to be maintained, replacement requirements (maintenance), and special operational requirements. (By "special operational requirements" we mean such things as pipe-lines for piping oil across to Africa, which we did in World War II; landing craft for special landing operations; refrigerator plants for tropical islands; and distilling plants for water. Operational requirements include the thousands of items that may be needed for special types of operations,

depending upon where the operation is to be conducted and the type of operation.) From the new total obtained by making the adjustments I have mentioned, the three Departments deduct the equipment and supplies they have on hand and ready for issue. This subtotal then becomes our computed requirement for the end-items of munitions that are to be procured by the Armed Forces.

A simple way to remember the Munitions Board plans and programs that will be necessary in case of an emergency is to think of what activities would be required to produce an end-item, such as an airplane, a tank, a submarine, or a truck. What facilities are needed to manufacture an item? That question brings on a facilities allocation program. Somebody must allocate the facilities among the Army, Navy, and Air Force for the manufacture of their items. Machine tools are needed for manufacture. Therefore, we need to allocate machine tools to the facilities. Manpower, electric power, water, housing for the labor, transportation to and from the facilities, and the raw materials to make the items are needed. Security plans to protect the activities are also required. All of these should indicate the nature of the programs that must be prepared and adjusted by the Munitions Board, in consonance, of course, with the strategic plans and priorities and in consonance with the needs of the civilian economy.

The computed requirements for procurement are screened and consolidated by the Munitions Board and translated into requirements for raw materials, fuel and power, tools and equipment, components and subassemblies, and industrial manpower. Normally these would be computed and phased on a quarterly basis and forecast as far in advance as is possible.

The Munitions Board, in collaboration with the National Security Resources Board, at this point, determines economic and industrial feasibility of the strategic plan. For such tests, the Departments compute their needs for certain critical elements of the aggregate requirements: certain classes of manpower, some 250 key items without which war cannot be waged, controlled materials, construction, and petroleum.

At the present time we are engaged in making a feasibility test. We have a strategic concept, as I said, given us by the Joint Chiefs of Staff. The three Departments are now working on a feasibility test. They have selected 250 items--100 in the Army, 100 in the Navy, and 50 in the Air Force--which they consider to be key items without which they cannot fight. These items are now being run through the mill, and we hope, in the first week in December, to present them as an over-all requirement for the Resources Board to determine whether we can get that much from the civilian economy.

Upon the submission of these partial requirements, the Munitions Board, in collaboration with the National Security Resources Board, compares them with estimates of national economic resources in order to determine whether industry is capable of supporting the strategic plan. The test may show the need for adjustments in the original strategic plan furnished by the Joint Chiefs of Staff; in other words, we may have to go back to the Joint Chiefs of Staff and say, "You can't get this much. You will have to compromise and reduce your plan accordingly." It may be necessary to reduce the total computed requirements of any one, two, or all three of the Departments, depending upon the priorities involved. If the plan is found to be feasible, the Munitions Board consolidates and reviews the total requirements lists as fast as they are prepared by the three Services and arranges for necessary adjustments. The over-all plan will eventually cover nine categories established by agreement with the National Security Resources Board. These are manpower, equipment and supplies, construction, materials, production equipment, fuel and electric power, communications, facilities, and transportation.

When completed, the Mobilization Requirements Program is presented to the Secretary of Defense with recommendations for its adoption. The Munitions Board then acts as a claimant agency and requests allocations of materials, facilities, manpower, and the other elements of production from the National Security Resources Board, or from a priority and allocation agency which may be established, such as an Office of War Production.

After such allocations are granted, the Munitions Board will divide the resources assigned for military use among the Army, Navy, and Air Force on the basis of relative military urgency. It will coordinate procurement plans, programs, and policies and will establish the priorities and monitor the schedules for production to see that they are consistent with the revised strategic plan.

At this point, the purchasing agencies of the three Departments develop detailed procurement programs and initiate contracts with manufacturers and suppliers for the production and delivery of end-items. The three Departments, in turn, control the flow of the munitions, or end-items, from industry to ports for overseas shipment or to depots for storage and issue. These distribution systems must conform to the Munitions Board's over-all policies, particularly with regard to stock levels and pipe-line requirements. As supplies and equipment are needed, they are issued to units in training or combat.

This is a brief description and is somewhat oversimplified. The steps do not necessarily follow one another in an orderly procession. They are interrelated, and planning at various stages in the process may

be done simultaneously. Many months are consumed from the time a strategic plan is received, until the Army, Navy, and Air Force have developed detailed procurement programs. To this must be added production lead time and the time required for the distribution of supplies and equipment to units in training or combat.

I always try to emphasize this matter of lead time to the Joint Chiefs of Staff. A short time ago, the Secretary of Defense was kind enough to have a special meeting of the Joint Chiefs of Staff, so that I could outline the same procedures that you have just heard and indicate the number of months involved in planning and making the adjustments. I made every attempt to emphasize the fact that production lead time must be added to this planning time. I hope every student here will be an apostle in impressing this same lesson upon his service and the operational side of the staff with which he may work in the future. This point is a very difficult thing for the logistician to put across to operational staff planners. It is very difficult for them to understand this vital point and to visualize the various steps in the planning process unless they have had the same course of instruction, which, unfortunately, many of them have not had. I think it is most unfortunate that a great many of our key planners in the field of strategy and tactics have not been forced to take a very thorough course in logistics.

As the military planning agency in industrial matters and as claimant agency for facilities, materials, and manpower, the Munitions Board works in close relationship with the National Security Resources Board. The work of the two Boards is interdependent, as you might surmise from the chart I have given you and from my comments, and plans and planning activities must be both consistent and supplementary.

During the past year the Military Establishment has made substantial progress in developing and implementing military and industrial plans. The Key West and Newport agreements have apportioned the major missions and responsibilities among the Army, Navy, and Air Force. In a number of important respects, however, our planning leaves much to be desired. Nevertheless, it has been possible to prepare portions of our logistic and economic plans despite the delay in receiving the strategic guidance essential to the development of realistic, detailed logistic and industrial mobilization plans. These measures are designed to "buy time"; that is, we have perfected plans and carried out measures that will make it possible to mobilize our material and human resources more quickly and effectively in time of an emergency.

We realize that the best way to promote preparedness and have on hand the necessary equipment and supplies for an emergency would be to build up a large, well-balanced stock of munitions. These stocks would have to be constantly supplanted, however, as new and better types are developed and standardized. Limitations upon the defense budget and a very tight economy preclude any such undertaking.

Numerous measures have been carried forward since the war in an effort to "buy time." Methods have been perfected for estimating military requirements, and procedures have been developed for allocating private industrial capacity.

We have published a manual entitled "Mobilization Requirements Program for the National Military Establishment." It provides the detailed procedure for assembling and processing the military requirements that I have just described.

We have initiated a survey of our industrial capacity for war. The survey initially will include approximately 13,600 private industrial plants and eventually will cover between 22,000 and 25,000 plants, or approximately 90 percent of the productive capacity of the United States. Approximately 7,500 separate requests for tentative allocations of private industrial capacity have been received from the three Departments. These are recorded on punch cards. Nearly 14,700 of these requests have already been approved by the Munitions Board.

A manual entitled "Allocation of Private Industrial Capacity for Procurement Planning" has been approved by the Munitions Board and the National Security Resources Board for interim use in allocating industrial capacity. One of the interesting features of the new procedure for the allocation of productive capacity is the designation of an Armed Forces procurement planning officer to handle and coordinate all contacts with private management on mobilization planning matters. I am speaking now of planning and not procurement. The actual procurement will be done by other officers.

Other measures designed to promote rapid and effective mobilization of our industrial and economic resources have been undertaken. These include the maintenance of stand-by manufacturing plants, the maintenance of reserves of machinery, tools, and other industrial equipment, and the stockpiling of strategic and critical materials.

The National Military Establishment has retained a total of 156 complete plants in stand-by capacity. Two hundred and forty-five other plants are protected by the National Security Clause. This clause, as you know, requires the purchaser to maintain the plant in such condition that it can, any time, be converted to war production within 120 days.

The legislation providing for the National Security Clause also enables the National Military Establishment to stockpile machinery, tools, and other industrial equipment. Many machine tools were left over after the war and they normally would have been scrapped or sold. Seventy-seven thousand of these tools have already been withdrawn from surplus stocks and have been placed in government storage. Forty thousand additional tools have been set aside for the reserve and are now being acquired by the three Departments. After reviewing requirements, the Munitions Board was authorized to increase the reserve to a total of 182,000 items. Under Public Law 883, enacted last year, a National Industrial Equipment Reserve of 50,000 items of metal-work-machinery and other equipment has been authorized. Approximately 6,700 items of this group have already been selected for this reserve, and approximately 2,000 have been actually shipped.

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Admittedly, the United States is abundantly endowed with natural resources. Nevertheless, a great number of materials were in short supply during the last war. It will be vital for us to have an ample stock pile of these strategic and critical materials available in any future emergency. Because we must obtain these items from abroad, and because our lines of supply may be cut in wartime or deliveries delayed, it is mandatory that we stock pile these materials in time of peace. Our present program for stock piling these materials calls for an expenditure of slightly over 3 billion dollars over a five-year period. Our most recent figures indicate that 635 million dollars worth of materials have been acquired and that an additional 377 million dollars worth are due against commitments and from surplus. This accounts for slightly more than 21 percent of our total objective. Physical stocks and commitments due continue to be badly out of balance, but the situation is gradually improving. This stock pile of materials, we are convinced, is a very important investment in our future security.

The Aircraft Program is one of the programs that illustrates the difference between long-range and current programs in the field of military requirements or military procurement. (You will recall that I stated one of the differences between the old Munitions Board and the new is that now, in addition to its other new functions, we have the function of monitoring current procurement programs. The Aircraft Program is one of these major programs. As additional, current operational programs are entered upon, this complex of short- and long-term planning will increase in difficulty. For example, it is very evident that an Aircraft Program, although it is a current program now, will eventually be welded into a strategic plan later if we should have an emergency. Because of the expanding national defense program, the Munitions Board established an Aircraft Committee; its functions are similar, in general, to those of the Joint Aircraft Committee that functioned during the past war. This committee coordinates the aircraft production programs of the three Departments and the requirements generated by those programs. The committee has reported to the Secretary of Defense, through the Chairman of the Munitions Board, respecting the industrial impact of the initial combined aircraft program, having taken into such matters as manpower, machine tools, components, and material requirements into consideration. Working schedules covering a two-year period and planning schedules covering a five-year period were developed for the combined aircraft production program. An Aircraft Scheduling Unit (a joint unit) has been established at Wright Field as an agency of the Aircraft Committee. This unit is staffed by Air Force and Navy personnel and assists the committee in the scheduling of critical components and materials and in the eliminating of production bottlenecks. The Aircraft Committee has prepared an analysis of current and planned aircraft production programs in terms of their effect on the broadening of the mobilization base and the improving of the health of the aircraft industry.

Recently a Munitions Board Cataloging Agency was established. This agency will formulate rules for naming and describing items. It will develop a system of item identification numbers and will provide a commodity classification system suitable for supply management. The new Cataloging Agency will formulate policies and procedures governing joint operations and the coordination with the Federal Cataloging System. The joint catalog, when

completed, will provide uniform or single descriptions of all common items and a common number for each. This means that all the Navy, Army, and Air Force will use the same number in identifying a cataloged item that is common to the three Services. Obviously, this will provide an important tool for coordinating the procurement and distribution of supplies.

Some of our planning is now being implemented. The coordination of procurement and the promulgation of new procurement regulations are two examples.

Three forms of procurement coordination are recommended by the Joint Munitions Board Procurement Policy Council. They are:

1. Single department purchase, in which one Department buys the total requirements of a particular commodity for all three Departments.
2. Joint purchase, in which a jointly staffed and financial activity buys for the three Departments; and
3. Collaborative purchase, in which the three Departments' buyers are housed in the same or adjacent offices in order to facilitate consultation and free exchange of information.

The purchase of coal by the Bureau of Supplies and Accounts of the Navy and the purchase of food by the Quartermaster General of the Army are examples of single Department procurement. The purchase of medical supplies by the Army and Navy Medical Procurement Office in New York is an example of joint procurement. Collaborative procurement is exemplified in the Army and Navy Purchasing Office in New York City, which buys clothing and textiles. We can say that approximately 75.5 percent of the dollar value of procurement for the next fiscal year will be coordinated. That does not mean it will all be single department purchase.

On 19 May 1948 one of the Procurement Policy Council's projects culminated in the publication of joint procurement regulations based upon the Armed Service Procurement Act of 1947. This legislation assures small business an adequate opportunity to obtain orders and places the Army, Navy, and Air Force on the same basis with respect to procurement. Most important of all, the act permits the three Departments to negotiate contracts for the purchase of supplies, equipment, and services in time of peace. (Note that I said "negotiate" as distinguished from the competitive bids. We did not have that privilege before.) There are 7 exceptions to the general rule requiring advertising. These include contracts under \$1,000, contracts for perishable subsistence, contracts for personal and professional services, contracts for medical supplies, contracts for experimental and research work, contracts for technical or specialized supplies, and contracts for construction work.

Another Munitions Board agency, the Committee on Facilities and Services, is making thorough and objective studies of all military installations and activities in order to bring about the maximum common use of facilities and services. Since its establishment, this committee has developed working procedures and is conducting studies of logistic activities that are considered susceptible of joint, single, or cross operation.

Munitions Board planning has recently been extended to embrace military distribution. This planning is still in the initial study stage. Two objectives will govern our activities in the field of distribution. One is to eliminate duplication and overlapping and to promote cross-servicing among the three Departments. The other is to develop uniform distribution procedures for the Army, Navy, and Air Force within those areas where single, uniform procedures are feasible and desirable, such as stock-control criteria, standard requisitions, and matters of that kind.

The National Military Establishment has been assisted in its planning by industrial advisory committees. The Munitions Board, for example, has been aided by 14 such committees. Over 400 industrialists representative of both large and small firms, have participated as members of committees concerned with aircraft, aluminum, magnesium, copper, steel, rubber, machine tools, shipbuilding, fibers, food, and textiles. Membership now includes processors and fabricators of both basic materials and finished products. These committees have rendered invaluable assistance to the Board by making their time and business experience available to the Military Establishment and by actively participating in the development of industrial mobilization plans. I might say that the manuals I outlined this morning, for the most part, have been sent to over 200 industrialists for comment before publication. They are still considered tentative. Constructive criticism from the students and faculty of this school as well as industry is also welcomed.

The Munitions Board recently published a manual entitled, "A Guide for Joint Industry-Military Procurement Planning", in order to assist industry in its planning. The manual recommends a careful study by industrial management of the actual mobilization problems encountered during World War II. The guide will help companies in determining the products they may be called upon to produce in an emergency. It will assist industries in preparing their own mobilization plans in line with those of the Armed Forces. The second section of the manual contains a check list of subjects that top management is interested in: materials, shipping, personnel, labor resources, employee training, production and production control, plant layout, equipment, maintenance and expansion, research and development, and plant security

and damage control. Lists of materials essential in wartime and of materials in short supply during the last war are included. Lists of military procurement planning offices, their location, and the names of the officers engaged in current procurement activities are also included.

In conclusion, I might say that, although this outline may have seemed long to you, it is really a brief outline of the responsibilities and relationships of the Munitions Board, of the logistic-planning processes, and of the measures we are carrying forward in order to make the most effective use of our resources. Logistic superiority and an economy capable of supporting and maintaining that superiority are essential to national security. I think that is obvious to all of us. You gentlemen will be the logistical leaders of tomorrow. We hope that you will learn the lessons from our mistakes of the past. We count on you to continue and perfect plans to make it possible for the United States to arm quickly and effectively in the event of an emergency. Thank you very much.

QUESTION: General Lutes, I would like to ask a question with reference to underground sites. How extensively do you think we will go underground? If we do go underground, what will we put underground?

GENERAL LUTES: I am not a specialist or expert in that field. I can give you only a general reply. There have been studies made by the Air Force as to what it would like to put underground. There have been studies made by the Corps of Engineers of the Army as to what it would like to put underground. A general study of what should go underground indicates that dispersion may be a better defense than underground construction. For example, it would be better to disperse a critical industry in the vicinity of cities of, say, 50,000 population than to build a large industry underground in a condensed area like Pittsburgh.

In any case, in a democracy, we come up against the question of money. It would bankrupt any democracy to attempt to place underground all industries that should be underground. It would bankrupt a democracy to disperse industry in time of peace, because the government would have to subsidize the dispersion. The money would come out of your pocket and everyone else's pocket in the form of taxes, and the standard of living would have to be reduced. It would be a super-human project that could not be completed in your generation.

However, industry has been asked to consult the Munitions Board and the Resources Board in connection with new construction. In other words, whenever they propose to expand or build a new plant, we think it advisable that they consult with us with respect to the selection of

a desirable location for new construction. Perhaps some day 500 years from now, when we have all new construction, industry will have been properly dispersed. That is beyond my time.

QUESTION: General Lutes, is there any duplication in the effort of the Munitions Board and the Joint Logistics Plans Committee of the Joint Chiefs of Staff?

GENERAL LUTES: I discussed that subject yesterday with General Booth and this morning with a member of the staff of the Secretary of Defense. There should not be--there must not be--any duplication. As I see it, there is no necessity for duplication.

The Logistics Committee of the Joint Chiefs of Staff has all it can do to compute the requirements for the task forces and work them out logistically. For example, if we are to have a large task force in the Mediterranean, logistic requirements for its support must be computed. That is a job for the Logistics Committee. The same would be true for a campaign in Greenland, Iceland, or Alaska. Those are enormous undertakings requiring detailed computations for motor vehicles, petroleum, pipe lines, cargo tonnage, troop tonnage, airlift, and the thousand problems that are involved in such undertakings. The Munitions Board does not intend to go into those matters. That is not our field; it is the Logistics Committee's field.

Now, after they have done that work and have given their logistic guidance to the three Departments (which do the pick-and-shovel work under the monitorship of the Logistics Committee of the Joint Chiefs of Staff) they should develop an over-all program for the Navy, the Army and the Air Force on requirements. We would get, for example, a total truck program that we could compute. That truck program might contain, for operations in the desert, special types of trucks which were indicated originally by the Logistics Committee of the Joint Chiefs of Staff. The Munitions Board would receive this requirement through the Army or through the Navy.

QUESTION: General Lutes, after the requirements for a total number of end-items are determined, what kind of mechanism is there for determining the quantity of raw materials required to make these end-items?

GENERAL LUTES: We are waiting for the Resources Board to give us its help and guidance on that problem. Of course, we have the other federal agencies, such as the Interior Department, the Department of Commerce, and Industry Advisory Committees, that can accurately advise the Munitions Board and the Resources Board with regard to the total

productive capacity of a critical item, such as steel. The three Departments, with the help of industry, can develop criteria that will indicate the amount of raw materials that go into the construction of a gun or the construction of a truck, for example. Industry has such a criteria. After taking such criteria from industry, the Army, the Navy, or the Air Force can translate them into their total requirements for the critical materials. We don't hope to get the requirements for all materials, but we can get requirements for critical materials. The Navy knows, for example, how much steel it will need for the construction of its shipping, and all three of the Services would know their requirements in electronics. The criteria will be obtained from industry.

COLONEL HORNOR: General Lutes, could you give us the progress that is being made in the Integrated Distribution System in the Sixth Army?

GENERAL LUTES: No; I am not in touch with the Army on that test. I am familiar with the purpose of the test because I had something to do with it some time ago. I have not kept in touch with it. In fact, at the moment, I am divorced from all Services.

QUESTION: Could you say, General, that procurement by the three Services is subjected to a large measure of control by the Munitions Board as is the case under the British system, which system is based upon the principle of single-service procurement? I have understood that this is the outstanding difference between our system and yours.

GENERAL LUTES: We are attempting to establish procurement controls, as I indicated, in the three types of procurement that I have outlined this morning: single service, joint, and collaborative. We think single service procurement, by far, will cover most of the field.

The question arises, of course, as to what single service procurement is. In the Aircraft Program--and that is the biggest procurement program we have dollar-wise at the moment--procurement assignment is governed through plant assignment or plant cognizance. In other words, the Navy has cognizance of certain manufacturing plants with which it deals exclusively. If the Air Force wants anything manufactured in those plants, it must buy through Navy. By the same token, the Air Force has cognizance over certain aircraft manufacturing plants, and if the Navy desires any components or any planes of that type, it must buy through the Air Force. In the field of accessories and components for aircraft, the Air Force and the Navy now have a joint committee working on their procurement assignment. They expect to come up with all but about 5 percent of the accessories and components properly assigned to one Service for procurement. We are exercising

control to that extent. We hope that will evolve into a more comprehensive system--you call it "control"; we call it "procurement assignment." We hope it will be more definite as time goes on. It is a new departure for us. It is handled through the Munitions Board. The Procurement Policy Council acts as an ad hoc or subcommittee of the Munitions Board and reports its recommendations to the Board staff, which in turn, reports them to the Board proper.

QUESTION: Sir, has there been any further progress in the matter of logistical divisions, which you mentioned in a previous lecture?

GENERAL LUTES: In the Army?

QUESTIONER: Yes sir; or a counterpart in any Service.

GENERAL LUTES: I understand the Army is still considering the matter, but I don't think there has been anything firmed up on it. As I say, I am pretty well out of contact with the Army at the present time.

QUESTION: General Lutes, in 1946 you stated that the ASF had to do its own strategic planning in an attempt to outguess the Joint Chiefs of Staff.

GENERAL LUTES: We certainly did.

QUESTION: I would like to know if there is anything being done about the coordination of supply with command. By that I mean in a theater we are apt to have our allies in command of a theater as well as an American officer.

GENERAL LUTES: That is a very important subject and one that worries many of us considerably. Right now there are no joint commands in the United States. Maybe I am behind the times. I don't always know just where I stand on some of these things. We have no scheme for the joint command of the zone of the interior. I don't think they have worked up any scheme of joint command overseas. A joint-logistic-supply plan for overseas theaters is one of the most important planning activities that the Military Establishment could engage in. Take petroleum, food, electronics, or any of the common items, for example. If we ever get this common catalog, common identification, a common requisition system, and a common requisition form within a theater, one branch could requisition on another branch depot, regardless of where it is, and get a common item.

QUESTION: General, we have all heard about the "creeping" M-day in World War II and its effects on our mobilization. Can you tell us anything about how they propose to avoid any such thing as that in another emergency?

GENERAL LUTES: As I said this morning, the delivery of a strategic concept was delayed. While waiting it, we have published manuals and have given them to industry in order to gain production lead time. We are organizing industry advisory committees. We are taking all the steps we can take outside of the actual placing of contracts. By that I mean "phantom" orders, orders that will be implemented in time of war. We are taking every step we can take to cut down lead time. Industry has told me that we have already saved a year. I don't know whether that is being optimistic or not. If we have saved three months, we have saved something. Of course, we have a stock pile which is only about 25 percent complete. But I think we are doing everything we can do. The thing we need to do next is to develop plans that are supplementary to the strategic concept, and the actual requirements translated into future order so that industry can be told exactly what it will make and what schedule of production will be required. That is the next and "64" step.

GENERAL VANAMAN: General Lutes, we have imposed upon you. We appreciate your contribution very much. We are in still further debt to you. This conducted tour behind the scenes of the Munitions Board this morning has benefited the students greatly, I am sure, in their over-all concept of the three top agencies. Thank you very much.

GENERAL LUTES: If I have contributed anything at all, it has been a pleasure.

(3 December 1948-- 650)S



## THE INFLUENCE OF ITEM CHARACTERISTICS ON REQUIREMENTS DETERMINATION

1 November 1948

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• THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

MEMORANDUM

TO: SAC, [illegible]

FROM: [illegible]

SUBJECT: [illegible]

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THE INFLUENCE OF ITEM CHARACTERISTICS ON REQUIREMENT DETERMINATION

1 November 1948

DR. REICHLLEY: Gentlemen, this morning we have the first of a series of three lectures on "The Influence of Item Characteristics on Requirements Determinations." Dr. George Steiner will be our speaker.

Dr. Steiner is a University of Illinois man who had the unique experience during the war of serving in both the Army and the Navy. Immediately after the war, he was with the Civilian Production Administration. I am sure Dr. Steiner is well known to you already--although you may not recognize him personally--for he is the editor and a contributor to that book, "The Economic Problems of War," which is one of your major reference tools. At the present time, Dr. Steiner is associate professor of economics at the University of Illinois and in addition acts as consultant to the National Security Resources Board. I take great pleasure in welcoming Dr. Steiner to this platform.

DR. STEINER: Thank you very much. It is indeed a pleasure for me to be here. I feel that Washington is my second home, having been here for about six years. And I feel at home on this platform because I have been here before.

Today I would like to talk about a problem that is not quite so dramatic as some of the elements of war. It is the problem of the relationship between policy and administration. The more I study problems of wartime control and problems of peacetime government control the more I am impressed with the important and strategic role played by administration.

I think I can give you a homely illustration of what I mean. In our household we have a policy that "junior" shall always drink his milk. But "junior" doesn't always drink his milk. There is a problem of administration. There is also a problem of compliance. There is sometimes a very big gap between policy and administration.

In my field of interest, economics, I have detected a very curious trend in our official journal, the "American Economic Review." If you were to review the articles in the "American Economic Review" over the past ten or twelve years, you would find that the economists are very much interested in ideals and in goals which fit into their logical laboratory discipline.

On the other hand, you will find a very interesting drift in the presidential speeches that are given each year before the American Economic Association. You will find, with very few exceptions, that

the presidents of the American Economic Association have been concerned with the problem of administration of economic policy. It is something that I think unfortunately has been passed by or ignored by too many of our members. The problem of administration, in other words, in my opinion is strategic in insuring good policy and in insuring that that policy is carried out.

The topic of this paper is a formidable one. It is basically, "Resources-Requirements Calculations with Emphasis upon Item Characteristics in Requirements Analysis." I think it could be lightened considerably by entitling it, "How to add peaches and bananas in order to get pianos."

From a very broad point of view we all recognize today that the outcome of modern wars rests solidly upon an economic foundation. All nations engaged in war attempt to organize their economic systems in the most effective manner to win the war. That is very much different from the wars of Frederick the Great, for example, who said he did not want his civilians to become involved in war. It is also much different from World War I, as you know. Today, economic, political and social forces are blended into the war effort. Such a requirement creates some of the most difficult problems with which the Nation is ever faced.

It is, however, in the economic--particularly the industrial coordination--problem with which we are engaged today. Fundamentally, what is that problem? I think the problem can be stated simply. It is: "How can a nation achieve that balance between its limited resources and its war demands so as to achieve the maximum productivity from each and every factor of production at its disposal?" Put in another way, it is: "How can the nation squeeze out of its industrial machine the maximum war goods and civilian supporting goods?" Put in yet another way, it is: "How can the nation run its industrial machine 'full blast' without losing a wheel here, dropping a bearing there, or wrecking the engine before the race is won?"

Coming to grips with this problem, it seems to me, involves an elementary understanding of two basic facts. On the one hand, first of all, we know from experience and current studies that in war we shall always have severe limitations in resources. We also know that the extent of the severity will vary from time to time among different resources and within shapes and forms of the same resources. Secondly, on the other hand, we know that requirements for supplies from these limited resources in some areas will be insatiable. In the aggregate, we also know that they will be unlimited. We know, too, that among requirements there will be rapid changes from time to time, depending upon the strategy of war, battle experience, bottlenecks, new technological developments, shifts in labor skills, and morale.

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