THE DEVELOPMENT OF A JOINT LOGISTIC PLAN BY A TECHNICAL SERVICE

29 November 1950

CONTENTS

Publication No. L51-61

INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

Mr. Robert A. Lewis was born in Ramona, South Dakota, 23 October 1891. He was graduated from the University of Pittsburgh in 1915 (B.S. in Railway Mechanical Engineering). He was engaged in manufacturing and business from 1919 to 1933 and from 1936 to 1939 in Birmingham, Alabama. He served with the 305th Engineers, 80th Division in World War I. He was called to active duty from 1933 to 1936 and again in 1940. In May 1942 he was assigned as chief, Material Branch, War Plans Division, Office, Chief of Engineers. In February 1946 he was presented the Legion of Merit for his participation in formulating Engineer Logistic Plans in support of overseas operations. Colonel Lewis reverted to civilian status in May 1947, as chief of Strategic Planning Branch, OCE; his present position is Chief, Military Plans Division, OCE, Department of the Army. He also acts as engineer consultant to Army General Staff agencies on logistic operations and has been a guest speaker at the Engineer School and the Air University.

THE DEVELOPMENT OF A JOINT LOGISTIC PLAN BY A TECHNICAL SERVICE

29 November 1950

COLONEL MATTHIAS: In our course on requirements we will hear this morning what happens in a technical service in logistic planning. We have covered the JCS, the Munitions Board, and the departments. As you go down, things get a little more complicated and more things have to be put together. I have asked our speaker to tell us what he gets from the Department of the Army and what he has to do with it to come up with a completed strategic plan, and what the requirements angles are to that.

Our speaker has been involved in this business to my knowledge since 1942. He won't admit anything before that; so we don't know just what went on before that time. He had to do with planning during the war and after the war. He now heads the Military Plans Division of the Corps of Engineers.

In looking for a speaker to cover the technical service aspects, I selected the Engineers, first, because I know they have the qualifications for that assignment and, second, because of the service responsibility of the Engineers, which cuts across the other services, as well as the technical services within the Army. They have to have many dealings with the Navy and the Air Force before their part of any plan can be completed. Mr. Lewis has attended some of our seminars, but this is the first time we have been able to hear him speak on this platform.

Mr. Lewis, we welcome you back.

MR. LEWIS: Gentlemen, it is indeed a pleasure to address the faculty and students of the Industrial College of the Armed Forces. The published results of your research and deliberations are of great value to all of the armed forces, but particularly to us who are charged with logistic planning.

The development of a logistic plan by a technical service is a cooperative venture. That this venture must be truly cooperative, each planning echelon must operate within a well-defined orbit. Planning staffs must be aggressive, but there is no place therein for the rugged individualist who is capable of making progress only through

tangential motion. This requires that we determine the relationship in planning between a military department and its technical services or comparable bureaus, as well as the interdependence of the technical services or bureaus within a military department, such as the Department of the Army.

Were this a research problem, we would have to delve through stacks of orders and regulations. In a friendly discussion with time limited, we can better consider SOP (standing operating procuedure) on Engineer planning that is commonly accepted and in daily use. We will divide this SOP into three categories: guidance furnished by higher staff agencies, planning data furnished by coordinate staff agencies, and planning practices within the Corps of Engineers of the Army.

We will use charts to guide our further considerations.

Chart 1, page 17, outlines the guidance furnished by departmental planning agencies to staff and command planning agencies coordinate with Army technical services and major commands.

The strategic concept is furnished by the Joint Chiefs of Staff to the Army, the Navy, and the Air Force. Each of these departments draws up an operational plan covering the proposed operations assigned to that department. For purposes of this discussion, we confine ourselves to the Army Operational Plan, which generates on the general staff level.

The G-4, or logistic, annex to the operational plan is the basic planning document for technical service planners. Of the information included therein, the following items are of primary importance to the Engineer planner:

1. Air and Navy data.
2. Phased troop basis.
3. Phased plan of operations.
4. Logistic concepts.
5. Assignment of projects.

The "Air and Navy data" provided in the G-4 annex includes all the information on the Air Operational Plan and the Navy Operational Plan which must be considered in developing our service implementing plans. Information on the Air Plan is particularly important to Army planning, since common supply and common lines of communications within overseas theaters are contemplated for the service support of both Army and Air, with a few exceptions.

The "phased troop basis" outlines the command structure and the combat troop list in sufficient detail to be used as the basis for logistic computations. The service troop basis is included, often only in the form of bulk allotments arrived at through application of general planning factors. The actual service troop list is developed by each technical service from detailed information developed in the logistic plan by each service.

The "phased plan of operations" as submitted is very general in character and includes only that information necessary on troop deployments and combat missions which might affect the type and quantity of service support required.

The item of "logistic concepts" includes G-4 guidance on the overall logistic problem. This item sets forth basic data on days of supply, evacuation policies, refinements of construction, and such other data as are of common interest to two or more services. You might well compare this statement of logistic concepts to the rules of the game in an athletic contest.

Lastly, we have the item of "assignment of projects." The word "project" is like the word "sin;" it covers a multitude of evils. In this case we define a project as a service mission, a logistic mission, which must be performed to support an operating function. Each project must be capable of definitive description so as to permit calculation of the materials and effort necessary to accomplish it. Examples are ports, hospitals, communications, etc., as will be brought out in more detail later in our discussion. These projects include the provision of facilities and the operation of facilities. The assignment of projects referred to is the assignment of planning responsibilities covering provision and operation of facilities. In other words, the planning assignment is an allocation of planning responsibilities covering those aspects of support projects which develop service troop lists and special materials, the quantities of which must be outlined in the logistic plan.

It will be noted that this guidance may be supplied to theater commanders, commanders of Continental Army areas, or to the chiefs of technical services, according to which group or echelon has been given responsibility for developing the logistic plan. Normally the chiefs of technical services do this type of planning, but there are cases in peacetimes when the theater and Continental Army commands are assigned this type of logistic planning.

In times of emergency this type of planning is a function of the chiefs of technical services in their capacities as members of the Army Special Staff. This logistic planning performed by the chiefs of technical services serves three major purposes:

First, each assists in the preparation of the Army Operational Plan by providing technical advice and information on capabilities of service support of the plan.

Second, their combined efforts develop logistic plans and annexes which set out the logistic support which each theater commander may reasonably expect to receive. With these data the theater commander has a firmer basis for his more detailed operational planning.

Finally, these technical service plans provide the basis for long-range supply procurement and for long-range support troop planning. Quite often theater planning staffs have not even been organized by the time this type of information is needed. Even after the theater planning staffs are organized and functioning, it is unusual that time and personnel ceilings will permit the long-range planning required in our type of specialized industrial organizations.

Normally, theater commanders recommend changes in the logistic plan in light of the more detailed information available in the theater and in light of the developing tactical situation. They also develop and submit more detailed theater projects, which become the basis for supply action, but which are too current in concept to appreciably change the procurement objectives for long lead-time supply items.

Of course, Continental Army commanders plan for their part in the support of combat operations, but in some cases they may actually represent a theater command whose planning staff is not prepared to perform all the detailed logistic planning missions of the theater.

As you know, there are five general classes of supplies in the Army. Class I supplies cover subsistence items, class II supplies cover individual and unit equipment, class III covers all types of fuel, and class V supplies cover ammunition. Class IV supplies are those requirements which cannot be covered by standard tables but the quantities of which are so variable that the requirements must be individually estimated. In the Corps of Engineers, class IV items of supply include extra equipment required to perform the Engineer Mission, plus all items attached to real estate.

Chart 2, page 18, shows that the phased troop basis is the principal factor for determining requirements for classes I, II, III, and V. The type of items within those classes may be affected by location of the proposed operations, but the quantities involved are largely determined directly from the phased troop basis.

But class IV requirements are largely affected, both as to type and quantity, by the terrain, climate, and location of the proposed operations in relation to the Continental United States. Even the approaches, through which lines of communication must be established, affect our estimates. More and more must we consider the culture of the combat area, since we must give more and more consideration to how indigenous resources may be utilized and our shipping tonnages may be thereby reduced. We must also include in our deliberations probably enemy actions, acts which will increase the Engineer construction effort.

The Transporation Corps and the Corps of Engineers have the main interest in these imponderables which develop class IV demands. This is brought out forcibly by the normal assignment of projects referred to in our first chart and enumerated in Chart III. Please note the number and type of projects assigned to the Engineers in part or as a whole.

Chart 3, page 19, shows that the Engineers are assigned several projects for which they do not have operating responsibilities. Hospitals are a typical example. It is not contemplated that the Chief of Engineers will encroach on the prerogatives of the Surgeon General. But the Chief of Engineers is responsibile for the planning for the supply of materials and for the construction effort involved in providing these facilities. When the Surgeon General determines his phased facilities requirements, his logistic planning is largely completed. His supply requirements for operation of hospitals are largely fixed by tables of basic allowances regardless of how many times his units are moved. Every change in location presents another problem to the Corps of Engineers.

Chart 4,page 20, outlines our major sources of the following information. We are a service agency for practically all the other technical services, as well as for the combat arms. It is therefore imperative that the Chief of Engineers receive information on what services these, our customers, require.

We must have a Phased Transportation Plan from the Chief of Transportation. The required information includes what ports, rail lines,

roads, and inland waterways are included in his plans. We must know the phased tonnages he expects to transport through or over each of these facilities.

We must have a Phased Depot Plan. This depot plan is compiled by the Quartermaster General as the major storage service and includes the consolidated depot requirements of all technical services. We must know where the depot areas will be located and the space requirements in each area, divided into open storage, covered storage, and refrigerated storage. He also gives us the ice-manufacturing requirements per area.

This depot plan also gives us the petroleum tankage required at ports and at inland points. The Quartermaster General furnishes us with the quantities and types of liquid fuels which must be stored for Army and for Air Force use. He gives the rate of resupply for each location for each fuel as a basis for our pipeline calculations.

We must have a phased hospitalization plan from the Surgeon General, the shop-buildings requirements and the special construction requirements from each of the technical services.

So far we have outlined the type of information we must have from higher staff agencies and from staff agencies on our own level in order to even start the compilation of the Engineer logistic plan. The next question is, What do we do with this information and how do we develop the requirements needed to support our plan?

First, we must get all these demands consolidated within each time phase. A sketch map is made for each phase of the contemplated operation. Each map shows the ports to be used and the tonnages that must be cleared through each. It shows the road and rail lines to be used and their tonnages. The information about depot and hospitalization is placed thereon. Troop populations by areas are noted. These populations are approximately located on the map by categories such as troops in combat, troops in combat support, and service troops. When we get through, we have the strategic concept and the logistic situation set out visually.

Technical specialists on each type of project study each of these phase situation maps in light of available intelligence and determine the implications of the Engineer mission in each case. We have developed planning factors based on World War II experience and sound engineering practices. Use of these planning factors eliminates many

recurring calculations. The results of their deliberations must be stated in effort and materials. To conserve time and effort we have compiled functional components as units of measure and as outlined on Chart V.

Chart 5, page 21, Navy officers present will note the similarity between these Army functional components listed and those standard with the Navy. These functional components delineate the effort and materials required by the Engineers to provide the facilities required to perform that function. Each functional component is made up of such elements as structures, utilities, site areas, fixed equipment, construction effort, and improved surfaces. These elements are in turn made up of items of supply.

Given a strategic plan from which a logistic plan is developed in the form of projects with requirements stated in functional components, we extract from it the elements of service troop basis and a phased bill of materials.

Items included in the resultant bills of materials fall into three general categories: controlled items, planned procurement items, and items the procurement of which is based on Engineer central stock control records.

General staff agencies on the departmental level are only interested in items which may be in critical supply. We report to them the controlled item requirements by number, both for Engineer items and also for items of other services required by the Engineers. All other items are reported to departmental staffs in the form of tonnages or money value as desired.

So, starting with general staff guidance, augmented by plans of other technical services, supplemented by Engineer intelligence and by liberal use of planning factors, we determine the requirements for items needed to accomplish the Engineer mission.

This generation of requirements from a joint strategic plan would be an involved process of doubtful accuracy were we not to follow an orderly procedure accepted and understood by all contributing agencies. The procedure outlined is subject to constant review and revision. Your consideration of our problems is appreciated. Any comments or suggestions from you on how this involved process of reasoning might be simplified or otherwise improved would not only receive favorable consideration but they are earnestly solicited.

QUESTION: Mr. Lewis, I am not quite clear about these functional components, as to just exactly what one is and how it is used.

MR. LEWIS: In the Corps of Engineers functional components set out the supplies and effort that are required to furnish the facilities necessary to support a function. Let us consider components to support the "A" functions of administration.

The plan gives us a troop basis. It also sets out the organization of the theater from which we can determine the "administrative" functions which are comtemplated.

We have previously figured out the supplies and effort involved in furnishing each of several sizes of functional components applicable to the typical administrative headquarters which will be needed. These include such administrative staffs as theater headquarters, S. O. S. headquarters, and so on down through regimental headquarters. Each size component is broken down into number of buildings required, utilities required, with other items necessary to provide the completed physical setup required in each case.

We now limit our deliberations to determining the number of each size type "A" component which will be required to support the "Administrative" functions involved in the plan. We report our requirements to our Military Supply Division of OCE in components. Since they have previously made IBM punch cards for the items included in each component, they make a machine run. By IBM they save the laborious task of compiling a consolidated but phased list of the supply items required to provide the administrative components estimated to be needed.

QUESTION: On that same subject of functional components, it seems to me that the functional component as used by the Navy is different. Say that the theater is a bare island. If you are going to a bare island, when you take the paper from your machine, it might have a lot of things that you wouldn't need there, depending on the amount of demolition. Would you care to comment on that?

MR. LEWIS: Yes, we always figure on what demolition factor must be applied. We have both construction components and rehabilitation components. By the demolition factor determined upon we will decide which of these two types of components are most applicable and apply thereon the demolition factor.

The Navy system is different as applied by them to campaigns in the Pacific where demolition factors were not applicable. However the main difference between the Navy and Army component system is one of application.

The Navy component system is not only a planning medium but an implementing medium. The location and size of each Navy advance installation is more subject to central staff planning than are Army theater installations of comparable size. They can even plan what should be the stock levels of their advanced bases and include the stocks in their storage components.

But in the Army, with less mobility of forces, our support installations in overseas theaters cannot be so exactly planned. A sudden change may cause extensive revisions in the location, type, and size of support facilities.

Landlines of communications require echelons of supply which develop with the tactical situation, develop in complexity as these LOC, extend further inland.

As this support structure grows in complexity, it becomes less practical to try to use functional components as a means of issuing supplies, a process which is entirely practical with the Navy.

This functional component system is simply an extension and refinement of such planning data as that included in TM 5-280. In that manual we set out the plans for certain facilities, like hospitals, complete with bills of materials. These layouts were useful as planning data as well as a useful guide to construction forces.

We do not expect that functional components will be the means for obtaining the perfect answers; but they will give us basic data for planning, consolidated bills of materials covering practically all items needed. We will still have to apply correction factors and thereby we hope to attain a reasonably accurate answer.

QUESTION: Continuing our discussion of functional components, you said you borrowed them from the other services. Is there just one standard functional component?

MR. LEWIS: The functional component system was first placed in use as such by the Navy. I think it is true, as the Navy planners contend, that their functional component system was largely responsible for their excellent supply system.

Prior to our present effort, the Army had Training Manuals such as TM 5-280 referred to previously. But these TM's were more on how to construct a building than how to plan a complete facility. The same may be said for the comparable manuals covering Air facilities.

The functional component system will only be workable when we have a functional component worked out as to type and of a size applicable for the support of each service mission. Army components will vary from Navy components in detail but not in principle. The same may be expected when Air components are finalized. We must admit that our three departments handle administrative details differently and plan accordingly.

QUESTION: Can you tell the value of these functional components by their numbers?

MR. LEWIS: Absolutely. We use the same system that the Navy does.

QUESTION: Do you decimal numbers also?

MR. LEWIS: Yes. We use the decimal system. I did not bring my chart setting out the details of the system and it is rather involved to explain without the chart.

Wherever the Navy has a functional component of a size and type which is the same as we need, we will use it. This is particularly true of petroleum tanker unloading and shore-storage components. We do not expect that their presently published petroleum components will meet all Army conditions.

QUESTION: What would you call those compenents that depend upon assumptions?

MR. LEWIS: All planning is based on assumptions. Functional components are planning factors which are applied on assumed conditions.

G-4 gives us the basis for the plan. This basis includes those assumptions on strategy supplied by G-3 as well as the assumptions on logistics furnished by G-4 which are applicable to all services. As soon as an assumption is firmly stated, that assumption is taken as a fact upon which we can and do apply planning factors.

QUESTION: I would like to carry that a little bit further. Who clears your assumptions? Do you have to clear them with G-4?

MR. LEWIS: Basic assumptions made by a technical service are cleared by G-4. Minor assumptions applicable but to one technical service are not cleared but are subject to review.

QUESTION: When you get through, you come up with reports on the total tonnage and the value in dollars. Do you report to the military procurement people, or do you report to the Munitions Board?

MR. LEWIS: Speaking as a division chief I report quantities only to our Military Supply people. Speaking as a representative of a Chief of Technical Service, we report requirements of a selected list of items to G-4 who in turn report those requirements to the Munitions Board.

QUESTION: In the controlled items I don't see anything there that would pick up copper. How do you report copper?

MR. LEWIS: We do not report critical materials requirements as such. We give end-item requirements to Military Supply who in turn, by IBM, come up with requirements for the critical materials required in their production.

QUESTION: Who does that?

MR. LEWIS: Our supply people do that. Actually this Munitions Board list contains the long-lead-time, valuable items which take the most critical materials. In other words, it is supposed to be that if you can get these Munitions Board items of munitions, guns, signal equipment, hospitals, and so forth, you will have 80 percent of everything you need to win the war. That is what they think.

QUESTION: In your talk you listed the Navy and the Air Force as responsible for procurement in this plan. I noticed that you immediately dropped the Navy and made a statement to the effect that the Air Force items would be sent to a depot. I wonder whether you would elaborate on that.

MR. LEWIS: The Navy has a separate line of communications. They do not come in the Army line of communications as integrated as Army and Air. In other words, we could say that the Army is the handmaid of the Air Force. We are responsible for furnishing the Air Force supplies of everything except ammunition up to the depot level in the theater, from which it draws to its air groups or air installations, the same way as the Army draws in an Army area.

But the Navy doesn't get into this landline of communications except in the case of the Marines. The Marines, when operating inland with the Army would rely upon Army supply because Navy supplies are

usually kept close to the shore line. In the past the Navy has had its own line of communications. What the procedure will be now that the Navy will be responsible for all water shipping, I don't know. But I think there will be very few Navy items on the same ship with Army items.

Of course, I am wrong in one or two details. For instance, within a theater a certain service is given the responsibility for furnishing the whole theater requirements of certain items. In those cases we will have common supply of those items within the theater. I hope I have answered your question.

QUESTION: Not quite. What I wanted to know was whether the responsibility left the Army. I would like to go a little further and ask whether this is based upon experience--I know that is the way it was previously operated--or whether this is based upon directives now current in the Munitions Board.

MR. LEWIS: I think I know what is worrying you. We are getting mixed up on words. What we have to know is how supply responsibility affects the Army plan. For instance, one of the first things we get in the strategic plan is a list of air bases that the Air Force expects to operate and the characteristics of those bases. This gives us the basis for Army supply support of Air.

Now, so far as the Navy is concerned, we get very little intelligence from it regarding its plans because of the fact that our supply is not integrated with the Navy like it is with the Air Force. Navy has its own depot system in the United States and its own places in the ports of embarkation. Navy has in the past loaded its own ships and has routed those ships to its own destinations; whereas in the Army and the Air Force we use common depots in the United States, common ports of embarkation, and common ships for our items in common. Army and Air have common depots in the theaters. Does that make it clear?

QUESTION: Not quite. I am still wondering whether that is based on what you think is right or on Munitions Board directives.

MR. LEWIS: I don't know whether the Munitions Board has been the controlling agency but rather I believe the system as described has been set up by mutual agreement between the Army and Air Force only. The only exception that I know from that described is that the Chief of Ordnance has arranged to turn ammunition over to Air at the port of

embarkation. The Army does not have a thing to do with handling Air ammunition in overseas theaters. But after ammunition leaves the port of debarkation, it is up to Air Force personnel to handle it and store it themselves. I don't know how it is going to work, but that is the only exception that I know of. Of course, Air is responsible for supply of all items peculiar to Air.

QUESTION: Have you run across the term "division slice" or "group slice" and how does this plan fit into that? Would you care to make some comment?

MR. LEWIS: Yes, we have a division slice. I might say, to begin with, that the division slice is to personnel very much what the functional component is to supply--a planning factor.

The trouble with the division slice is in its application. It was devised to be used on the very highest levels. The division slice is used to plan induction rates to provide divisions with the required backup in personnel. The trouble starts when an effort is made by lower echelons to apply the division slice to operating conditions. As soon as a division slice becomes a variable it loses its worth as a planning factor.

Division slices could become a useful planning factor even were they not constant in size if each size slice were given a definitive and fixed description by a responsible agency so that it would be universally understood. But at present the division slice is used loosely and hence is not so useful as a planning factor as it might be.

QUESTION: Can you give us any idea of the time phasing of this whole plan within the Corps of Engineers or within the Army for the determination of material requirements from the time you get the strategic plan until you get the determination of your end items?

MR. LEWIS: Normally in our strategic and logistic studies on hypothetical operations we usually finish them up, because we have so many other things to do, in about three months. It takes something around 6,000 man-hours on requirements. However, in the case of Korea we put them out in exactly 16 days.

QUESTION: Going back to one of the former charts, you talked about getting the requirements from the other technical services for things like hospitals. At what stage in the planning process do you find that those become firm? In other words, you compute the Engineer

requirements on what the services give you. Ordinarily those requirements are not approved. They might be changed when they get to the general staff. If so, I presume that you start and do the work over again. Is that right?

MR. LEWIS: You are right. The basic requirements supplied to the Engineers by a technical service should be reviewed by G-4 before we use them. On the other hand, the basic logistic concept furnished by G-4 should simplify this review if it is anywhere near adequate.

After all, the Surgeon General is best qualified to make a hospitalization plan. If the G-4 logistic concept is adequate, this hospitalization plan should need little review on the G-4 level. Quite often, upon review these service plans are changed but usually these plans are only changed in detail. Were we to work out the requirements on the hospitalization plan submitted by the Surgeon General and were it changed only in detail, we would change our quantities only if it made an appreciable change in our over-all requirements. If the change were appreciable we would make corrections on a percentage basis.

After all, requirements estimating is not an exact science. We strive for reasonableness. We cannot expect to attain accuracy. As estimators we strive to stay within the reasonable limits of error. Minor changes in service plans would be disregarded if those changes would not appreciably change the end result.

This matter is a continual source of irritation in that the uninitiated expect a mathematically correct answer without appreciating the fact that all our calculations are based on assumptions. The accuracy of which is doubtless smaller than the calculations based thereon.

QUESTION: I have another question along that same line. You said you get from Transportation the ports, railroads, roads, and so forth. Those are going to be quite dependent upon the tonnage in your class IV stuff that is going to move in the theater. Do you get those factors sufficiently close to enable you to figure out your tonnages?

MR. LEWIS: We have certain basic factors which come out pretty well. We got them from World War II. Then after the war we went into them further. Those factors were worked back. We went back to World War I and found that the factors were the same in that war as they were in World War II. Men haven't gotten any bigger. They don't eat any more. They require about the same amount of ammunition, maybe a little more; but, so far as the Engineers are concerned, the requirements in World War I and World War II were very close together.

We find, for instance, as G-4 gives it to us, that it takes eight-tenths of a ton per man per month for replacements and maintenance. That comes up pretty close; actually those factors are good enough for tonnage computations. Usually the availability of shipping and the results of enemy action are more variable than the basic factor of eight-tenths of a ton per man per month.

QUESTION: Mr. Lewis, you say you always start with a joint strategic plan. I am wondering how you develop your assumptions and planning factors that you are going to go on prior to receiving the strategic plan. What is the basis on which these strategic plans are developed?

MR. LEWIS: Now you are getting into something that is a little over my head. I am so far down on the totem pole that I have creosote on my feet. Although we do certain work in the way of Engineer consultations with the joint strategic planners, the joint logistic planners, and the Munitions Board's Petroleum Committee, that is acutually over in a separate branch of my Military Plans Division. That is in what we call our Strategic Planning Branch. It consists of the consulting engineers; they do this work which I think you are talking about.

QUESTION: Suppose that the Joint Chiefs of Staff in their deliberations decided that there is going to be a big major war starting on a certain date. How long would it take you after you knew the over-all mission, to get your whole system worked out?

MR. LEWIS: It takes about three months from the time we receive our G-4 guidance until we can come with the phased bill of materials required.

If a war were to start tomorrow each technical service would institute procurement based upon the requirements worked out to support the current Army Mobilization Plan which in turn is based upon a general strategic plan. As the war progressed, these AMP quantities would be revised as specific strategic plans are approved.

In war planning we endeavor to firm up the nearest quarters progressively as time elapses and, at the same time, project our requirements at least 36 months in the future.

We have certain factors in my office that can be used for long-range requirements estimating, based on number of men deployed in various parts of the world under various combat conditions. These

factors are admittedly inaccurate but they supply the only means for estimating requirements beyond the concept, time-wise, of any strategic plan in existence. As firmer strategic plans become available, these quantities are firmed up by more reliable estimates. It may be that these long-range estimates may only be 50 percent correct but if they are the best possible at the time, they must suffice until we have a more accurate basis for our estimates.

COLONEL MARTZ: Mr. Lewis, we certainly thank you for this interesting discussion on the Engineers technical service planning. On behalf of the Industrial College I take this opportunity to express our thanks.

(12 Apr 1951--800)S.

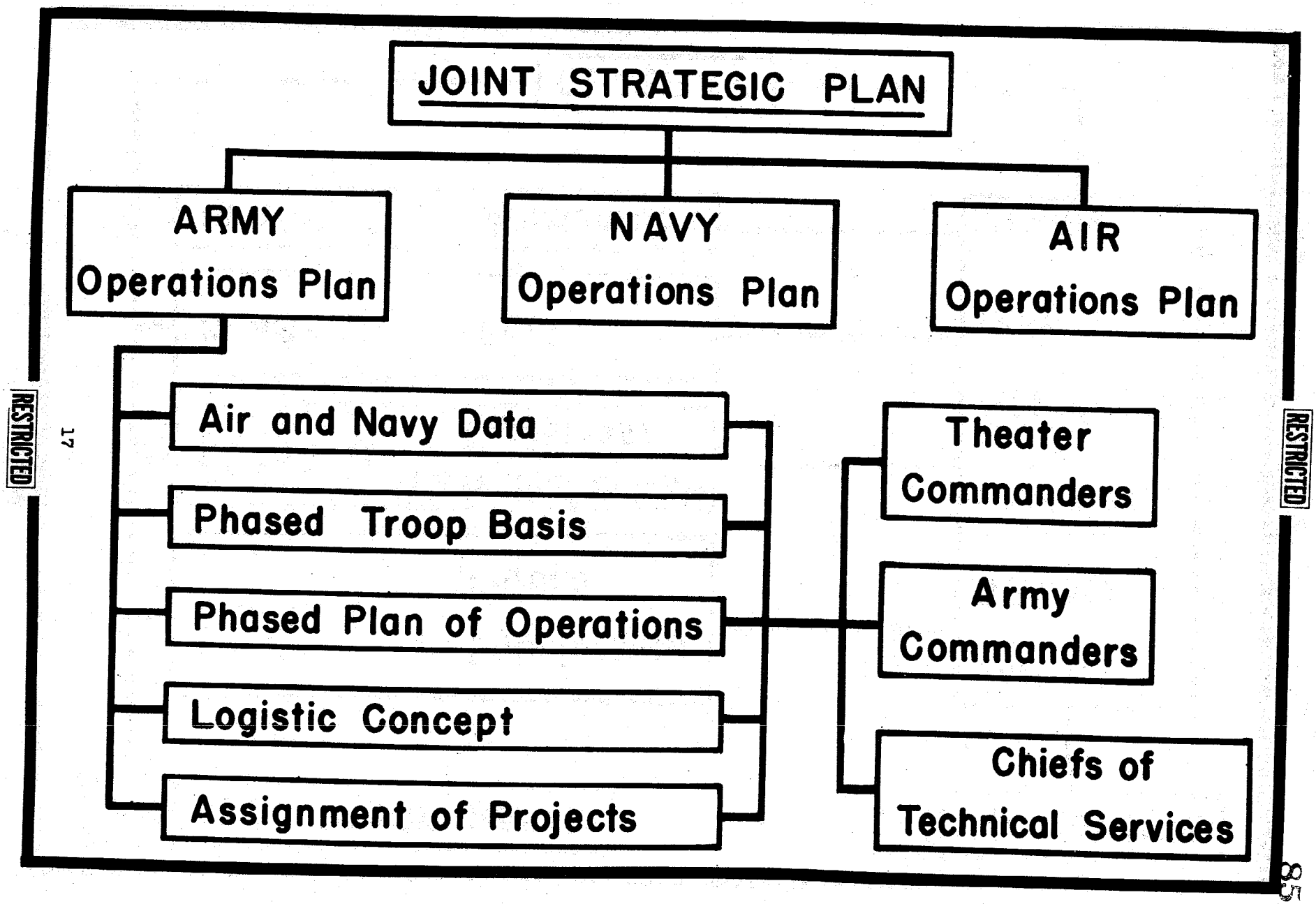


Chart 2

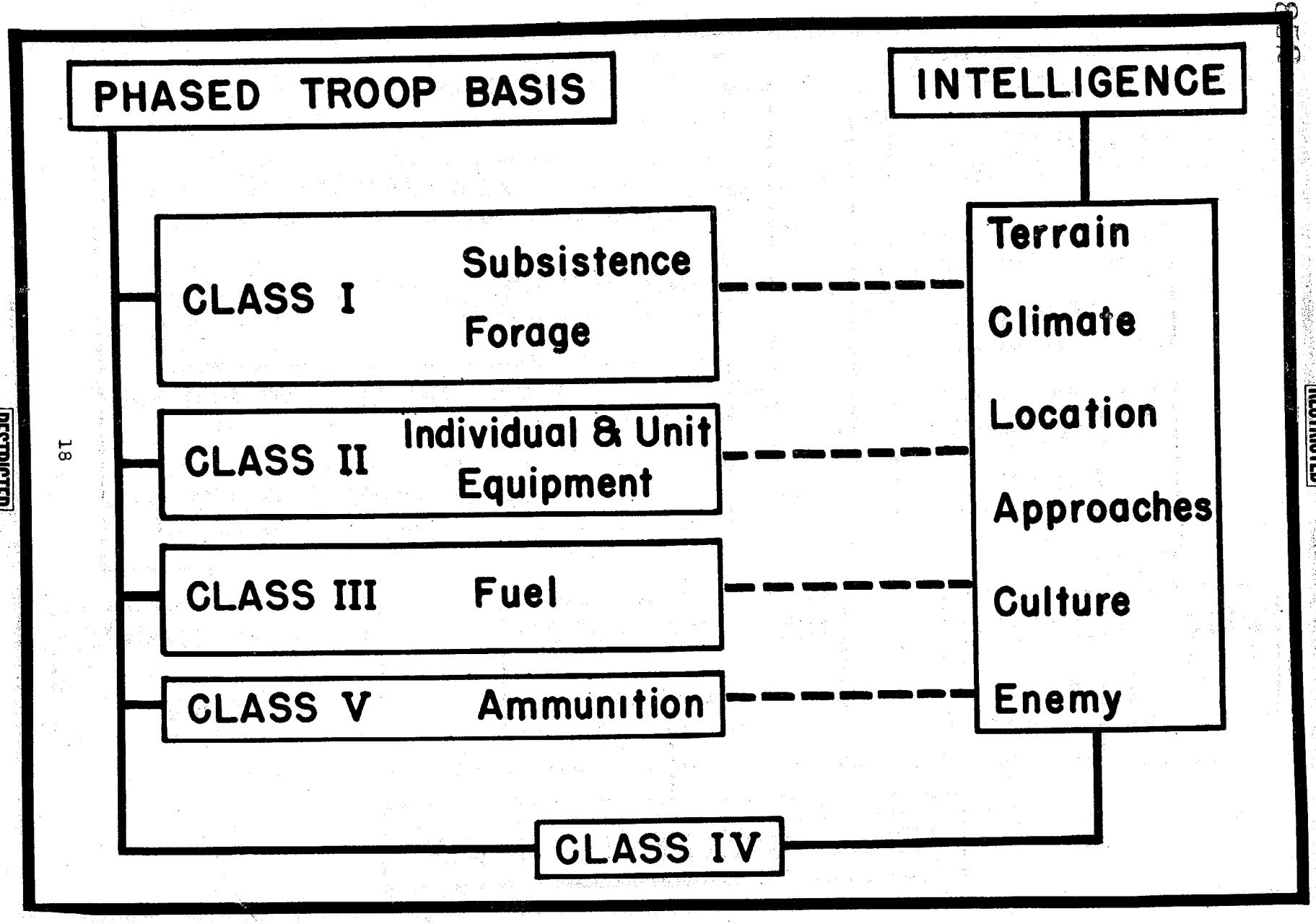


Chart 3

PROJECT ASSIGNMENT

PROJECT No.	Name	TECHNICAL SERVICE
1.	Ports	Transp. & Engrs.
2.	Storage	Q M & Engrs.
3.	Shops	Engrs.
4.	Housing	Engrs.
5.	Hospitals	Engrs.
6.	Ldry & Dry Cleaning Facs.	Engrs.
7.	Special Water Supply	Engrs.
8.	Roads	Engrs.
9.	Railways	Transp. & Engrs.
10.	Airfields	Engrs.
11.	Petroleum Distribution	Engrs.
12.	P.O.W. Inclosures	Engrs.
13.	Fire Fighting	Engrs.
14.	Forestry	Engrs.
15.	Bridging	Engrs.
16.	Field Fortifications	Engrs.
17.	Camouflage	Engrs.
18.	Signal Communications	Signal
19.	Motor Transport	Transp.
20.	Map Reproduction	Engrs.
21.	Amphibious Equipment	Engrs.
22.	Civil Affairs	QM & MD
23.	Special Services	AG
24.	Smoke Screening	Chemical
25.	Press Facilities	Signal
26.	Special Operational Req.	Engr., Transp., QM., Sig., Chem., MD, Ord.

RESTRICTED

Chart 4

Data Required From
OTHER TECHNICAL SERVICES

PHASED TRANSPORTATION PLAN
(Chief of Transportation)

PORTS
RAIL LINES
ROADS
WATERWAYS
---------- Location
Tonnages

PHASED DEPOT PLAN
(Quartermaster General)

DEPOT AREAS ---- Open Storage
Covered Storage
Refrigerated Storage
Ice Manufacture

PETROLEUM TANKAGE ---- Number of Barrels
Types of Fuel
Resupply

PHASED HOSPITALIZATION PLAN
(Surgeon General)

SHOP Reqmts — SPECIAL Reqmts
(All Admin. & Tech. Services)

RESTRICTED

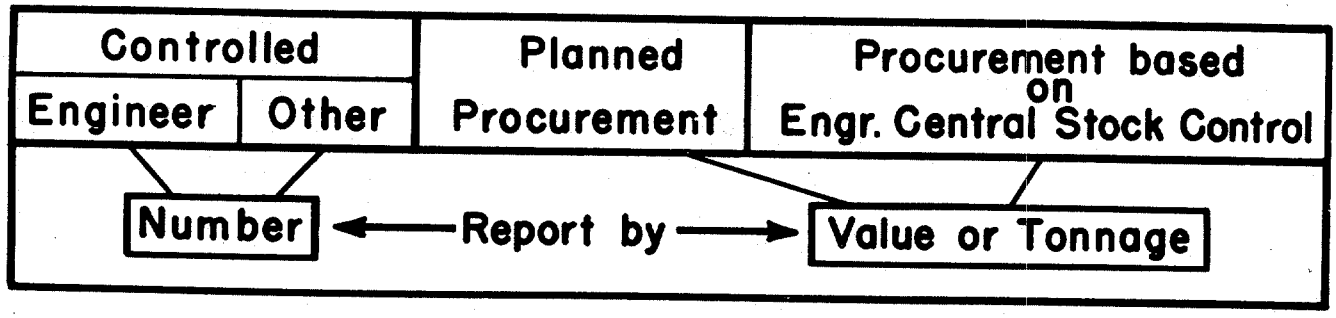
FUNCTIONAL COMPONENTS

A - Administration
B - Defense Works
C - Communications
D - Supply
E - Maintenance
F - Transportation
G - Hospitalization
K - Personnel Service
N - Housing
P - Engineer Service
S - Special

ELEMENTS

Structures Utilities Site Areas
Fixed Equipment Construction Effort
Improved Surfaces

ITEMS



B 54890