

RESTRICTED

ARMY REQUIREMENTS

5 November 1947

CONTENTS

	Page
SPEAKER--Colonel Carl F. Eisenbein, Chief, Supply Group of the Service, Supply, and Procurement Division, General Staff, U. S. Army	
GENERAL DISCUSSION	15

Publication Number L43-55

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

WASHINGTON, D. C.

RESTRICTED

RESTRICTED

ARMY REQUIREMENTS

5 November 1947

COLONEL WICKELSON: Gentlemen, we are happy to have with us this morning one of our old friends, a man, I am sure, many of you have served with, and who is well known at the Industrial College as he was a student here in the interim course and graduated in 1946.

After his graduation, he went over to SS&P and became the officer in charge of the Supply Control Branch. He has since been promoted to that position in the Supply Group. In those positions he has been in charge of and is responsible for Army requirements, which among many other subjects is kindred to those studied in the Industrial College. For that reason we thought him eminently well qualified to talk on the subject that we have asked him to discuss. Colonel Tischbein.

COLONEL TISCHBEIN: Colonel Wickelson, Captain Worthington, gentlemen: It is a great pleasure and a privilege to appear here before you this morning to discuss a subject in which we all have an interest. It is a subject which has large fields for research; it is a subject which I think has enough aspects to it to meet the demands of the most quizzical mind.

I suppose that our common cave-man ancestor who fired the first rock at his brother from the next cave really created the first military requirement. He was not bothered, I don't suppose, with stockpiling for strategic reasons, or ever had a General Staff agency looking over his allowances. But I think that that first rock which he threw was the alpha in the long series of problems which have culminated in the--shall I say--rather difficult techniques with which we who are trying to wrestle with this problem are confronted today.

After the cave man with his rock, there came the catapult. Those required major-caliber rocks. I presume procurement raised its ugly head about that time. Then came the bow and arrow, and then gunpowder, which we finally developed after the Chinese had used it for a number of centuries. That was really the beginning of our requirements headaches--when military requirements got to be the business of merchants and scientists. As requirements became more complex, so the logistical aspects of these problems became more complex.

Today the development of military requirements is the result of the efforts of many experts. Consider, for instance, that people in the Market Center for the Quartermaster General in Chicago have

RESTRICTED

RESTRICTED

problems of their own. These problems, although they are basically the same, inasmuch as they all develop from the basic data, are quite different from the problems the Signal Corps has in providing the requisite number of storage batteries for both the Army and the Navy. So we see that although they all begin with certain basic data, the similarity ends there, and it is due to the fact that we have all those differences that we have doctors, merchants, and PLD's computing requirements.

After requirements come back to the Chiefs of Technical Services, they get into a common channel in the form of a management document known as the "Supply Control Study." The Supply Control System has been thoroughly developed here. I will not go into the details of it. I feel that the system is so complex in its mechanics that those who are uninitiated in its difficulties would not get much out of an hour's talk on them; whereas those who know the difficulties would be wasting their time.

United States Army requirements from procurement are derived from the Supply Control System. Rather, I shall confine my remarks to a brief general description of the system and to certain problems which present fruitful fields for further study and improvement.

The chief instrument of control for inventory is the supply control study. These studies are prepared by the seven chiefs of Technical Services in eight to separate stock control points for a combined total of over 600,000 items.

Supply control studies vary in detail and importance according to the nature and importance of the item. Fundamentally, however, they are alike. They are all supply and demand studies. They form the basis for what we might term the "working document" for the Department of the Army economist. They give a picture of the supply and demand. They tell when we should buy or when we should get rid of our surpluses. The word "supply" refers to all resources which are or will become available to meet forecast demand. "Demand" is just another word for "requirements."

Each study shows supply and demand data for the past, the present, and the future. Supply data are broken down by major sources of supply such as returns to stock from inactivated units, receipts from repair facilities, and receipts from new procurement. Demand data are broken down by element such as U.S. Army, Foreign Military Aid, programs which we are implementing, I.M.F., Civilian Components, and Reserve Stocks.

RESTRICTED

RESTRICTED

Requests for supply flow from using troops in the field through successively higher supply echelons to the Technical Services depots. Supplies then flow outward from these depots to the using troops. Supply control studies measure this flow at the technical service depot level.

A basic concept of the system is that all data appropriate to a study will be entered on a single sheet of paper where interrelationships can be readily noted and studied. For stated past periods of time stock status data showing actual issues and actual receipts of supplies in U.S. Army depots are recorded. Following these entries, data for unfilled requisitions and the stock in hand available to meet these demands in the date of the study are shown. Opposite these historical data, forecasts of future demands and the quantities which will be available to meet these demands are entered. The historical data shown on the study are used as a check against the forecast data. They provide the man responsible for the study with a practical check against purely mechanical computations.

The difference between forecast demand and forecast supply determines the supply action which must be taken. For example, if supply exceeds total foreseeable demand by a significant amount, disposal action is in order. On the other hand if supply is significantly less than demand in the immediate future, action must be taken to increase the amounts available for issue. This action may consist of repairing unserviceable items; withdrawing supplies previously declared surplus; redistributing stocks which are excess in one command but short in another; or using substitute items. When the supply control study shows that demand exceeds supply from all possible sources, additional procurement is required. Quantities shown as required from new procurement are referred to as the "Computed Procurement Requirement." These are the figures in which you of the Industrial College have the greatest interest for it is these figures which shape the pattern of U.S. industry during war.

There has been no significant change in the fundamental concept of the Supply Control System since its inception in the spring of 1944. Modifications in the forms used for preparing supply control studies and reports have been made but these were in the nature of details necessitated by new personnel cuts and other problems rather than fundamental changes in the concept of the system.

During the war supply control studies were revised on a monthly or quarterly basis depending upon the importance of the item. At the present time these studies are revised not less frequently than once each six months; more frequently when changes in supply and demand data warrant.

RESTRICTED

RESTRICTED

When the war ended copies of supply control studies for over 1900 principal items were submitted to Headquarters, Army Service Forces, monthly. These principal item studies accounted for about 80 percent of the dollar volume of Technical Service procurement. At the present time copies of studies for 1,400 principal items are submitted to SS&P. These studies are phased over a six-month period to eliminate peak loads. We expect to increase the number of principal items to about 2,000 during the next six months.

I might add here that the number of principal items being submitted to SS&P fell to about 750. The number was too small to give a true picture of the important items in Supply. It was also felt that as money became tighter and tighter, and as restrictions on new procurement became more severe, we would have to maintain a closer control on a larger number of items. So, personnel notwithstanding, we are trying to get back up to around 2000 items.

Management reports submitted to SS&P have been simplified greatly since the end of the war. Reports containing dollar value summaries of certain fundamental supply control data have been reduced both in frequency of submission and in the number of factors summarized. These reductions were made necessary by reason of budget cuts and personnel ceilings. However, it would be a relatively simple matter to again place the Supply Control System on a wartime basis in the event of mobilization.

The task of determining supply requirements is not an easy one. It is a "paper" job, essentially statistical in nature. Masses of statistical data must be assembled, tabulated, summarized, and analyzed. The complexity of the task inevitably results in occasional error. Too often people engaged in requirements and supply control work are chained to their desks to such a degree that they lose contact with the troops they are supplying. Provision must be made for these people to make occasional field trips so that the figures with which they work have tangible meaning to them. Unreasonable quantities resulting from mechanical error are then more readily detected, and the people who are engaged in the studies can be sent out to the field much more frequently, I would say, than present funds will allow.

In time of war the requirements output in translates the strategic plans for the employment of the Army into a blueprint for American industry. For a lesser degree this is also true in peacetime. The importance of this job cannot be overemphasized. A misplaced decimal point may cause the building of a needless factory with the consequent waste of human and material resources. On the other hand, if requirements are underestimated battles may be lost or campaigns may be delayed.

RESTRICTED

RESTRICTED

The perfect system of supply control has yet to be devised. It probably never will be. However, we are trying to improve it. I shall now discuss some of the improvements we are undertaking and some of the aspects of the system which I feel need critical examination. Some of these topics may be appropriate for study here in the Industrial College. If so, we would welcome your findings.

Since war is dynamic and not static, assumptions and factors affecting requirements are always changing. This demand of continuous change necessitates that data fed into the Supply Control System be the most recent possible. Therefore, in my opinion, the greatest field for study in the search for improving requirements computations.

A great many publications and reports are used in preparing a supply control study. These include the troop basis; allocation tables; replacement factors; stock levels; consolidated depot stock status reports; and forecast production schedules. The preparation and publication of data contained in these documents and reports is time-consuming to such a degree that many are outdated to the point of being useless when they come off the printing press. Much of this delay, in my opinion, can be traced to the "horse and buggy" manner in which basic records are kept and in the way these documents and reports are prepared. While some improvement in technique was made during the war and since, much remains to be done.

Examination of the basic information needed in supply computations reveals that it is built up almost wholly from detailed individual transactions. These masses of detail can be readily and speedily received, summarized and tabulated by modern business machinery. We should extend the use of such machinery in order to save time and manpower--as well as money. One of the most valuable by-products will be reduction of human error.

Illustrating this point let us examine the troop program. The troop program is the foundation stone upon which any requirements computation rests. It is the detailed interpretation of the strategic plans for the employment of the Army. It provides a complete list of all of the organizations which compose the Army together with a forecast of the number and location (deployment) of these units for as much as three years into the future.

How is a troop program prepared? First, the grand strategy must be determined and the major units (divisions, corps, and naval squadrons) estimated. During the late war this was the responsibility of the G-3 and Joint Chiefs of Staff. Now it is the responsibility of the Joint Chiefs.

RESTRICTED

RESTRICTED

Each major service prepares a detailed estimate of its troop requirements and organizations necessary to support its component in the grand strategy. In the Department of the Army this is the responsibility of the General Staff with the assistance of the Ground Forces and technical services. These estimates are studied, debated, coordinated, tabulated, and finally published as the U.S. Army Troop Program. This Program shows by type the number of units active and forecast for activation, and their expected deployment. Basic supply policies of the Department of the Army are prepared by SSSP and published as a Supply Supplement to the Troop Program.

The preparation and revision of the Troop Program was a complete hand operation when the late war broke out. Draft sheets prepared in pencil were the first stage of the story. These were erased and changed until at times they were almost unreadable by the typist who was finally asked to prepare a typed copy. Frequently this copy had to be retyped several times before it was approved for reproduction. The reproduction job was then handled by phostat. After reproduction the over-present changes could be entered by pen and ink. These early Troop Programs provided an absolute minimum of planning information. I would like to stress that word "minimum." Headquarters, ASF, was required almost built to provide additional assumptions and ground rules for the technical services in order to insure uniformity in completed computations. These requests for additional detail were transmitted to the General Staff where finally the job reached such proportions that the decline records people at TAG were called in for advice.

I would like to point out right here, gentlemen, the necessity for complete assumptions. Military operations always have supply implications, and with some technical services being the supplying, unless you provide complete assumptions, elements that is not covered by assumptions has the prospect of a wide different interpretation. That is no small matter, because that is where the difficulties begin to spread.

As a result late in 1944 units comprising the Troop Program were set up on punch cards. Thereafter these cards could be tabulated in almost any form desired in a very short time. Reproduction by photo offset process lifted from the machine tabulation reduced greatly the chance for human error. It also saved the time of responsible officers formerly spent in checking by copy.

Upon receipt of the printed Troop Program the Technical Services convert it back into a deck of punched cards which is used in the mechanical computer of initial differences. This is the first step in forecasting requirements. The conversion of raw data into punch cards then into a printed Troop Program and back again into seven

RESTRICTED

RESTRICTED

decks of punched cards consumes a great deal of time. Representatives of the chiefs of Technical Services, the machine tabulating room of TAG and my office have been working together in an effort to shorten this time cycle. As a result the chiefs of Technical Services are standardizing certain punch card operations which will enable them to use duplicate decks of the punch cards comprising the Troop Program. These duplicate decks will be prepared by TAG with but little additional work. Changes will be summarized monthly by TAG and distributed to the Technical Services. It is estimated that this improvement will save as much as four weeks' time in the computation of requirements.

Other than mechanical improvements are still possible in formulating the Troop Program. Frequently those who are responsible for it become engrossed in knotty personnel problems to an extent that supply implications are overlooked. Recently an ACF officer came in to SS&P and complained about the difficulty he was experiencing in securing instruments for his Class A ORO bands. Our man came back with "What bands?" and used his ORO troop basis to prove that no such bands were authorized. It developed that authorization to activate these bands had been granted last January by a letter from another General Staff Division without informing SS&P and the Technical Services. Consequently, equipment for these bands had not been included in the supply program.

These may be the first "a capella" bands in the history of the Army!

There have been other like instances-- say of a more serious nature. They highlight an important principle: no military plan is complete until the supply implications have been determined and satisfactorily resolved.

A great deal remains to be done to improve estimates of quantities required for replacement. Replacement is the amount included in requirements computations to provide for losses from any cause including ordinary wear and tear, destruction, and abandonment.

Having determined the quantity of the specific item in use, by means of the troop program and public bill F/OC's, the quantity necessary to replace expected losses can be determined by multiplying the quantity in use by a replacement factor. Replacement computations are usually made on an area or command basis.

Replacement factors experienced and actually used during World War II combat have been collected and published in a supply Bulletin, SB 38-4-WD. Replacement factors currently in use, for postwar Army occupation duty, are available in Supply Bulletins of the SP 38-4

RESTRICTED

RESTRICTED

series, one for each of the Technical Services. These replacement factors, incidentally, were developed from Reports of Material Consumed submitted to the chiefs of the Technical Services by major overseas commanders. These reports show the number of each item actually in use and the number actually replaced during the reporting period. Provision is made for reporting commanders to recommend changes in existing replacement factors accompanied by the reasons upon which the recommendations are based. During World War II these Reports served to improve replacement factors by confirming their validity or by affording a basis for their revision. Many revisions were downward with a resulting saving of material, manpower, and manufacturing facilities--most important considerations in a wartime economy.

However, few people acquainted with either replacement factors or the Report of Material Consumed are satisfied with their accuracy. For relatively short-life items (items having a life expectancy of less than five years) reasonably accurate replacement factors can be determined on the basis of issue experience. For long-life items, however, the records on which the Report of Material Consumed are based are not considered entirely adequate. The projecting directly forward of past experience, as applied to mechanical equipment, is not in accord with advanced civilian thinking, and miscalculations in estimating replacement requirements of items subsequently obsolete are particularly wasteful.

Until recently it was assumed that all long-life items would require replacement at a fixed rate for the entire life of the item. For example, a truck with an anticipated life of eight years was assigned a replacement factor of 12.5 percent a year or approximately 1.04 percent a month. This assumption, however, is not in accord with experience. A few of the trucks will require replacement during the first, second, and third years of their life. Correspondingly, greater numbers must be replaced in later years. This situation was recognized about 1942 but has not been solved in so far as Technical Service equipment is concerned. The Air, however, instituted in 1942 a method for the statistical determination of replacement factors based on studies conducted by the Low Engineering Experiment Station. This method will be fully presented by Lt. Colonel W. h. Gibson, AF Reserve, now a professor at Stanford University, in a later lecture. Using a few selected items the Department of the Army is at present sponsoring a test of this method by the Technical Services, with a view to determining the applicability of the method for general use by the Army.

Stated briefly in layman's language, a given number of the items to be tested is selected by methods and techniques similar to those used by the Gallup Poll. The items selected are ticketed or marked for the test. The life history of each item is then collected,

RESTRICTED

evaluated, and combined with the life histories of the other identical items selected for the test. The findings from this sample are then projected by means of statistical techniques to determine the replacement requirements for future periods, the age of the items comprising the group being the principle weighting factor.

Should this test prove successful a close relationship between actual and predicted replacement quantities will result. Replacement estimates will be based on forward projections rather than on a comprehensive view of the past. Department of the Army requirements will be in a more defensible position against attack by agencies which provide funds. Further, the revision of replacement factors and requirements will not be dependent on the compilation of a lengthy report, the transmission and evaluation of which has been a difficult and time-consuming operation.

Complications and delays which result from modifications to authorized allowance tables comprise a serious problem in supply control. An examination of the current troop program revealed that of the 3,306 different types of units listed, 3,070 units (92 percent) were authorized supply on a basis of modified allowance tables. As a rule, these changes authorize additional supply. Whatever the reasons for such extensive changes, the computation of requirements is greatly complicated thereby. Many man-hours are spent in posting changes to allowance tables and in punching new cards for the electrical accounting machines. It has been estimated that the combined cost of this work in the seven Technical Services and in the Adjutant General's Office amounts to \$100,000 yearly. Organization and Training and Services, Supply and Procurement Divisions of the General Staff have undertaken work on this problem but the solution is not yet in sight.

Allowance tables are frequently important offenders in maldistribution of equipment. No research and development items at an alarming rate. These new items are often added to tables without regard to the other items already authorized and considered essential. Recently the Quartermaster General completed a study of allowances authorized by the revised 1/A 23 "Clothing and Individual Equipment." That study indicated that the present enlisted man in the Department of the Army and the Department of the Air Force is authorized approximately 113 pounds of Quartermaster clothing and individual equipment. This includes 9 suits of underwear, 14 pairs of trousers, 10 pairs of socks, 10 shirts, 6 jackets, 4 pairs of boots and shoes, and other miscellaneous items. Under these allowances it is estimated that by the time individual items of other Technical Services have been added, i.e., rifle, gas mask, first aid kit, compass, flashlight, and so on, the individual soldier will have a load of approximately 180 pounds to carry. As the Quartermaster General pointed out, that is only 20 pounds less than the load prescribed for an army mule.

RESTRICTED

RESTRICTED

Many items needed in wartime, under combat conditions, are not necessary in peacetime--even on occupational duty. As an example, T/O&E 9-65 authorizes the issue of 458 flashlights to the Ordnance Maintenance Battalion of the Armored Division. Now I can hardly believe that the typical peacetime, night operation performed by these men requires the service of a flashlight--TL-122.

Added to inflated allowances is a practice as old as the Army which I call "packratting." Each supply sergeant and supply officer feels he must have his own particular "kit" or "stock pile" over and above his authorized allowances for use in an emergency. In a single unit the quantity is, perhaps, small, but when multiplied by all of the units in the Army, the aggregate is staggering. One extra blanket for each 10 men in an Army of 1,000,000 amounts to 100,000 blankets costing three quarters of a million dollars. This problem can only be licked by insisting on better supply discipline. We must squeeze the fat out of our allowance tables and then enforce strict compliance with those tables.

We are at present setting up a technique to do just that. In 1942 and 1943, when General McFair commanded the Ground Forces, he set up a board the purpose of which was to squeeze the fat out of the tables of organization. I think many of you had experience with that board. First of all, they took all the basics out of the table. Then, after they took all the basics out of the table, they sat around in a conference room in this building and called on experts from the Arms and Services involved, they examined each T/O carefully, and would ask, "What do you need this for?" They took all the fat--and I think they took a little of the substance with it--out of those T/O's.

Now, we plan to do the same thing on the equipment end of these T/O's. I am quite sure there are field glasses in some units that didn't see any more war service than looking at the USO show. Also there are a lot of \$96 compasses that weren't necessary.

After provision for initial allowances and replacement, the next largest segment in a requirements computation is provision for adequate inventories at different levels in the supply system. These inventories, called "stock levels," are intended to insure uninterrupted supply at all points. They are intended to absorb normal fluctuations in demand as well as irregularities in receipts of supply.

For items consumed at a relatively regular rate, stock levels are established in terms of a given number of days of supply. Inventories of items for which demand fluctuates widely, depending upon operations, are established in terms of maximum and minimum quantities and are referred to as "stock piles."

RESTRICTED

RESUMED

While it was recognized that inventories would fluctuate around the target levels established, considerable pressure was exerted during the war towards maintaining levels at the authorized computed figures.

Except for Class IV supplies, for which stock piles were usually established, inventories for all items were set in the same way. Target inventories for shoes and shoe laces were determined in the same way as inventories of .30 calibre ammunition. This inflexibility in establishing levels seems to us to deserve further study by the statisticians. A 60-day inventory presupposes a turnover of 6 times a year; a 90-day inventory, a turnover of 4 times yearly. We established these targets for practically all items in U.S. depots. No where in business can you find turnover rates in wholesale grocery firms compared with the turnover of hardware or drug firms. Each line of business has a different turnover target, further modified by categories of items and by local conditions.

I feel that uniform inventory targets have resulted in the over-stocking of some fast-moving items and poor supply for other slow-moving lines. To my knowledge nothing has been done on this problem since the war. It offers an open field for study.

Estimating Class IV requirements presents another tough problem in supply control. Class IV supplies are those required to augment standard allowance tables in the performance of special missions and operations. Additional equipment necessary for setting up unusual communications nets, building roads, airfields, and the like are illustrative. Before specific operational plans were available, provision for special operational supplies was made in an over-all estimate by the chiefs of technical services. These estimates were intended to anticipate all needs not included in the regular allowance tables. In the absence of better information, such estimates were absolutely necessary but they were inadequate. Subsequent to the formulation of specific operational plans procedures were established which were intended to eliminate these crystal-ball estimates.

Theater commanders were required to submit outlines of their proposed special operations and projects to the WDGS for approval. After approval, they were requested to submit estimates of Class IV supplies needed. These estimates, called "Bills of Materials," were keyed by project number to the special operation for which they were required. They were reviewed or "screened" by the Technical Services and then included in requirements computations. This procedure probably resulted in more accurate estimates, but it was time consuming. Frequently several months would elapse from the time a project was first proposed by a theater until the necessary Class IV supplies were included in requirements computations. On more than one occasion, a

RESUMED

RESTRICTED

requisition for the supplies involved accompanied the bill of materials for the project. In such instances if the requisition could not be filled from stock, it was necessary to expedite production at additional cost and frequently at the expense of production of other items.

In an effort to correct this fault the Technical Services were furnished copies of tentatively approved operational plans and projects before theater bills of materials were available. The services then estimated the Class IV supplies required and included what estimate in requirements computations. After receipt of the theater prepared bill of materials, these original estimates were corrected as required, but procurement was at least under way and it was a comparatively simple matter to adjust the quantities under production.

In my opinion our mobilization plans should provide for a modification of the old project system. First, the theater commander should be requested to include in his bills of materials only those items vital to the operation and those requiring a relatively great procurement lead time. The Technical Services can estimate with sufficient accuracy requirements of minor accessory items.

Secondly, the bill of materials should accompany each project submitted for approval. If the project is modified before approval, the bills of materials can be modified accordingly. By reducing the number of items listed, preparation would be relatively easy and greater accuracy should result.

This proposal should enable expeditious handling of Class IV requirements. It should also permit increased attention to the supply problems affecting the items most difficult to procure.

Thus far we have discussed only those factors affecting procurement requirements which relate to the computation of demands. There are equally interesting opportunities for improvement presented by the supply factors involved in these studies.

The computed procurement requirement is determined by subtracting available resources from the forecast demands. Resources include stock on hand ready for issue, estimated returns to stock, and substitutes. Unless credit is taken for every available resource the computed procurement requirement will be overstated and supply excesses will develop.

Resources data flow from the Army's stock accounting and reporting system. Literally billions of item transactions must be posted to stock records yearly to account for the 600,000 items supplied by the Technical Services.

RESTRICTED

This tremendous volume of paper work presents a challenge unequalled elsewhere in supply operations. A single second saved in posting each transaction amounts to a saving of 277,777 man-hours for a billion transactions. Additional savings which may accrue from speeding up the flow of data into supply control operations cannot be estimated, but they would be substantial.

As stated earlier, all figures shown in supply control studies are at the U.S. depot level. Figures showing issues and receipts for past periods as well as stock on hand ready for issue are secured from consolidated stock status reports. These reports are prepared at stock control points from the stock status reports of the individual depots which comprise the U. S. Army depot system.

While estimated future issues and forecast receipts are also based on the depot level, they are dependent on such stock status data as are available from beyond the depot level. For example, forecasts of returns to depot stock from repair facilities are dependent on reports of stock available for repair at these facilities and estimates of quantities which will be returned in future periods by using troops. To say the least, data available to the Technical Services from which they may estimate returns to depot stock are meager. There is no regular flow of stock status data from oversea commands or the Army areas to the depots and stock control points. The reason for this deficiency lies in the stock record systems in use beyond the U. S. depot system. And this deficiency does not result from a lack of basic records. As you all know, almost every conceivable bit of information one might wish to know is recorded somewhere for each item. The trouble lies in there being no easy way to pull off summary reports of the figures needed.

We secure adequate stock status data on supplies in Technical Service depots because modern electric accounting machinery has been installed in these depots. These machines rapidly summarize and tabulate essential basic data. Stock accounting systems in use at posts, camps, stations, and in oversea commands, however, are another story.

Most of these systems consist of manually posted records which have been improved but little in the last 50 years. Status reports must be prepared manually from these antiquated records. This is a time-consuming operation which requires more manpower than can be justified. Consequently, certain basic stock status information is collected infrequently by so-called "world-wide" inventories. These are very costly and so much time is consumed in their preparation and summarization, that the figures are of little use when they do become available.

RESTRICTED

RESTRICTED

To correct this situation studies are now being undertaken within Service, Supply, and Procurement Division with the view of extending modern accounting machines to the lower supply echelons. The goal is, of course, to reduce the number of people engaged in paper work and at the same time speed up the flow of stock status data. Each item of information recorded in stock records will be carefully scrutinized to determine its necessity. We believe that the elimination of non-essential details coupled with the use of modern accounting machinery, will make it possible to tabulate, consolidate, and transmit stock status data from the lowest to the highest echelon of supply within a matter of weeks without increase in cost.

Up to this point we have assumed that the net requirements which could not be procured from the repair and rebuild of stock-not-ready for issue, would be secured from new procurement. In wartime the only limitation on new procurement is availability of productive capacity, raw material or labor. In peacetime the limiting factor is funds. The history of the FY 1948 Department of the Army appropriation provides an excellent illustration of the way the Army secures its funds. In accordance with Department of the Army approved assumptions and planning data the chiefs of Technical Services submitted estimates which totalled 12.4 billion dollars. This figure was reduced by the Budget Advisory Committee to 10.2 billion dollars. It was further reduced by the Chief of Staff to 8.4 billion dollars. After submission to the Bureau of the Budget, additional reductions were ordered which brought the total down to 6.9 billion dollars. Estimates totaling this amount were submitted to the Congress by the President and endorsed by the Department of the Army. After a great deal of discussion and some internal adjustments this amount was finally appropriated to the Department of the Army. The effect on procurement of these successive reductions has been drastic. Certain items in the budget, by their very nature, cannot be changed. Expenditures for subsistence vary directly with the number of men in the Army and with the price of food. Let me emphasize the price of food. Very little can be saved in expenditures for petroleum, fuels, and lubricants. Similarly, clothing and essential housing expenditures cannot be reduced below a reasonable minimum level. As a result, reductions in appropriations for procurement must fall on those items of organizational equipment which are not directly tied to the livelihood of the men in the Army, regardless of their military necessity.

We in the Staff are so close to the forest that frequently we cannot see the trees. We are kept so busy putting out fires that we have no time to put in automatic sprinklers.

RESTRICTED

I have pointed out what appear to be fertile fields for study in an effort to improve our requirements estimates. In so doing I may have appeared unduly critical of some of our present practices. Such was not my intention. When viewed in the aggregate, the progress made in supply control techniques during the last seven years has been outstanding. But we must not relax and rest on our laurels!

Logistics play a greater part in battle today than ever before. Speed and efficiency in all things connected with supply are of the utmost importance. The challenge for improvement is as great today as ever before. We must meet that challenge.

QUESTION: What does SS&P do with the supply study when it gets it?

COLONEL TISCHBEIN: It is a management tool, a management document. One thing we use it for is to coordinate the activities of the various repair agencies within the Technical Services to insure that the repair schedules are such that, by returns from repairs, the return is great enough to meet future current issue demands. That is one thing we use it for.

There are no plans that never come to light that I think the people in the Technical Services ever realize. I am talking now specifically of foreign programs. "What is the availability on this?" "What is the availability on that." We use them for availability studies for determining availabilities for foreign programs.

In the matter of coordination of procurement requirements with procurement people and the supply group, we work very closely.

I know that there has been a lot said and said concerning the matter of supply control study. That it is time consuming, and that in some instances there have been objections to it; that it requires the Technical Services to put together information which they don't need. I think that most Technical Service people who are concerned with requirements and supply control are now agreed that, if the Department of the Army did not require a supply control study, they would have to make one of their own accord.

I would like to say this: I was perfectly appalled when they flashed the PR form on me, with its 64 lines and 11 columns. I had never seen anything like that. I could see very well there there would be some objection to filling out a form like that, and quite true it developed. But I would also like to point out this: That there is one Technical Service that not only gives us the ones that we want--which is just a few--but it takes every item of its supply and puts it on the Supply Control Form. They worked it out completely, so evidently it has its merits at the Technical Service level.

RESTRICTED

QUESTION: What is being done to standardize nomenclature, procedure, cooperation, coordination, and so forth between the Navy, the Air Force, and the Army with respect to the determination of requirements? I ask that question because I have read an exposition which to me was complex, confusing, and, I will admit perhaps to my horse and buggy mind, a little bit irritating as to how the Air Corps had discovered a new principle in determining requirements. It was very confusing and I still don't believe I understand it.

COLONEL TESCHBEIN: The Air Corps, I am sure, did not dream up this principle of forecasting requirements or computing requirements. That came as a result of studies that were made in Iowa over a period of 12 years. Is that the study you are speaking about?

QUESTION: The consumption rate that has been required reading?

COLONEL TISCHBEIN: It was the system developed in Iowa which led to the factors which the Air Force uses for the consumption rate. As I said, it is empirical in nature. It is done by tagging a certain number of items. Take, for instance, the question of replacing a certain carburetor on a certain jeep. When the carburetor is replaced, the data tag goes to 'Bright Field'. On the individual carburetor graph they indicate the additional carburetor. They plot every carburetor. They don't draw a line and project it into the future. Their forecasts, as I understand it, are not very distant into the future.

As to what the Army, Navy and Air Force have done towards uniformity, there is at present an item identification and cataloging agency the history of which is a little bit too long for me to recount here. It is the result of an executive order by President Roosevelt in February, 1945, which led the Treasury Department to start a Standard Commodity Cataloging Agency, for which they needed Federal funds. All the Federal agencies asked for funds. The Army asked for funds and got them; the Navy asked for funds and got them; the Treasury Department asked for funds and didn't get them. So we went ahead with cataloging activities and gave the Treasury some money to run on. Last year they asked the Congress for money and didn't get it. So we have gone ahead under the blessings of the Munitions Board to set up a cataloging agency which has Army, Navy, and Air Force representation in the standardization of nomenclature and the item identification of every item, which the three services are using. In the final analysis we buy at least 85 percent of the supplies that the Federal Government purchases.

QUESTION: You stated a few minutes ago that periodic inventories for theaters either proved or disproved the replacement factors being used by the Department of the Army. I assume you mean that the difference between the inventory in the theater and the calculated amount

RESTRICTED

2 /

that they should have in the theater is the replacement factor and either proves or disproves that replacement factor, I can't quite follow that unless you explain it a little further.

COLONEL TROSPER: I probably misled you. The theater commander really determines the replacement factors, depending on the conditions in the theater. He is the one who makes recommendations to the chiefs of Technical Services. In effect he recommends that in his theater or in his command the replacement factors be such and such. That is based on usage. You can readily see that the effects of climate, poor roads, and all the other adverse conditions in the Philippines, which have no comparable counterpart in the European theater, would lead to a different replacement rate over there as opposed to that in the European theater. So the theater commander, in substance if not in fact, sets replacement rates based upon his own past experience. We don't do it here. We merely publish it and approve it.

QUESTION: Perhaps I am a little confused because, having set this replacement factor and sending in this inventory, then it is assumed that this replacement factor is furnished periodically to the theater. At the same time--as I remember it--that this was taking place an inventory was coming in from the theater which was compared against the computed amount the theater should have, and the difference was snapped. Isn't there a duplication, then, of the quantity being shipped to fill up a shortage indicated in the replacement factor?

COLONEL FLECHER: We don't get any inventory. There hasn't been an inventory from a theater, at least, since I have been in the War Department. It has always been too much of a chore. The theaters, as you well know, were confronted with the same problems that the Army world-wide was confronted with: The matter of redeployment, losses of experienced personnel, and inexperienced people getting into the supply functions. Right now we are getting information concerning surpluses and excesses which we have not had, and lots of times we would get it through individual reports.

I would like to say that in so far as overseas commands are concerned, we in the states know very little about their supply situation, except for the units which are required for return to next issue demands through 30 June 1951. Whatever surpluses they had, they were authorized to get rid of. Where they are at present in getting rid of surpluses is something we don't know, so I don't think the theater knows from day to day.

RESTRICTED

RECORDED

QUESTION: You spoke about the supply studies for about 2,000 items. There are many more thousands of items used by the Army. How do you compute requirements for those?

COLONEL FISCHBEIN: Those are done by categories, by means of a smaller supply control study. Of course, the Chief of Technical Service has to have certain main, basic, essential information so he knows when to procure, but we are interested largely in those items which are important from the standpoint of dollar value or from the critical nature of the material that goes into them, or from the long procurement lead time, or for other reasons such as those. The number of principal items went down entirely too far--down to 750--and it was continuing to decline. The instructions current at the time left it up to the Technical Services themselves as to what items they chose to report as principal items. They still have that privilege. That still is the prerogative, but we have stepped in with a minimum level and have said, "We want you to increase this list by 25 items on this next report." The bottom was just dropping out.

QUESTION: Out of the 600,000 items handled by Technical Service, has this question of standardization been carried out to the point so that any possible duplications have been eliminated and possible substitutes named in order to reduce that number as much as possible?

COLONEL FISCHBEIN: That is constantly before us. We have a three-year program in cataloging and item identification by which we hope to lick that problem completely. We recognize the problem, and we are actively engaged in that now. There are, of course, as you know, a lot of duplications.

QUESTION: You mean that the Chief of Ordnance doesn't know how many service motor vehicles there are in the Army without calling for a special report?

COLONEL FISCHBEIN: That is correct.

QUESTION: The reason I ask is that people in what they call the field are always making out all these reports, and I am reminiscent of the time the Adjutant General didn't know how many people were in the Army; that, in spite of the fact that daily you turned in so many blue sheets showing how many people you have.

COLONEL FISCHBEIN: That is right. The Chief of Ordnance does not know how many vehicles the Army has world-wide. He knows how many we have in the Zone of the Interior. Right now there happens to be in the vicinity of Manila 20,000 repairable vehicles that the theater

RESTRICTED

200

over there can't repair because of lack of personnel. Just yesterday we sent up a staff study recommending that the Army send a medium maintenance company out there to clean up that backlog and get the vehicles back into supply.

QUESTION: Can you tell me what happens when the Budget Division calls up on Saturday morning and says, "On Monday morning we would like to have a revision of Technical Service procurement from 4.5 billion dollars down to 2 billion dollars." In other words, are you able to meet a varying number of figures?

COLONEL TISCHBEIN: That is a very pertinent remark to which I do not have a definite answer. As you can very well realize, we don't know the figure the Budget Bureau might give us. In order to answer all such questions, we would have to prepare as many answers as there are permutations and combinations within the acceptable limits that we assume the budget might be. But you are quite right. They do that. They expect shotgun estimates. They don't give enough time to give a well reasoned, well thought out, well organized answer. That is a problem which we are faced with all the time. It doesn't stop with the Bureau of the Budget either.

COLONEL MCKEISSEM: I think I can extend to Colonel Tischbein the appreciation of the class and I know I can of the College for a very edifying and very clear exposure of the subject we gave him to discuss. Thank you very much.

(18 November 1947--490)S.

RESTRICTED