MILITARY SUPPLY SYSTEMS: LESSONS FROM THE VIETNAM EXPERIENCE

THIRTY-SEVENTH REPORT

BY THE

COMMITTEE ON

GOVERNMENT OPERATIONS

OCTOBER 8, 1970.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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(II)
LETTER OF TRANSMITTAL

House of Representatives,
Washington, D.C., October 8, 1970.

Hon. John W. McCormack,
Speaker of the House of Representatives,
Washington, D.C.

Dear Mr. Speaker: By direction of the Committee on Government Operations, I submit herewith the committee’s thirty-seventh report to the 91st Congress. The committee’s report is based on a study made by its Military Operations Subcommittee.

William L. Dawson, Chairman.
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MILITARY SUPPLY SYSTEMS: LESSONS FROM THE VIETNAM EXPERIENCE

October 8, 1970.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. Dawson, from the Committee on Government Operations, submitted the following

THIRTY-SEVENTH REPORT

BASED ON A STUDY BY THE MILITARY OPERATIONS SUBCOMMITTEE

On October 7, 1970, the Committee on Government Operations approved and adopted a report entitled “Military Supply Systems: Lessons From the Vietnam Experience.” The chairman was directed to transmit a copy to the Speaker of the House.

I. INTRODUCTION

Military supply systems regulate the flow of military equipment and supplies from the factory to the user in the field. The great bulk of this material is not for immediate use. It is routed to depots and warehouses to replenish inventories, upon which requisitions are drawn by U.S. military “customers” in many parts of the world. Major depots are akin to “wholesale” supply houses; the supply sergeant in the post, camp or station is a “retail” user down the supply chain. Computer centers known as inventory control points keep track of inventories for purposes of supply and replenishment.

The sheer mass and complexities of military supply operations suggest at once the enormity of the management tasks and the potentials for savings through improved performance. Supply system stocks which support the Military Establishment enter at the rate of $35 billion a year. There are 4 million separately identified items in military supply systems. Every day thousands upon thousands of requisitions are flashed through worldwide military networks, processed at receiving centers, and directed to supply depots for action; and every day military goods move out from storage points to hundreds of de-
tinations in the United States and overseas. Military supply agencies probably process more than 60 million requisitions a year.

To handle these voluminous and complex supply functions, various organizations have been devised and revised through the years. Today each military service, including the Marine Corps, has its own supply system. Above the service level, the Defense Supply Agency buys and distributes a great volume of supplies commonly used by all the military services. Outside the military establishment itself, the General Services Administration, which is a central supply and service agency for the civilian branch of the Government, also buys and distributes appreciable amounts and varieties of common items for military as well as civilian use. Within and among these services and agencies there are differing supply management philosophies and methods, in part responsive to particular operational needs, in part reflecting tradition and outlook.

The Military Environment

The facts of life in a military environment rarely accord with conventional concepts of management efficiency. Supply discipline is enforced more in word than in deed. Supply personnel are not always well trained for their unglamorous work. Stock records frequently do not tally with physical count of goods on hand. Requisitions of ordinary supplies too often carry high priority labels, so that the distinction between the urgent and the routine breaks down. Lack of uniformity in the unit of issue may mean that millions of ordinary items are delivered when only thousands are wanted. The requisitioning forms, though now standardized, pass through many hands and sometimes get lost, strayed, or stolen. The computers which process the supply data may have different "languages" so that they cannot readily "talk" to each other. Excesses and shortages quickly develop because of delays in distribution or redistribution. Unnecessary duplication of stocks is a frequent result of defective supply information.

These and other disabilities in military supply systems, varying in frequency and effect, are a continuing challenge to military supply managers. The disabilities are not inevitable; they can be overcome. Men and machines being what they are, it is too much to expect that any supply system ever will be perfect, but many millions of dollars can be saved by improvements in supply system operations.

Supply effectiveness, it must be recognized, is not always equated with economical use of resources. War itself is waste, and in a combat situation, material conservation is not the first law. Great quantities of ammunition will be expended, fuel and equipment burned up, to save even a few lives. And if supply channels are clogged for critical combat items, extraordinary means will be taken to obtain needed material regardless of expense. A breakdown of supply support is always dangerous; it could be disastrous.

It follows that supply effectiveness is judged from different perspectives along the supplier-user chain. The theater commander or company supply sergeant who gets more than enough is happier than if he gets less. The supply clerk in a depot who fills his daily quota of requisitions from the storage bins must be rated a diligent and productive worker even if the requisitioning process, through no fault
leads to oversupply. A helicopter pilot or tank commander, grateful for the speedy air delivery of spare parts to get his equipment off deadline, does not worry about the comparative costs of air and sea transportation.

The Vietnam Experience

To generalize at a higher level of concern, supply support in Vietnam has been a truly remarkable achievement, but the question must be asked, did it entail unnecessary, hence avoidable, costs? The answer is "Yes," based on the known facts. Supply support to Vietnam was at once a demonstration of superb performance and appalling waste. Existing military supply systems simply were not effectively controlled nor flexible enough to accommodate urgent Vietnam needs; expensive adjustments and improvisation had to be made. Perhaps these are necessary in all wars, which inevitably develop unique problems and generate unforeseen demands. Indeed Army spokesmen at subcommittee hearings pointed to these adjustments as evidence of system flexibility rather than the reverse. Still, it appears to us that the supply systems organized in peacetime were not nearly good enough for war. The assumption we must make is that much more efficient systems can be devised for response to emergencies large and small, and that substantial savings can be derived without impairing effective supply support.

Certainly this assumption lies behind the report of the Joint Logistics Review Board established by the Secretary of Defense to review the supply support experience in Vietnam and to draw lessons for the future. The Board's 205 recommendations bespeak a confidence that lessons can be learned, and that each generation of military practitioners is not necessarily condemned to repeating all the mistakes of the past. The confidence will be justified to the extent that these recommendations are given effect on a serious and sustaining basis.

Importance of Logistics Area

In past years this committee has examined many facets of military supply systems, including cataloging, standardization, development of single manager agencies, the evolution and operations of the Defense Supply Agency, and, of course, numerous procurement problems. We persist in our studies and investigations because we believe that supply management is a relatively neglected area, in contrast to procurement. Military buyers reach the concerns of the marketplace; military supply managers deal with the procured commodities "inside the gate." As subcommittee Chairman Hollifield said, in opening the 1970 hearings:

Supply management methods and procedures are not well known to the public. Procurement gets more attention because it is more visible and frequently there is a bidders' contest to dramatize the issues. It is obvious, however, that from the standpoint of achieving economy and efficiency in Government, supply management is just as important as procurement. Supply overruns—what are termed "excesses"—in stockage and distribution are as much a cause for concern as cost overruns in procurement.

H. Rept. 1380, 91-2—2
Although the subcommittee has frequent occasion to investigate specific allegations of supply mismanagement, the purpose of our recent hearings was to look at military supply systems in broad compass and in terms of basic concepts. We believe that the Congress needs a better understanding of the problems confronting military supply managers; also, that congressional support for substantive and lasting improvements will come forth more readily with better understanding of this subject matter.

The direction of our glance is forward. New technologies are putting wondrous new tools at the disposal of military managers—huge computers to do in seconds what human hands and brains cannot do in decades; lightning-fast communication of logistics data through satellite relays in the sky; giant cargo aircraft and fast, new ships to move the men and material of war in hours and days instead of weeks and months. How are the military services preparing for, or adapting to, these new developments? What changes do these developments promise, what challenges do they make, to the conventional ways of getting goods to the fighting men?

**Emphasis on Army Problems**

In this report, attention is directed mainly to the Vietnam experience as a test case for application of supply concepts, and to the Army, which has the biggest and most complex supply job of all the services. We do not imply by our present emphasis on Army problems that the other services are faultless or lack room for improvement. The Army problems at this time seem more acute and needful of attention. The committee recognizes the enormity and complexity of the Army's logistics and supply problems and commends officers like Lt. Gen. Joseph M. Heiser, Jr., Deputy Chief of Staff for Logistics, for initiating and monitoring programs of corrective action. General Heiser has candidly discussed his problems with the subcommittee and has reported in detail on Army developments in this field.

The present report is based on continuing staff studies and public hearings held in July-August 1968, November-December 1969, and August 1970. The Military Operations Subcommittee had the benefit of consultations with General Accounting Office staff members working in this subject area, both in Washington and Vietnam, where the subcommittee made an inspection trip at the beginning of 1968. A GAO report on Army supply activities in Vietnam, published about the time of our 1968 hearings, served as a starting point for testimony by GAO and military representatives. The 1969 hearings reviewed additional GAO findings and subsequent developments in DOD and Army logistics management activities. The 1970 hearings highlighted the report of the Joint Logistics Review Board, known as the Besson Board after its chairman, General Frank S. Besson, Jr.

**II. Loss of Supply Control in Vietnam**

One central fact that thrusts its way to the foreground of any evaluation of Vietnam supply support is that for more than 3 years...
it was relatively uncontrolled. The zeal and energy and money that went into the effort to equip and supply U.S. forces in Vietnam generated mountainous new procurements, choked supply pipelines, overburdened transportation systems, and for a time caused complete loss of control at depots in Vietnam.

**SHORTAGES AND “PUSH” PACKAGES**

In the first instance, as in every war, shortages were what attracted congressional and public attention. Naturally, the concern was that our fighting men get everything they need. Shortages were bound to occur at the outset because it would take time to move supplies, establish receiving depots, and do the other manifold preparatory tasks for combat support. Moreover, General Westmoreland had made the military decision to put troops in the field as rapidly as possible without waiting for the logistics buildup. This was a calculated risk, and it meant that troop provisioning and equipping would be somewhat austere in the initial deployment.

Dust, rain, and heat also took their toll of clothing and equipment. Jungle boots, light combat fatigues, and other items were in short supply during the early months. Bulldozers operating 24 hours a day in rough terrain chewed up spare parts faster than expected. Helicopters often were deadlined for want of spares.

In the 1965-67 period of rapidly expanding deployment, a “push” concept for supplies prevailed. The rationale was to give incoming units enough supplies for periods up to 180 days while the depot complexes and distribution systems were being established in-country. The “push” packages, based on estimates drawn from past experience and faulty consumption data from deploying units, carried unneeded or unsuitable items, and contributed to the accumulation of excesses. The concern in the early days, however, was about too little, not too much.

The fact that South Vietnam ports and receiving facilities were grossly inadequate to handle the rush of supplies was no secret to military planners. But needs were great and deployment actions were quick. The message from the theater was: “Keep the ships coming.” Vessels waiting to get into port became floating warehouses from which essential combat items, such as food and ammunition, were extracted first.

“Push” packages depended not only on existing supplies wherever available but on new procurements. These were made in a hurry-up way to accommodate compressed deployment schedules, and they set in motion their own train of problems. Buying accessories for too many makes and models of equipment, a consequent proliferation of spare parts stockage at all supply levels, a lack of skilled manpower for maintenance of the various equipments, unsuitability of many commercial-type off-the-shelf items in the harsh combat environment, replacement of unsuitable items by new procurements, the added costs.

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According to the Besson Board: “The availability of logistic support units generally lagged behind the deployment of combat units during 1966, and most of 1967. At the Sept. 27 to Oct. 1, 1965, Honolulu conference, MACV agreed to accept combat forces as they became available even though logistic support would be marginal, but by December 1966, this calculated risk could no longer be accepted and further tactical unit deployments were delayed.” “Logistic Support in the Vietnam Era,” a report by the Joint Logistics Review Board, vol. II, p. 188.
and time of transportation—problems such as these are cited by the Besson Board.³

FROM SHORTAGE TO EXCESS

It did not take long for the supply support problem in Vietnam, viewed as a whole, to change from shortage to excess. Back in the States, manufactured items were pouring out in response to urgent procurement requests and being directed to depots or ports of embarkation for shipment to Vietnam. Included were supplies for the military forces, for the Vietnam economy through the AID program, and for contractors engaged in various construction projects. As the U.S. ports became jammed, pressures developed to move out the supplies, and foreign-flag vessels had to be called.

On the receiving end, to avoid demurrage charges and release ships for the next run, the pressures were strong to unload and get out. Supplies were dumped on the docks as ships by the score waited their turn. The line of cargo vessels would be strung out to sea, sometimes held up in the Philippines. Port authorities wrestled with the competing demands of space to unload supplies for economic aid as well as military requirements. Perishable AID cargo, like wheat, rotted on the wharves.

As supplies were hauled in and dumped on an around-the-clock basis, the pressures again were strong to move supplies away from the port area and make way for incoming loads. Vast amounts of supplies were jammed into depots or placed in open areas. In the words of the Besson Board: ⁴

* * * As the shipping backlog grew, materiel was moved directly from ship and port areas to any available storage area and stacked at random. Documentation was lost or became illegible; locator systems were ineffective; needed supplies were inaccessible; packaging became weathered and damaged; and markings became illegible. Consequently, because needed items could not be identified or located, they were re-requisitioned, further increasing the incoming flow and compounding the problem.

Observers making on-the-spot checks of supply against records, often would find as much as 50 percent of the items had not been recorded; the books showed none on hand, or in supply terminology, "zero balance." Great stacks of supplies lay around and excesses were obvious. In October 1968, the equivalent of a whole shipload of toilet paper (12,000 measurement tons) was observed in one location, with the books showing zero balance; also Conex shipping containers filled with mattresses, in rows three wide and three deep and several hundred yards long, about 69,000 mattresses, again with zero balance. The zero balances meant that masses of supplies, being unrecorded, did not exist so far as the supply system in Vietnam was concerned, and yet the system depended on stock status reports for purposes of replenishment. As the Besson Board noted, new orders were sent for supplies already in excess. And using units, lacking confidence in the

³ Id., p. 109.
⁴ Id., p. 152.
supply system, sent in multiple requisitions to improve the chances for delivery of what they wanted.

**Contributing Factors**

One of the big problems, General Heiser pointed out, was in construction supplies. Numerous construction projects had been approved for Vietnam, and the "push" system was used to move in the necessary supplies. Then decisions were made at high levels to cut back on construction programs, and the result was "considerable excess in terms of construction materials." At one time 500,000 to 700,000 tons of construction supplies were on the ground. The cutback in base construction developed excesses of urinals, scullery sinks, hot water boilers, and, as General Heiser said, "all kinds of things."

In part, the problem was one of timing; General Heiser explained:

In addition to that [construction supply problem], we had the road program over there, which was a good program. It opened the country so the country knows they are a part of the country and not just something that is called Saigon off in a distance. We bought and moved into Vietnam literally hundreds of thousands of 55-gallon drums of asphalt. The asphalt was required over the course of the entire program, but it was not required in there on the ground when it was all coming in there. We had to draw this down, because we even had to put troops out there to guard it, because one satchel charge could start a 55-gallon drum burning and we could lose all the drums within reach of the fire of that one drum.

At the 1969 hearings, General Besson summed up the chaotic situation and the reasons for excesses in Vietnam supply:

Now, some of these supplies came from push packages, but push packages were not a major factor in a number of tons that were shipped into the theater. Congestion at the ports, which was widely publicized in the fall and winter of 1965 and 1966, led to masses of equipment and supplies in ships which could not be unloaded. Once they got the ports straightened out, they merely moved this problem off the ships onto the shore and they then ended up on the ground with a lot of material that could not be identified. This in turn complicated the whole logistics system. It has taken 2 or 3 years to get out from underneath the burden of these undigested quantities of material that were shipped into the theater. When they couldn't identify materials they submitted additional requisitions and the more requisitions received in the inadequate data processing system, the more they piled up, and considerable time was spent in trying to straighten out the records, and in trying to get back orders and due-ins reconciled with material on the ground. A great deal of effort was expended in reconciliation instead of managing the supplies which were actually being used.

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6 1970 hearings, p. 181.
6 Id.
7 1969 hearings, pp. 52–53.
Efforts To Gain Control

The available information suggests that between one-third and one-half of the supplies that came to Vietnam during 1965–67 was not reflected on the books. Under Project Counter, four successive Army teams, involving about 1,350 personnel trained in the United States, were sent to Vietnam during 1967–68 to help inventory the material and regain depot control. One team followed another because a single effort was insufficient; record accuracy began to degenerate almost as soon as the inventories were completed. The Air Force sent its own teams for similar work.8

One of the first actions in Project Counter, according to Thomas D. Morris, then Assistant Secretary of Defense (Installations and Logistics), was to retrieve unneeded supplies from the “push” packages sent to 1,900 operating units. The retrieval added to the congestion problems at the three Army depots, particularly the Saigon complex known as the “Fish Market.” A new replacement depot was constructed at Long Binh, 25 miles from Saigon, to alleviate the congestion.9

Other forced-draft measures were taken to get excesses out of the way and introduce some measure of supply control. The 14th Inventory Control Center (ICC), deployed in late 1966, worked to identify excesses, which then had to be verified because of inaccurate records; and Project Counter teams worked with tactical units to locate and retrieve excesses in organizational units. At the depots a “Gray Box” program was started, as the Besson Board said, “on the assumption that if the box had sat for so long as to become weathered it was not required.”10 A “Space Eater” program was established to identify and validate requirements for large, bulky items and remove unneeded supplies from the theater.

A massive retrograde movement of excess, unidentified, and long supply items to Okinawa was commenced in April 1967. Shiploads of consumables also were diverted there. Large quantities of Army material were cleaned or refurbished at Okinawa and Japan and placed back in supply channels. In November 1967, the Pacific Utilization and Redistribution Agency (PURA) was set up in Okinawa to screen and redistribute excesses, with the Army acting as executive agent for all the services.

Stopping the Flow

It is remarkable that 3 years passed—first pushing from the United States and then pulling (requisitioning) from Vietnam—before a draconian measure was taken to staunch the flow. In the summer of 1968, along with a wall-to-wall survey and physical inventory of supplies in Vietnam depots and general and direct support units, came Project Stop. It cancelled certain categories of material considered not essential for combat operations or which were requisitioned with-

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8 According to the Bessen Board: “During the period June 1965 through October 1966, AFLC (Air Force Logistics Command) dispatched 66 teams (2,792 personnel) to Southeast Asia to assist with supply problems. These teams provided the temporary skilled manpower needed to inventory, identify, and warehouse property, install computers, and convert to computer operations.” “Logistic Support in the Vietnam Era,” a report by the Joint Logistics Review Board, vol. II, p. 291.
9 “1968 hearings, p. 258.
out supporting documentation in the theater. Project Stop was followed by Project Stop/See, whereby specific bulk items such as asphalt, poles, sandbags, steel pickets, and mattresses were held up or "frustrated" wherever they might be in the pipeline. Then there was Stop/See Extended, which expanded the blockage to include entire Federal supply classes.

According to the testimony, Stop/See now includes 163,608 federally catalogued items in 79 commodity classes, which continue to be blocked. Stop/See caused the cancellation of requisitions valued at $305 million in fiscal 1969 and $220 million in fiscal 1970. The cancellation program came fairly late in the game; it would seem that such action could have been instituted much earlier. Even so, Stop/See was not refined enough to catch many items in excess. To mention one example, in October 1968, some 35 different types and sizes of paperboard boxes were noted in a Vietnam depot inventory, but only three or four were carried in Stop/See listings. It was not until the spring of 1969, apparently, that receipts and issues for supplies in Vietnam were brought into reasonable balance. It took the better part of 4 years to gain control of supply support in Vietnam.

Speaking for the Army portion of Vietnam supply, General Heiser noted that drastic reductions had been made in gross tonnages by using up supplies on hand. Toward the end of 1968, an estimated 1.7 million short tons of supplies, valued at $2.2 billion, were on hand. By August 1970, General Heiser estimated, the drawdown resulted in 480,000 short tons on hand, valued at $600 million. These reductions were not directly related to troop withdrawals and did not impair combat effectiveness.

**Inflated Priorities**

The requisitioning process, apart from other burdens, was vitiated to a large extent by inflation of priorities. High-priority requisitions, aimed at expeditious handling and fast shipment, were submitted in such profusion that the integrity of the requisitioning system soon became compromised. In Vietnam, as many as 80 percent of the requisitions in a given period were in high-priority groupings. The General Accounting Office reported to the subcommittee in June 1968 that it found "the highest possible priorities being assigned to items such as paper clips, davenports for quarters and offices, dictionaries, liquor glasses, and similar items." One spot-check of cargo put down at Qui Nhon in October 1968 disclosed 30 mattresses in six plywood boxes requisitioned by an Air Force unit under a "999" priority, which is used to designate essential items for restoring deadlined combat equipment to operational use. The records showed zero balance but a physical count disclosed 1,275 mattresses already on hand in Qui Nhon. In the same period, as noted above, 69,000 mattresses were stacked up at another location in Vietnam.

The designation "999" signified a super priority in the formal priority system, but each of the military services previously had de-
veloped super priority designations for quick delivery of critical items. The Army had its Redball Express to move cargo to Vietnam in support of Army vehicles and aircraft which were deadlined (or anticipated to be deadlined in 15 days) for want of replacement parts. In 1968 Redball was moving between 500,000 and 1,000,000 pounds of supplies a week. The Navy had its Tiger Tom to expedite aviation material for deadlined equipment in support of the 7th Fleet and Fleet Marine air wing units in Southeast Asia. The Air Force had Pacer Vital to expedite movement of vehicle parts to Southeast Asia for deadlined aircraft.

These (and other) special systems were costly. They entailed, as a GAO witness said, “monitoring organizations at every level of supply.” And the administrative controls rose with the priority inflation. For example, complicated instructions were developed to determine which superhigh priority would be loaded, and in what order, at the airports.

In April 1967 a logistics control office was established in Oakland to check air shipments exceeding 1,000 pounds against requisitions from the 1st Logistical Command in Vietnam. The purpose was to determine whether material merited shipment by air rather than by sea. A Defense official stated that $500 million was saved in 1 1/2 years through the “challenge” of air cargo. This was rough, last-minute screening, not to validate requisitions but to reduce transportation costs. Requisitions from Vietnam carrying high or super priority designations were rarely challenged stateside by the inventory control centers. There was no systematic screening effort because screening meant delay, and delay was what the priority system sought to overcome. Occasionally, a requisition was questioned when a quantity seemed excessive on its face, but regular editing of requisitions was not performed. As the same Defense official acknowledged in a later appearance: “We had no control procedures for handling that kind of problem.”

Continuing Priority Problem

The priority system goes by the imposing label “Uniform Materiel Movement and Issue Priority Systems” (UMMIPS). In April 1968, a defensewide audit was initiated to check the validity of the high-priority designations being placed on service requisitions. According to a memorandum of June 26, 1969, by Barry J. Shillito, Assistant Secretary of Defense (Installations and Logistics), the audit disclosed “a most serious situation which must be remedied by immediate action.” The memorandum also said: “This DOD audit concludes that abuses to the UMMIPS are so widespread that the system cannot reasonably accomplish the purpose for which it was intended.” A 10-point program for corrective action by the services was laid out.

One of these actions required “[r]igid enforcement of the priority system rules and disciplinary action and official reprimands for intentional overstatement of the priority of a material requirement.” At the

15 Testimony of Paul Riley, Deputy Assistant Secretary of Defense (Supply, Maintenance, and Service), 1969 hearings, p. 77.
16 1970 hearings, p. 34.
17 A DOD directive is being prepared on the same subject.
1970 hearings, Defense officials said they were not aware of any disciplinary action taken, and Mr. Shillito suggested that any reduction in high-priority designations was due to changes in user needs rather than to disciplinary action. 18

Information submitted to the subcommittee showed that high-priority requisitions had declined somewhat in fiscal year 1970 compared to the preceding year, a reduction which Mr. Shillito termed "a decided improvement." However, the Army, with the largest supply workload, had only a 6-percent reduction, the Navy 1 percent, and the DSA 3 percent. In fiscal year 1970, about half the Army and Air Force requisitions still were designated high priority; and the Navy, Marine Corps, and DSA hovered around 40 percent. 19 Although Defense officials were not certain what was an acceptable ratio, by any reasonable measure the latest figures showed at least twice as many high priorities as there should be. The Army has set for itself a tentative ceiling of 25 percent. 20

The committee points out that inflation of priorities is not a problem unique to Vietnam. It affects requisitions worldwide. The Vietnam situation exacerbated a perennial problem and seriously compromised the established priority system set up in peacetime for the avowed purposes of meeting contingencies.

**BLOCKING REQUISITIONS IN VIETNAM**

After the spill-over of high-priority designations to requisitions of noncritical items became painfully obvious, there was some effort at restraint on the requesting side. Unit commanders were asked to approve high-priority requisitions before submission, and the inventory control center in Vietnam (14th ICC) put a "machine block" (computer elimination) on certain categories of less essential items such as furniture and other base camp equipment. 21 GAO testimony and comments by subcommittee members at hearings in June 1968 led the Army to try harder. General Heiser, then Assistant Deputy Chief of Staff for Logistics, and about to take charge of the 1st Logistical Command in Vietnam, told the subcommittee that requisitions for combat essential items would not be challenged and added: 22

However, it was brought out that there are items that are not combat essential, and why they cannot be challenged, and as a result of this, sir, we took action immediately after your meeting yesterday to get this out to the field and find out why this is not so, why we cannot do more of a challenge of non-essential combat-type equipment.

Later on, General Heiser made the point again: 23

As a result of hearing the discussions that you all had here Monday, I went back home the night before last and we sent

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18 1970 hearings, p. 47.
19 1970 hearings, p. 46.
20 1970 hearings, p. 158. See id., p. 190 for Army control procedures on high-priority requisitions.
21 1968 hearings, p. 93.
22 1968 hearings, p. 93.
23 1968 hearings, p. 93.

H. Rept. 1886, 91-2——8
out a wire saying why can we not further extend that challenge in other areas that would be noncombat essential so that we could be sure that we are not missing priority requisitioning.

At the 1970 hearings, General Heiser (apparently referring to Stop/See) said that 163,000 commodity lines were blocked:

I personally blocked them one night in Vietnam at a place called Qui Nhon by wiring it throughout the world and we have not removed 500 lines from that stoppage list since that time, and that was in the fall of 1968, sir.24

RETURN OF REPARABLES

If inflated priorities bespoke a breakdown or absence of supply discipline, so did the failure of using units to turn in or account for damaged equipment that was repairable when ordering replacements. At the 1968 hearings, the GAO reported that in sample surveys at various Army installations covering a 21-month period, it found that 70 percent of repairable items were not being returned for repair or accounted for, while $8 million worth of new parts were being purchased. Supply personnel had no authority or responsibility to insure return of reparables; the regulations left it pretty much to the unit commanders, and frequently the regulations were ignored, or large discrepancies went unexplained.25

In Vietnam, comparing issues and returns of 65 repairable items in a 6-month period, the GAO found that for 38 there were shortages in returns valued at about $8 million. In another check of 68 items in a 6-month period, the GAO found that for 52 there were shortages of returns valued at more than $22 million. Tail rotor assemblies for the OH-6A (Cayuse) helicopter were an example. During the review period, the Army’s Aviation Materiel Management Agency in Vietnam had issued 707, and only 390 were turned in; the shortage representing about $520,000. Diesel engines were another example. At the Long Binh Army Depot, issues of such engines during the 6-month period were said to exceed returns by 1,167 units valued at $4.2 million.26

Army officials cautioned against unwarranted inferences from these figures, pointing out that there were offsetting instances when more repairables were returned than were issued. They noted, for example, that in a given period 275 serviceable engines for the armored personnel carrier (M-113A1) were provided and 1,006 retrograded, a favorable difference of 731 engines valued at more than $2.1 million.27 In 1970, overall, $1.5 billion of Army equipment was retrograded compared with $1.4 billion put into Vietnam.28 Admittedly, however, the differential was due in large part to reduced stockage objectives and drawdown of supplies. Proper accounting in the sense of one-for-one exchanges or explaining losses was not necessarily involved.

24 1970 hearings, p. 130.
26 1969 hearings, p. 18.
In this context the committee recognizes, of course, that combat takes its toll of equipment and not everything can be salvaged. The purpose of supply discipline favoring the return of reparables is to discourage the dissipation of reusable assets which frequently are in short supply, expensive to acquire and maintain, and vital for operations. Even if the component eventually is returned rather than thrown away or abandoned, expensive procurements may have to be made in the interim to maintain stockage of critical spare parts. The foot soldier has to account for his rifle. It is not too much to expect that a similar accounting be made for much more costly components and assemblies. And the problem is not unique to a combat environment: lack of supply discipline and failure to return reparables are persistent problems in peacetime.

As a consequence of GAO findings and recommendations, the Army sought to tighten up reporting requirements for designated aviation reparables. A “closed loop” system was instituted for 160 aviation items in Vietnam (later extended worldwide to encompass 1,200 items), which aimed at matching issues and returns or accounting for discrepancies. Initially, the Army was not quite prepared to go along with a GAO recommendation in June 1968, for a “direct exchange” program; that is, returning one for one, or explaining inability to return; but after another GAO review in September 1969, the Army directed issuing units in Vietnam to maintain “suspense files” on certain aviation reparables with high dollar value. If designated unserviceable (reparable) returns were not made within 10 days or not reported lost in combat, new issues to the ordering unit were suspended until the required action was taken. 

**EXCESSES OF COMMON SUPPLIES**

Spare parts were frequently critical, high-value, much in demand, short in supply; they were subject on a selective basis to special handling and close controls, or what is termed “intensive management.” Common supplies, spilled in by push packages or requisitioned from DSA or GSA, came in much greater quantities than were usually required—in such greater quantities that to some observers the infusion defied commonsense. Vast but unknown amounts deteriorated in storage (particularly paper products, chemicals, and paints) or were sold as surplus at a fraction of the costs to get them to Vietnam. All the while, production facilities in the United States were strained, the fires of inflation were fed, and foreign vessels were depended on to get much of the unneeded supplies to Vietnam. And the Besson Board entered this reminder:

Actual events have proved that the combat forces were adequately supported, but they were not supported by material held in ships at anchor nor by material piled in the open, exposed to the elements and long unidentified. These materials were not usable assets. They were obstacles that compounded logistic problems. The obvious remedies were to tailor shipments to the effective receiving capacities of ports and depots and concurrently provide for rapid expansion of

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logistic capabilities. These remedies should have been recognized in the planning process.

At the 1970 hearings of the subcommittee, Chairman Holifield commented on the super-abundance of items disclosed by excess listings in monthly catalogs of PURA, the screening agency: 82

The Department of Defense and the military services now are trying hard to catalog and redistribute excesses. Monthly lists of these excesses are published for the information of potential military users. A perusal of monthly catalogs showing the volume and variety of reported excesses causes one to believe that new standards of military austerity are in order. Judging by some of the items listed, it would appear that the affluent society has come to the forward area and the combat zone.

We can understand how and why excesses are generated at military installations or storage points in forward areas, but why, offhand, should the military be saddled with such excesses as pinochle playing cards, television sets, mahogany-colored beds, horseshoe games, and billiard cue chalk? Doubtless they add to the personal comfort and convenience of military men, and may even be important for morale as well as health purposes, but it is fair to ask why so many of these items are requisitioned and shipped and never used.

The point which must be understood is that each of these items represents procurement actions and shipping costs in the United States, and requisitioning, receipt, storage, and distribution efforts by men in a combat theater. The processing of these requisitions, the work required to physically move these items around in Vietnam or elsewhere, and the storage space the items occupy, drain off scarce logistic resources which could be put to better use. We recognize that there is a natural tendency to provide the amenities to men in a combat zone, but this must be balanced against realization that many of these amenities are not used in the combat zone but in the rear areas, and that the diversion of logistic resources to handle tumbling mats, sofas, and the like, serves to reduce military effectiveness.

The items which showed up in the excess listings are remarkable as much for their quantity as for their variety. If a catalog in any given month listed 50,000 decks of pinochle playing cards, or $5,000 worth of billiard cue chalk as excess, one can only wonder how many pinochle decks and boxes of cue chalk cumulatively were sent into the theater. Monthly listings, chosen almost at random, show such excesses as $500,000 worth of paper bags, almost $3 million worth of toilet soap, about $400,000 worth of cleaning cloths, another $400,000 worth of electrical insulation tape, and varying quantities of picture frames, dressers, mahogany bedsteads, occasional tables, electric coffee urns, dog food pellets—a seemingly endless array of ordinary as well as technical items in excess, which testified to the wealth and abundance of the United States and its concern for the welfare of its fighting men.

Many thousands of the items were not on authorized stockage lists, and we do not assume that combat troops in Vietnam slept in mahogany bedsteads and stowed their gear in dresser drawers. General Heiser credited Lt. Gen. Frank T. Mildren, deputy commander of the U.S. Army in Vietnam, with "strong action to put a stop to a lot of the requisitioning of luxury items ** it is for the record that General Mildren did a great job in stopping this and getting down to what was combat essential." To document the point the Army later reported that a letter of June 15, 1968, from MACV registered concern about administrative and support services which exceeded requirements in a combat zone and advised military commanders—in the Army paraphrase—"that 'nice to have' and ultraluxury items would not be condoned." The committee notes that the admonition came after 3 years of struggling with supply problems in Vietnam.

There is another point to be made. Apart from the luxury and other unessential items which took that much more time and manpower in hauling and handling, the relatively unrestrained flow of supplies to Vietnam pared down the resources and hence the readiness of U.S. forces stationed elsewhere in the world. These forces were not necessarily equipped to authorized levels at the start of the Vietnam conflict in 1965, but the rapid deployment to that theater and the urgency of logistic support put heavy drafts on resources elsewhere. General Heiser pointed out to the subcommittee at the 1970 hearings that substantial inroads on Army readiness in other places were made by the Vietnam demands. The Besson Board also directed attention to this situation.

SCREENING FOR EXOSESSES

Creation of an agency to identify and redistribute excesses in a combat theater was an innovation of sorts. At the hearings in July 1968, then Assistant Secretary Morris explained how it came about:

During my visit to Vietnam last November in company with Assistant Secretary Brooks [of the Army], it became apparent that we should immediately begin steps to identify and redistribute the excess inventories which had resulted from the buildup. In Korea we had failed to institute such action in a timely manner, and that conflict ended with some $12 billion of excess materiel, much of it in deteriorated condition.

The memorandum which Secretary McNamara signed on November 24, 1967, establishing PURA, repeated the theme of avoiding past excesses and said that with the virtual completion of the logistics buildup, it was timely to look to the management aspects. Economy was the watchword. According to the memorandum:

General Westmoreland has placed increasing emphasis during the past year on the importance of prudent and economical management of these resources. He wants to maintain not
only the most responsive logistic support base in our history, but also the best managed.

The general’s aim, and the Secretary’s endorsement, of economy were understandable and laudable but not without irony. Vietnam supply was afflicted with heaps of excesses, inflated priorities, unnecessary requisitions, and relative lack of inventory information and control. At MACV, about that time, a management improvement program had been initiated, called Project Maconomy, “with the objectives,” General Westmoreland later wrote, “of enhancing efficiency and insuring the most economical use of available resources.” By December 1967, according to General Westmoreland, Maconomy had saved more than $100 million. Secretary McNamara viewed PURA as in keeping with Maconomy. His memorandum made the management problem sound moderate and the excess unavoidable. The memorandum said:

The speed and magnitude of the Vietnam buildup has unavoidably resulted in the accumulation of some imbalances and excesses in inventories. We will begin immediately to redistribute these excesses so as to assure their application against approved military requirements elsewhere in the military supply system. By doing so we can avoid the inefficiencies and waste experienced in the past.

It may be that Secretary McNamara simply was not aware of the immensity of the supply excesses or the disorganization in supply systems; or perhaps he was looking only at the positive side. It is interesting to note, in contrast, the observation of the Besson Board, of course with the advantage of hindsight, regarding the status of excesses:

Some excesses are unavoidable. Some result from reasonable prudence in providing for possible emergencies. Others are, to a large degree, avoidable. The importance of reducing the latter to a minimum has been forcibly brought out by experiences in the Vietnam conflict, and goes beyond cost reduction and effective use of assets. The delivery of unnecessary material to a combat area, with its handling and storage, saturates logistic capabilities and degrades the effectiveness and efficiency with which important needs of the operating forces are fulfilled—particularly in the initial stages of the conflict.

In the 2-year period, May 1968–70, PURA screened materiel exceeding $1 billion in value, and referred $158 million worth for redistribution within the theater. The Besson Board estimated that about two-thirds of the excesses went back into distribution channels (in-theater or elsewhere) and the remaining one-third (about $500 million worth) went to the surplus disposal yards. Figures on PURA’s role in handling the Vietnam excesses are not too meaningful because some excesses reported to PURA were not attributable to the war, not all excesses are unavoidable, Some result from reasonable prudence in providing for possible emergencies. Others are, to a large degree, avoidable. The importance of reducing the latter to a minimum has been forcibly brought out by experiences in the Vietnam conflict, and goes beyond cost reduction and effective use of assets. The delivery of unnecessary material to a combat area, with its handling and storage, saturates logistic capabilities and degrades the effectiveness and efficiency with which important needs of the operating forces are fulfilled—particularly in the initial stages of the conflict.

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89 1968 hearings, p. 70.
41 Id. at 28.
cesses were reported to the agency (for example, parts peculiar to the services), reliable records were not available in 1965–66, and the services varied in their definition of reportable excess.

The Army served as executive agent for the Department of Defense in identifying the excesses and making them available for redistribution. The commander-in-chief of the Pacific theater was charged with supervising the screening agency and reporting to other Defense activities the availability of materiel which could not be utilized in the Pacific area. The GAO, in a report to the Congress, said that PURA served mainly as “an information center” and lacked “any authority or mission to supervise, direct, or oversee the actual redistribution or utilization of the excess materiel in the Pacific area.” The screening program also was criticized by the GAO for slow response time, inadequate controls, and limited cooperation by the services.42

Lack of Standardization

Many factors contributed to the glut, the confusion, and the breakdown of depot control in Vietnam. In some respects they reached back to basic deficiencies in peacetime cataloging and standardization of military supply items. Supplies came in so many different grades, types, colors, sizes, and units of issue that they compounded all the problems of requisitioning, handling, shipping, storing, inventorying, and distributing.

One service might use a 3½-ounce paper cup and another service a 4-ounce paper cup; each would carry a different Federal stock number and be requisitioned accordingly. As General Heiser observed: 43

* * * we had as many as 39 different kinds of paper cups. Some of it is reasonable. A doctor wants a little cup like that to put his pills in or his medicine and you want an 8- or 10-ounce cup to drink water out of, or something like that. But you do not need 39 different kinds of cups. This contributed immensely to this kind of problem. * * *

The Federal cataloging system, originally designed to identify, name, and number every discrete item in the universe of military supply, in the interests of eliminating unessential differences, promoting standardization, and reducing inventories, did its job too well in some respects and not well enough in others. Every item, no matter how insignificant its difference from another item, was duly identified, named, and numbered, but the standardization potential was far from realized, causing the proliferation of supply items and the multiplication of excesses.44


44 According to one analyst, the proliferation was due in part to service resistance to centralized item management. "... At a time when the services believed that the principal criterion for centralized management of items would be the use by more than one service of the same item, it behooved them to obtain separate stock numbers for as many of their items as they could. There was, therefore, a natural tendency to establish a package of characteristics for their items which differed in some way from the packages of requirements specified by another service, or other services..." From a memorandum by Coleman E. Cook, special assistant for plans, to the Assistant Secretary of the Army (Installations and Logistics), Mar. 24, 1970. 1970 hearings, pp. 284–285.
According to Coleman P. Cook, a special assistant to the Assistant Secretary of the Army (Installations and Logistics): 45

* * * The services have exercised few restraints in the range of items they undertake to supply and the Department of Defense, except for belated and ineffective standardization actions, has failed to impose adequate controls over the proliferation.

To illustrate his point, Mr. Cook cited 337 different screwdrivers in the Army identification list and its master data file. He had not determined how many additional screwdrivers were in the lists of the Navy, Air Force, Marine Corps, and other agencies.

The Besson Board viewed some of the causes and results of supply proliferation on the receiving end as follows: 46

The delay in developing standardized criteria for austere cantonment facilities and the permissive policies regarding post, camp, and station-type property and expendable supplies were major contributors to the excess problem in bulk if not in dollars. Deploying units brought all available supply catalogs, which opened a literal Sears, Roebuck & Co. system to them. The resulting proliferation of items was sufficient to inundate any supply system. For example, requisitions for 5-gallon cans of white paint could pass through the machine identified only by a Federal stock number (FSN) and be literally invisible to the human eye while excess quantities of white paint in 1-gallon cans were being retrograded from the depot. Also, a unit could requisition one of the 2-dozen-odd typewriters by FSN, thereby creating a CONUS [Continental United States] demand even though similar machines under a different stock number were excess in the theater. Stringent controls on what a unit would order and machine programs to cross reference items for interchangeability [sic] and substitutability were instituted long after the damage was done.

Nor was the cataloging system of much help in sorting out items to be barred from shipment or listed as excess for possible redistribution. Would 3/4-inch manila rope satisfy a requirement for 5/8-inch manila rope? Would 6-part tabulating paper do for 5-part paper? The Federal catalog was not designed to convey practical information on functional substitutability. In the Stop/See program, for example, it was not enough to block items by stock numbers alone. There were too many types, grades, sizes, and colors, each separately numbered. The Stop/See blockage had to name items in general categories ("cup, paper"; "box, fiberboard") and impose a shipping ban on named as well as numbered items, stopping them wherever they might be in the pipeline. Again, in the PURA catalogs, high-value items were arranged alphabetically by nomenclature to make the listing and screening more effective.

451970 hearings, p. 285.
ITEM TURBULENCE

Supply management decisions made during the conflict, though intended for worthy purposes, necessitated many changes which contributed to item turbulence, and item turbulence signified problems for supply managers. For example, as changes or corrections were made in the Federal catalog, these had to be communicated worldwide, including Vietnam, if the catalog system was to work at all. One single change at the cataloging headquarters fanned out through worldwide networks in a chain reaction. Catalog subscribers, inventory control points, storage points, bases, posts, camps, and stations, all had to make the corresponding notations in their records.

The turbulence, of course, was not confined to cataloging. Changes of item “ownership,” unit pricing, unit of issue, and other elements were involved. Not only were catalog changes being made at unscheduled intervals, but many commodities were changing hands—from the military services to the Defense Supply Agency and, in some cases, to the General Services Administration—for purposes of procurement and supply. The “mass migration of items,” as it was called in Defense circles, often created confusion, error and delay in requisitioning before commodity assignments became firmly fixed and widely known. The “ping ponging” effect in requisitioning showed up in instances where a request for a given item of supply was bounced around as many as 10 or 15 times through stateside depots or centers before it could be filled, and sometimes the requisition died of weariness and old age.

At the Defense level, Assistant Secretary Shillito, referring particularly to the shift of responsibility in item management from military services to DSA and GSA, stated to the committee at the 1969 hearings “that these transfers were made without too much turbulence and with noteworthy success.”47 The Army took a somewhat dimmer view. Its estimate, presented to the subcommittee by J. Ronald Fox, Assistant Secretary to the Army (Installations and Logistics), was that the military services had to cope with 28 billion gross change actions since July 1, 1965. Mr. Fox was willing to say that this was a hypothetical figure. Nonetheless, he saw in this vast item turbulence “a root cause of our supply problems in Vietnam.”48

UNIT-OF-ISSUE VARIATIONS

So simple a matter as unit of issue showed how greatly troublesome changes of definition or minor errors could become in overly complicated and mechanized military supply systems. Not only did changes in the definition of units contribute to item turbulence, but the varying definitions and packaging concepts frequently caused gross overordering and consequent excesses. A carton of paper cups might contain 1,000, 5,000, or 10,000 cups. Manila rope or ordinary wire would come in reels and a supply sergeant would have to order a reel even if he needed a few feet. Sandpaper came in sleeves which might have 50 or 100 sheets. Paper bags came in bundles and most bundles contained 1,000 bags. Glass tumblers came in cartons of 72, so that if a dozen or two were needed, six dozen was the least that

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47 1969 hearings, p. 90.
48 1969 hearings, pp. 105-106.
H. Rept. 1586, 91-2—4
could be ordered. And the difference between one glass and one carton of glasses was not always made clear in the requisition.

To illustrate what could happen: One time in Pleiku, an Air Force unit wanted 3,000 glass tumblers; the requisition was handled as 3,000 cartons, each containing 72 tumblers. Twelve roll-on, roll-off trailers were readied in Okinawa to convey the 216,000 tumblers to Vietnam. The movement was intercepted and stopped almost at the last minute.

Another example: A compressed fuel bar used for heating C rations, costing a nickel apiece, issued by the Navy. In mid-1967, management responsibility for this item was transferred from the Navy to the Defense General Supply Center of DSA, which proceeded to change the unit of issue from “bar” to “carton,” each containing 1,200 bars, at a unit price of $65. A Navy construction battalion in Danang requisitioned 1,200 bars for which $60 was obligated. The Navy management data list at some point had changed the unit price to $65 but retained the “bar” designation. The battalion received 1,199 cartons, costing $65 each, a total of 1,438,800 bars valued at $77,935.

A Defense official, acknowledging the severity of the unit-of-issue problem, described it to the subcommittee in these terms: 49

We discovered this in some of our visits to Vietnam. There were so many changes on unit of issue, a man would order let’s say a carton or a bag and he did not know how many was in the carton or in the bag, and to some extent we felt that the wholesale managers were changing the unit of issue for their convenience or for their own expediency without giving enough consideration to the man at the end of the line.

The wholesale managers for most of the common-use items were DSA and GSA. It was more convenient for them to stock and issue pails of paint or reels of wire or cartons of tumblers without worrying about, how many gallons or feet or dozens were wanted by the users. Also, the wholesalers had closer affinity to manufacturers and were more disposed to adjust to the commercial practice. As an Army analyst stated: 50

For example, you buy paper cups this year from Lily. He packages those in a particular way. He may package them 1,000 to a carton, so the unit of issue becomes a carton. The next time you buy it, the carton may be 100, because you order from somebody else. Now you have to worry about what you are buying at the end of the line in a demand process.

So the thing is linked from the user through the wholesale system to the procurement process. That should be one single stovepipe.

The stovepipe was bent out of shape because the wholesalers and retailers were organizationally separate, with somewhat differing responsibilities. Designation of units of issue to simplify the wholesale

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49 1969 hearings, p. 90.
function, in the view of close Army observers, played havoc at the retail and user levels. It was no coincidence, they believed, that the nondefinitive units of issue were likely to end up in long supply; that is, far above authorized stockage.

Mr. Cook evaluated the situation as follows: 51

Probably no single change in a catalog data element caused the problems that were caused by a decision by DSA, followed by GSA, to change units of issue to conform to industry packs. Beginning around 1965 and continuing until the Army finally persuaded DOD to declare a moratorium on further changes, DSA and GSA systematically went through their items and changed the previous units of issue such as foot, pound, pint, quart, gallon, et cetera, to nondefinitive units of issue such as bag, container, reel, can, et cetera. The changes, solely for the benefit of the wholesale system, caused monumental mistakes in the field, as well as by the CONUS NICPs, created a hopeless accounting problem at retail and user levels, and caused excesses of multimillion dollar proportions.

According to the testimony, the DOD put a freeze on unit-of-issue changes, made a study, reduced the variations, and issued a directive which took more account of the user's requirements. 52 Though the problems were by no means all resolved, as General Heiser observed, 53 the item manager now is obligated by the directive to justify and coordinate proposed changes with all recorded users of the item.

LIMITATIONS OF COMMON SUPPLY SUPPORT

From one vantage point, the centralization of supply responsibilities in DSA and GSA, developed over a long period of time and attended by considerable controversy, was counted a positive accomplishment. More than half of the items utilized by the military are under central DSA management. Of the 1.2 million items in Army inventories, 800,000 are DSA-furnished. But the centralization of supply stateside was not an unmixed blessing when viewed in terms of the consequences on the receiving end. Both DSA and GSA, standing outside the service structures and command channels, and anxious to demonstrate their supply effectiveness, were not in the best position to challenge requisitions from Vietnam. Neither of them had theater depots. GSA stores catalogs prepared for civilian agencies, which found their way into the theater, were drawn upon freely for many luxury type items such as mahogany furniture as well as a wide variety of paints, kitchenware, paper products, handtools, and the like.

When supply management responsibilities passed from a service to DSA or GSA, established allowance tables which controlled the range and quantities of consumable items went out of the picture. Without such constraints, the variety of requisitioned items was expanded. After the situation got out of hand, the Army reinstituted allowance tables for post, camp, and station equipment in the theater.

To put it another way, the benefits of supply centralization in the

51 1970 hearings, p. 256.
52 DOD Instruction No. 4140.36, Jan. 21, 1969.
States were reduced because there was no corresponding centralization of supply in Vietnam. The Army, the Navy, the Marine Corps, and the Air Force have their own basic supply systems. Planning for centralization of common supplies under Army control in Vietnam never came to full fruition. The urgency of logistic support at the beginning favored vertical supply lines, not only of each service but of each depot, which drew on its own external sources. There were various cross-servicing agreements but no efficient mechanism for tracking and exchanging theater assets among the depots or the services. Even when computers were made available, variations in types and programs prevented systematic searching of the various supply sources for needed items.

Centralization in common supplies was limited and effected more or less on a geographic basis. More thoroughgoing centralization or a reshuffling of supply responsibilities was opposed by military commanders because of feared disruptive effects. Some 40,000 common items were scheduled for Army assignment but this goal was not met. The Army provided subsistence, petroleum products and other common supplies, about 3,500 items, to all services in the II, III and IV Corps areas (now military districts). The Navy provided some 8,000 items of common supply for all services in the five northern provinces of South Vietnam comprising I Corps. Where shortages threatened or responses were delayed, each service improvised as necessary or maintained its own sources of common supply.

**Inadequate Data Processing Facilities**

The Army, which had roughly two-thirds of the men and material and corresponding supply support responsibilities in Vietnam, established the 1st Logistical Command there in April 1965. Starting with 84 military personnel, the command, within 3 years, busied 50,000 military personnel plus another 50,000 civilians, mainly indigenous. Prodigous tonnages were handled through the command, but operations were handicapped by the lack of fully automated procedures. Maj. Gen. Frank D. Miller, who served as Deputy Chief of Staff for Plans and Operations and then later as Chief of Staff for the 1st Logistical Command, told the subcommittee at the 1968 hearings: "I can assure you we had many difficulties because we were operating our logistics system manually." Explaining that the lack of managerial preparedness was due to the decision to introduce combat forces ahead of the logistics support, he went on to say: 84

Those of us who were operating the logistics system had many, many problems that we had to overcome, and it was not until we got the 14th Inventory Control Center, and we got trained people and machinery at the depots at Qui Nhon, at Cam Ranh Bay, at Saigon and more recently at Danang, were we able to begin to sort out and be responsive in all areas of logistics support.

No troops in Vietnam ever suffered from lack of logistics support, but we did it the brute force way.

84 1968 hearings, p. 182.
What we are saying here now is that had we had the inventory control center with trained personnel ready to operate a system at the beginning, and had moved them in there, there would have been a more orderly flow of supplies.

General Besson commented on the same problem at the 1970 hearings:

You cannot run modern military logistics without adequate computers and computer programs and people to manage. The mistake in Vietnam was, first, that they did not go in with adequate computer base to support the operations—none.

Army, Navy, Air Force, Marines, all went in with inadequate computer capability. The Marines went in with a computer when they first went in, but it was inadequate to the task. The Army was on manual operation of its logistics system until July 1966. This is wrong.

On the other hand, the best computer in the world is no good if the data put into it is not accurate. Once they got the computers in there, they still could not realize the real potential of the computer because the data base was inaccurate. This would contribute to the reordering of the same quantities, because they have their issue history in the computer. They were not able to keep up with their advice cards that came from the States as to what had been shipped. They did not have the records from the depots as to what had been received, because a great quantity of materials was in the depots and had not been documented and picked up.

Consequently, this triggered the reordering process at the depot level.

We may note that the problem of automated techniques for contingency operations had been recognized years before the Vietnam buildup. A 1962 study, Responsive Automated Material Management System (RAMMS), had identified as one weakness of data processing the absence of “DOD-wide standard alternate measures for continuation of materiel management functions in emergency situations as regards inventory, its location or requirements.”

Within the past 2 or 3 years, the Army has been exploring ways and means to modernize its computer systems for logistics and to reduce the multiple costly systems used at different levels or echelons of Army command and operations. Included among these experimental programs was a Quick-Reaction Inventory Control Center (QRICC) which could be used with the forces of division and corps size. As explained by General Miller at the 1968 hearings:

The QRICC is intended to provide a much needed inventory control and supply management capability, readily deployable in support of contingency forces. The need for such a unit was apparent in the rapid buildup in support of the war in Vietnam. Undoubtedly, we would be having fewer

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55 1970 hearings, p. 64.
57 1968 hearings, p. 176.
supply problems there today had we had a deployable inventory control unit, properly trained in standards systems and procedures, at the outset.

According to General Miller, the QRICC was scheduled for activation that summer of 1968. It has yet to be proved out in actual operations. The Besson Board noted that despite the pilot QRICC, which is stationed at Fort Lewis, Wash., “the mobility of the ICC is still problematical.”

**Magnitude of the Task**

The testimony brought out that there were other shortcomings in the logistic area—communications, transportation, skilled personnel—all the factors which must be integrated for efficient supply support. The Besson Board, in its numerous studies, documents these inadequacies even as it emphasizes that the logistics response was highly effective when measured against the enormous difficulties that confronted the logisticians.

The magnitude of the response is reflected in the following facts:

In a 5-year period (January 1, 1965 to January 1, 1970), more than 2 million U.S. military personnel served in Vietnam. Supply support was extended continuously to more than 1 million persons, including 550,000 U.S. forces and ARVN and other free world forces. More than 17 million short tons of dry cargo were shipped by sea and over 750,000 short tons were shipped by air a distance of 10,000 or 11,000 miles from the United States. The $4 billion construction program included seven deep-water ports with 27 berths, 12 runways at eight major air bases, 200 small airfields and 200 heliports, 11 million square feet of covered storage, 1.8 million cubic feet of reefer storage, 8,250 hospital beds, major tactical bases, communication sites, roads, bridges, POL storage and pipelines, administrative facilities, and innumerable local projects and self-help programs. Petroleum products consumed in Vietnam numbered 163 million barrels.

These statistics, garnered by the Besson Board, are only for South Vietnam. They do not include the other important logistic operations in the Western Pacific, support of U.S. Air Force units based in Guam, Thailand, and the Philippines, and elements of the Navy’s 7th Fleet in Southeast Asian waters. The Board pointed out, too, that these logistical tasks were performed in the face of a hostile and undeveloped environment, a long pipeline, and reorganization stresses in the Defense establishment. On the other hand, the Board observed that sea and airlines of communication to Vietnam were not challenged by hostile elements, and logistics operations in the combat zone were never threatened by air attack.

In presenting this report of deficiencies in Vietnam supply support, the committee does not wish to demean the U.S. effort in Vietnam to which so many dedicated Americans have given their time without stint and even their lives. We do not wish to detract from the herculean achievements in supply and logistics nor to impugn the good faith or

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the integrity of men in positions of command or responsibility at home
or in the theater of combat. Our purpose has been to focus on the short-
comings in the interest of remedial action and lessons for the future.
The next section is devoted to what we consider some of the important
lessons.

III. LESSONS LEARNED: WHAT SHOULD BE DONE

Logistics and supply support to the U.S. Armed Forces in Vietnam
was a massive saturation effort which was effective despite its waste
and disorganization. In hindsight, the lessons of that experience are
valuable for renovating and even revolutionizing military supply
systems.

The Besson Board painstakingly examined the Vietnam experience
in the broad context of military supply systems and drew numerous
lessons, with recommendations for remedial action. These the Depart-
ment of Defense is largely prepared to accept, as budgetary and other
circumstances permit. In the meantime, the Department of the Army,
which was the largest supplier in Vietnam, has been engaged in a
series of self-searching studies and projects to overhaul logistics and
supply policies, procedures, and operations. For the past 3 years, in
successive hearings, the Military Operations Subcommittee has fol-
lowed Army activities along these lines and has encouraged the Army
to maintain its momentum.

It is important to understand, therefore, that the Army has not sat
back and simply waited for the Besson Board’s recommendations. In-
deed, the Army in several important areas has moved forward on its
own, either anticipating or helping to shape what the Besson Board
recommended. As General Heiser observed, in answer to a specific que-
tion about the Army’s relationship with the Board: “We have been
reading off the same sheet of music.” He also quoted General Besson
to this effect: “Joe, you have kind of stolen our thunder because you
have moved out in so many areas we wanted to recommend.”

Of particular significance is the Army’s commitment to sweeping
reductions in stockage. DA Circular 700–18, issued in November 1969,
radically revised the stockage criteria for all Army echelons, both over-
seas and in the United States which will lead to substantial reductions
in overseas stockages. Thus, in Europe, the theater list of authorized
items has been cut from 176,000 in March 1969, to 67,000 in September
1970. Posts, camps, and stations in the United States similarly are
subject to reduction criteria. The circular also stated the need
to reduce
the complexity of ‘maintenance performed in forward areas, which
accords with a subsequent recommendation of the Besson Board.

Another change of far-reaching consequences was the initiation of
the direct supply support test. It involves direct support of overseas
units (except in Vietnam) from the United States in an increasing
number of commodities, with eventual elimination of several layers of
depot complexes and the associated problems of stocking and control-
ing large quantities of overseas assets. This test program is the be-
ginning of a strikingly new method of Army operation, which will rely
heavily on containerization in the movement of supplies.

60 1970 hearings, p. 178.
These and other major changes are not easily accomplished. Past recommendations that greater control be obtained over overseas stockages ran into severe opposition in Army circles on the grounds that they detracted from command prerogative or were not practical because of limitations in communications, data processing, or transportation capabilities. Severe problems remain to be solved, but the Army has acted aggressively and shown a willingness to reevaluate long standing, and sometimes cherished, concepts and to revise them according to the dictates of efficiency.

The committee wishes to voice its support of the present actions being taken by the Army to streamline, simplify, and update its supply systems. It is important that the momentum that the Army has obtained not be dissipated. The present program for sweeping changes deserves careful, detailed, followup efforts to overcome the deeply rooted resistances which have so often compromised past attempts at improvement.

In the recommendations which follow, the committee wishes to highlight certain points and to give its own emphasis to selected areas for improvement. To the extent that actions are being taken in these areas, the committee's recommendations will serve as an endorsement and as a means of emphasizing the importance of follow-through. In other respects, these matters go beyond the scope of the Besson Board studies and of the Army's own responsibilities.

**Summary of Recommendations**

The committee directs the following recommendations, each of which is discussed below in sequence, to the Secretary of Defense and appropriate component authorities:

1. Follow through on the recommendations in the Besson Board reports.
2. Reduce overseas stockage of supplies.
3. Gain better management control of worldwide assets.
4. Purge and simplify military supply systems across-the-board.
5. Enforce supply discipline in a wide range of operations.
6. Upgrade the logistics function in military operations.
7. Develop better communications for logistics.
8. Assimilate the Vietnam experience in longer range logistics planning.
9. Make orderly transfer of assets to South Vietnamese forces.

**Discussion of Recommendations**

1. **Besson Board Recommendations**

The Joint Logistics Review (Besson) Board was established in February 1969, by Secretary Laird, to review the logistics experience in Vietnam and make findings and recommendations for improvements in military supply systems. The Board included representatives of all the military services and utilized over 200 military and civilian experts in the study program, which cost $3 to $5 million. The Board's report was completed in July 1970. It comprised 21 documents, including summary and major findings (vol. 1); a history of logistic sup-
port in Vietnam (vol. 2); summaries of 18 monographs (vol. 3); and separate monograph studies dealing with areas of major concern, such as logistics planning, common supply, communications, and transportation. There were 265 separate recommendations.

The essence of the Besson Board findings and recommendations was distilled in the statement that General Besson presented to the subcommittee in August 1970. For convenient reference, this statement is reproduced as appendix 1.

The pervasive theme is that, considering the complexities of military supply systems and the inevitable limitations on equipment and personnel for logistics in a theater of combat, as many logistic operations as possible should be performed outside the theater. As a general injunction, in the Board's words: "Don't do anything near combat that can be done in a safe, sophisticated area."\(^1\)

It follows for the supply mission that theater stockages should be reduced to the absolute minimum and replenishment of low-demand items provided from stateside sources. Supplies must be packaged and moved so as to minimize theater handling; hence, the emphasis on maximum containerization, "Everything that fits in a container should move in a container." In-theater, the containers can be utilized for storage purposes, thus removing additional logistics burdens. Again, the direction for equipment maintenance should go from "as far forward as possible" to "as far to the rear as possible."

The Board recommendations, it should be understood, have much wider applicability than to future contingencies which may involve combat action in distant places. They apply, in many respects, to logistics support for U.S. forces worldwide and in peacetime as well as in war. The Besson Board itself said: \(^2\)

The recommendations of the JLRB, when implemented, will greatly improve current logistics systems. Many of the findings and lessons learned, however, are of permanent value and could be considered as logistic principles. Many are lessons relearned in Vietnam—lessons that were lost or obscured in the passage of time since similar Korean or World War II experiences.

This comment is revealing, perhaps more so than was intended. The Vietnam logistics effort was made at enormous cost. Much of that cost could have been avoided if lessons learned earlier had not been "lost or obscured in the passage of time." Great reliance is placed in the military upon formulating doctrine and principles, many of which have continuing validity and are handed down from generation to generation. It is somewhat disturbing to find that principles of logistics support developed at great cost in the past were so readily forgotten. We trust that the same fate will not befall the findings and recommendations of the Joint Logistics Review Board.

The Besson Board study is likely to be the only comprehensive examination of the logistics side of the Vietnam conflict. It deserves special attention and follow-through action. Assistant Secretary Shillito assured the subcommittee that the recently formed Logistics Sys-

\(^1\) 1970 hearings, p. 54.

H. Rept. 1586, 91-2—5
tems Policy Committee, under his chairmanship, would be concerned with the details of implementation and it was his view that “[t]he vast majority of the recommendations of the Review Board will be accepted.”

The subcommittee did not undertake to pass judgment on each and every one of the 265 recommendations of the Besson Board. It recognizes that all cannot be given effect in the same time span, that in some cases considerable funding will be required to carry out the recommendations, and a few pose special problems which require further analysis and consideration. Also, we know that the Board’s criticism in some controversial areas has been muted and compromises made in the interests of service harmony and broad agreement. On the whole, however, it is the committee’s belief that the Besson Board has performed in a highly responsible and commendable way, that its recommendations are well advised, and that carrying them out will contribute greatly to economy, efficiency and effectiveness of logistics and supply support of the military forces.

2. REDUCED OVERSEAS STOCKAGE

A major proximate cause of the supply chaos in Vietnam was the infusion of supplies in quantities which completely overwhelmed the absorptive capacity of the theater. In circumstances where forced deployment to an undeveloped (in a logistical sense) area is required, the alternatives are: (1) defer deployment until the requisite logistics support and infrastructure can be built up; (2) move in the forces without delay with austere self-contained supplies, attended by brute force methods and special techniques or systems to overcome or avoid shortages; or (3) develop new concepts of direct supply from the United States, compressing overseas stockage to the most essential high-demand items and reduce the need for logistics buildup and infrastructure in the theater accordingly.

In the Vietnam war the second alternative was chosen, with great effectiveness but also with great cost and great waste. Action along the lines of the third alternative is recommended by the Besson Board. General Besson told the subcommittee: “The first thing that is required is a drastic change in the criteria for stockage in the overseas theater.” He pointed out that the Army, Air Force, and Marines generally would put an item on their theater stockage list if there were three demands in 360 days, and would keep it on the list if there was at least one demand in 360 days. (The Navy had somewhat a more stringent criterion—at least four demands in 180 days to keep an item on the overseas stockage list). These criteria, according to General Besson, were relaxed in Vietnam. The Army would put an item on the stockage list the first time it received a demand, being unwilling to wait to get three demands in 360 days. The result was “a tremendous explosion” in the stockage list. By the fall of 1966, the Army was stocking 200,000 lines of items in Vietnam, and during 1967–69 it carried as many as 350,000 lines in that theater.

69 1970 hearings, p. 86.
The excessive diversity is brought home by the fact, which General Besson pointed out at the 1969 hearings, that 50 percent of the requisitions submitted by Army forces in Vietnam were filled from an inventory of about 5,000 items, a small fraction of the total stockage list authorized for the theater. In General Besson’s view, as amplified at the 1970 hearings, items stocked in Vietnam should not have gone beyond 20,000 lines in the early days of the conflict, and 40,000 for the duration would be a high figure. Supply at such levels would have eliminated the need for at least 30 percent of the in-theater facilities constructed to handle the stockages.

The fact—which may be characterized as a basic supply principle—that a very small percentage of items being stocked accounts for an extremely high percentage of the demands, has been shown in other studies. Earlier, the Army found, for example, that in the case of ordnance repair units in the Korean War, 86 percent of demands for parts was satisfied by 15 percent of the stockage. A study of demand history for spare parts in Europe found that 20,000 lines would satisfy 65 percent of all requisitions. These 20,000 lines generated 83 percent of the annual tonnage. Of these, 2,200 lines, or 11 percent, generated 75 percent of the tonnage.

At the 1969 hearings, General Heiser acknowledged the overstockage in forward areas and the Army’s determination to cut down. Reduction goals were posited which would bring stockages in individual theater depots to one-half or one-third or less in numbers of lines carried. In the general support and direct support units supplying the field forces, the lines would be reduced as much as 1,000 percent. Referring to the projected theater reduction, General Heiser testified.

It may seem to you that it would be almost an inconceivable reduction under the circumstances. But the truth of the matter is that we have been trying to stock too many lines too many places throughout the Army, and what we are about to do is reverse the practice.

At the 1970 hearings, General Heiser testified that authorized stockage lists for all Army theaters collectively had been reduced from 1,083,000 items in June 1969 to 510,000 in June 1970, with a June 1971 goal of 281,000.

We might observe that these reductions will occur in authorized stockage items. Depots carry as many fringe items as authorized ones, doubling the number of lines. Thus, in June 1970, whereas the authorized lists for Army theaters contained 510,000 items, total items in stock were 961,000.

Drastic reduction of theater stockages will require a sorting out of supplies according to frequency of demand, criticality or priority, size and weight relative to suitability for air shipment, and other factors. Many other adjustments will have to be made in supply operations, including computer uses. The Air Force has pioneered in the...
development of direct supply methods, but the Army has much more complicated supply responsibilities. As Assistant Secretary Fox said in distinguishing the problems of supplying ground troops: "One fundamental difference is conceptual—the Army and the Marine Corps essentially equip men, while the Air Force and the Navy essentially man equipment." Nevertheless, with advances in communications and computer technologies, with new cargo aircraft and ships, the technical base for a revolution in Army supply methods is at hand. The committee believes that the Army program, which anticipated the Benson Board recommendation for drastic reduction in theater stockages, is a key one, and it promises large money savings and many efficiencies all along the supply chain.

In this connection, we note that while attention has been directed to Army overseas stockages, the Air Force has an equally large range of stockage overseas despite the absence of overseas depots and its heavy reliance on management visibility and airlift of parts. For example, at least three Air Force bases were stocking over 100,000 different items in 1968 and 1969, with Clark Field in the Philippines carrying 189,241 lines in 1968. Stockage of this many items appears questionable, especially in view of the Air Force's item visibility program and its ready access to rapid airlift.

3. CONTROL OF WORLDWIDE ASSETS

The U.S. Army came to Vietnam with a philosophy of combat support which recognized the commander's prerogatives in the theater including his "ownership" and control of theater supplies. Generally, an Army theater is treated, for supply ownership purposes, the same as a retail user in a post, camp, or station. Once the suppliers are shipped to the theater, the stateside supply managers lose visibility and control. The very multiplicity of field units, which makes the Army supply job so complicated, also makes it so wasteful when commanders' prerogatives are placed ahead of central inventory knowledge and control of selected assets.

The need for such knowledge and control has become increasingly apparent as weapons become more complex and supplies multiply in kind and cost. Supply managers, to do their job properly, should keep track of items in system inventories, to know how much is on hand and where, in making decisions about filling orders and replenishments. This need has been emphasized in a number of studies. It was said in 1962, for example:

In order for a materiel manager to effectively accomplish his assigned responsibility, he must have accurate and timely knowledge of all transactions affecting the items under his management. This knowledge must be obtained from all using activities and all depot activities, wherever located.

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27969 hearings, p. 108.