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STATUS OF AMMUNITION AND AIR MUNITIONS

HEARINGS

BEFORE THE

PREPAREDNESS INVESTIGATING SUBCOMMITTEE

OF THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

EIGHTY-NINTH CONGRESS

SECOND SESSION

JANUARY 26; MARCH 9, 15, AND 17, 1966

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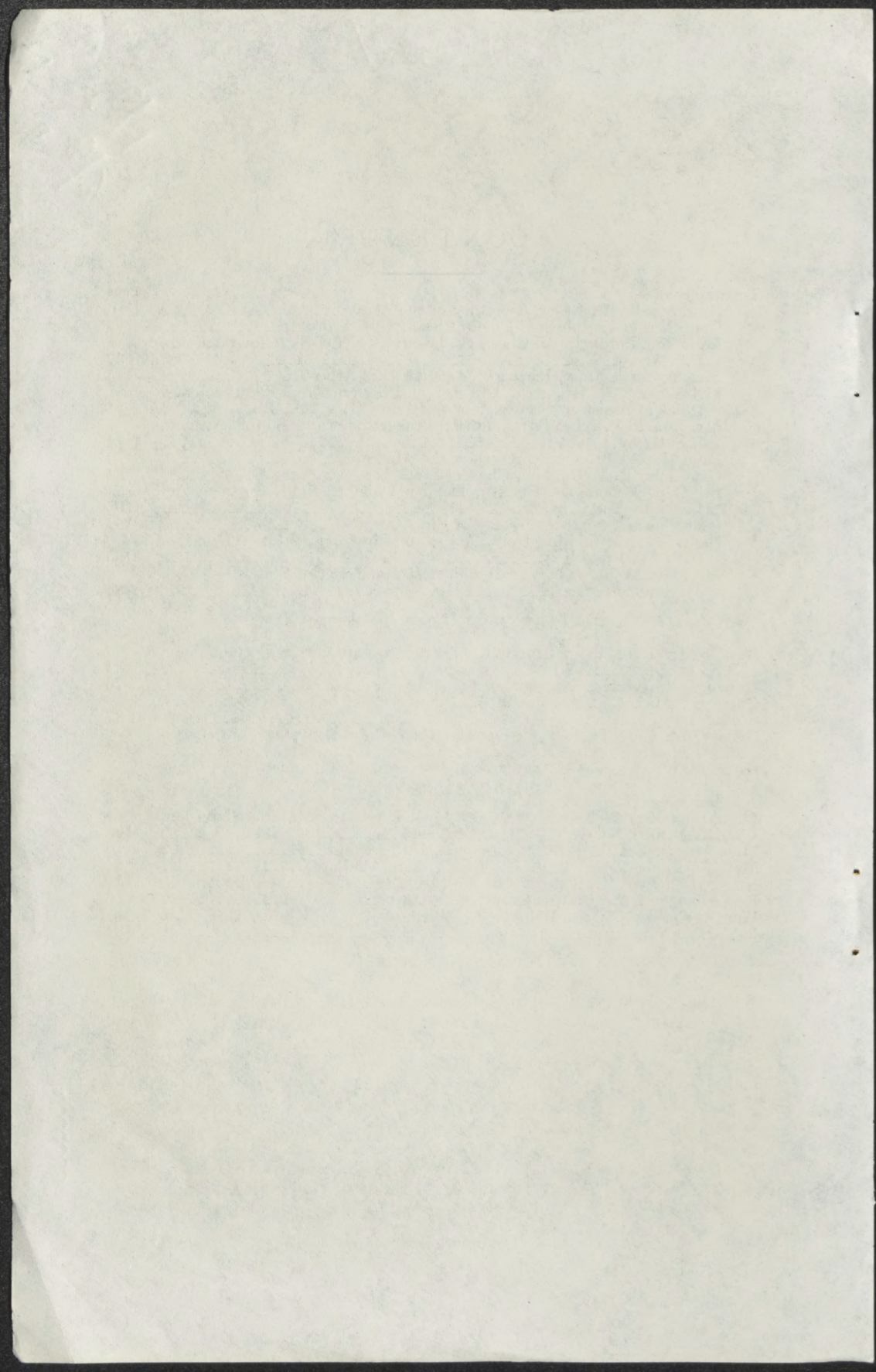
(Note: The entire proceedings of these hearings were held in Executive Session. The record was subsequently cleared for publication by the Department of Defense. The word "Deleted" indicates material excised for security reasons.)

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STATUS OF AMMUNITION AND AIR MUNITIONS

WEDNESDAY, JANUARY 26, 1966

U.S. SENATE,
PREPAREDNESS INVESTIGATING SUBCOMMITTEE
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee (composed of Senators Stennis (chairman) Symington, Jackson, Cannon, Byrd of West Virginia, Saltonstall, Smith, and Thurmond) met, pursuant to notice, at 10:10 a.m., in room 224, Old Senate Office Building, Senator John Stennis presiding.

Present: Senators Stennis, Symington, Jackson, Byrd of West Virginia, Saltonstall, Smith and Thurmond.

Also present: James T. Kendall, chief counsel; Ben Gilleas, Robert M. Neal, Stuart French, Samuel R. Shaw, and Glenn A. Smith of the staff of the subcommittee.

CHAIRMAN'S OPENING STATEMENT

Senator STENNIS. All right, gentlemen, the subcommittee will please come to order.

I have a very brief statement that I think I should read, and then a very few remarks, members of the subcommittee. Then we will proceed.

Today we open hearings on a subject which is critical and vital to the war which we are now waging in South Vietnam. I can adhere, I think, that all of us think this war is going to spread from its present situation, and be accelerated, and last a considerable time.

Our hearings today are on the adequacy of conventional ammunition of all types to supply our fighting men and to enable them to perform their missions with effect and efficiency. During these hearings we intend to explore fully the adequacy of the present and prospective supply of ammunition for all the services—the Army, the Navy, the Air Force, and Marines.

If there are significant problems or potential problems with respect to the ammunition supply we intend to ferret them out. It is unthinkable that our men who fight and sometimes die in Vietnam or anywhere should want for any item of equipment or supply whatsoever. It would be shocking if they should lack for any required item of ammunition. The American people would neither understand nor countenance such a situation.

And I think I can add there that the ones most blamable from their viewpoint, and properly so, would be the Congress that has direct responsibility of passing on all these matters, particularly voting the money, and no one except the Congress votes as much as a dollar out

of the Treasury. They are entitled to know and we are entitled to know whether our boys in Vietnam and elsewhere around the world are adequately supplied with their combat needs.

Now, with equal emphasis on the other hand, if there are no substantial or significant problems with respect to the ammunition supply in Vietnam and worldwide, then this fact should be brought out and made public so as to reassure the American people who are and have been concerned by a number of reports regarding shortages and while our attention is focused on Vietnam, we must not overlook the fact that we have fighting forces stationed around the world. We must not overlook the fact that additional brush-fire wars or other contingencies can occur at any time. Therefore, it is essential that we do not let the demand and drains of Vietnam create shortages of ammunition or other fighting necessities in our troops not deployed to Vietnam. We intend, therefore, to explore in these hearings the adequacy of the worldwide supply of ammunition to support our troops in the field wherever they are stationed.

Our witnesses today will be the Honorable Stanley R. Resor, Secretary of the Army, and Gen. Harold K. Johnson, Chief of Staff of the Army. We appreciate their appearance. We expect them to give us the facts with respect to any problems which the Army might have with respect to ammunition supply and usage with frankness and candor. Our purpose is to help the war effort and promote combat readiness, not to hinder them. We know that purpose is understood and respected and shared, too, by these gentlemen and all others in the Department of Defense.

We also have with us Maj. Gen. F. J. Chesarek, who is Assistant Deputy Chief of Staff for Logistics, and we will hear from him today.

At subsequent hearings we will have witnesses from the Navy, Air Force, and Marine Corps, so that we may get a complete picture of the present and future ammunition situation in all the services.

DELAY IN RECEIPT OF INFORMATION AND STATEMENTS FROM DEFENSE

The statement I have just read was prepared by the staff, after consultation with me. But I want to say a special additional word to the subcommittee members, and to the Department of Defense and to the individual Services.

Gentlemen, the attitude of each individual member of the Preparedness Subcommittee and all of us as a group is that we want to be helpful. We want to be helpful to the Department of Defense, and we want to be helpful to each of the services. We are not at war with each other. We are at war with the North Vietnamese, with the Asiatic Communists. So, we are fighting on the same side and for the same purposes.

On the other hand we represent the legislative branch of the Government, and we expect to represent it fully without any favoritism between you or without any conscious purpose of punishing anyone or cheering anyone. We are entitled to the facts, as representatives of the Senate, not as individuals but as an arm of the Senate. We are entitled to them promptly, and we are entitled to them fully.

Now, I don't know what the general attitude in the Pentagon is about supplying us with the facts. I always want to believe the best, and I am going to believe the best until I am convinced of the worst.

But we have heard rumors coming from over there that the general word being passed around is, "tell them nothing."

Now, I was not referring just to our group but the whole congressional organization. I don't believe that is the prevailing attitude over there, and I don't want to believe it. As I say, we must want to help all, but we have got to hear the facts and we hope the facts are always good. If they are, we are going to put those facts out, and if they are not, within security limits we will put the others out.

Now, I have talked to Mr. McNamara and Mr. Vance together about this in my office. They came there for another mission, but I said to them just about what I have said to the membership of the subcommittee and to all of you this morning. They both assured me that they wanted this subcommittee to have the facts, and that they would push it along. And, I have accepted their formal assurances.

I suggested then that I understood there was some kind of a clearinghouse over there where the facts had to be cleared by some special group after they came in from the field and before they came to us. He said there was something along that line, that he felt like we got some information last year in this Army readiness program that was misleading to us.

I don't know whether it was misleading or not, but he said that was the reason he set up this special group. I am not talking behind Mr. McNamara's back. I am not fighting Mr. McNamara. I am not anti-McNamara, that is no issue with me. I am just talking about our purposes here and our duty.

So, at the time of our conversation in January we had not received some of the facts that our staff members in the field in Vietnam had requested in late October. They had not gotten through to them. Some way we had heard that it had long since left Vietnam but was in the Pentagon. Anyway, it got here within 2 or 3 days after that conversation with Mr. McNamara, and maybe before he had a chance to give it his personal attention, I don't know.

All those facts are in. But there was a long delay, and gentlemen, that is one of the reasons why this is so late getting started.

Senator SALTONSTALL. Mr. Chairman, would the Senator yield? Are you through?

Senator STENNIS. No; I have one important point if I may because it is part of the picture.

Perhaps I have crowded you gentlemen who are testifying here a little in getting ready to be here today. I insisted last week that you be here on Tuesday and Mr. Resor called and made a very strong request to put it off until today, and I did. Nevertheless it was 8:27 this morning before we got one of your statements, 8:40 something before we got the second and 9:30 before we got the third.

Now, members of the subcommittee our staff cannot examine witnesses on such notice. We will have to ask these gentlemen, I think, to make their statements here today and then we will recess until the staff can study these matters. We will examine the witnesses later.

That is going to be our policy. We want to give you reasonable time but we are going to have to insist that these statements come in here in advance, except this time because we perhaps crowded you too

much. We are going to try to give you time, but we want them in here in time for these staff members to know what is in them. I am an old trial lawyer and was district attorney at one time. I never did put the witnesses on the stand until I knew or at least had some idea about what they were going to say, and had a chance to check into it.

Maybe that is just a lawyer's procedure but it is the way to get quickly at issue.

Another thing; if I may just add this, after our experiences here together. We have worked so well together and all of you are experienced men, I think we can get down to the issues here quickly, and not call on you to spend so much time hearing too much volume of testimony. These matters can be put in form, put into the record, analyzed and then outlined to us without all of us having to sit—that is no one except the chairman or someone sitting for him—through all of them.

Senator, excuse me, I wanted to complete those points in sequence.

Senator SALTONSTALL. I just want the record to show that you very eloquently and factually stated what I understand is the purpose of these hearings. I congratulate you upon the remarks that you have just made, and I can only add that from our experience in the last few days with General Johnson and I am sure the same way with Mr. Resor, that we will get the facts and that they will tell us what they know about the whole situation.

General Johnson made an excellent witness before our full committee and I am confident that Mr. Resor will be equally clear here. But I just wanted to add for the record that I congratulate you upon your statement, and the way you expressed the purposes of our work.

(Letter and statement follow:)

U.S. SENATE,
COMMITTEE ON APPROPRIATIONS,
Washington, D.C., February 3, 1966.

HON. JOHN STENNIS,
Chairman, Preparedness Investigating Subcommittee,
U.S. Senate, Washington, D.C.

DEAR JOHN: I have your letter of February 2 together with the statement you made at the hearing on January 26. I listened to you make it. Through Stuart French I have sent to James Kendall a brief statement in support of your position.

Thanks for calling it to my attention.

With best regards,

Sincerely,

LEVERETT SALTONSTALL,
U.S. Senator.

STATEMENT OF SENATOR LEVERETT SALTONSTALL FOR THE RECORD ON STATUS OF
AMMUNITION AND AIR MUNITIONS

This Subcommittee certainly wants to be helpful. However, in order to be helpful, it must be kept informed and its requests for information must be timely and promptly answered. Otherwise, the Subcommittee cannot possibly function as it should. Consequently, I agree wholeheartedly with you and hope that the Department of Defense will cooperate with us.

If the Department of Defense creates roadblocks by requiring that all information be channeled through a centralized group for scrutiny, review or analysis—a process which is very time-consuming—then the Department of Defense will not be properly discharging its responsibility to keep the Congress informed in timely fashion.

The Department of Defense surely must be aware of the fact that this Subcommittee has never, in my experience, relied on information which the Department of Defense has questioned as to its validity or accuracy or which might be subject to various interpretations. Indeed, we, as a Committee, have never hesitated to amend information which it has obtained whenever the Department of Defense has convinced us of the inaccuracy of such data. In my judgment, therefore, there is no justification whatever for the Department of Defense to delay or withhold information from this Committee since such data is always subsequently subject to amendment or clarification.

The Executive Branch and the Legislative Branch of the government of these United States are both vitally interested in the same goal—the safety and security of the nation. We can, I believe, more readily achieve this worthy objective through a mutuality of cooperation and I compliment the Chairman for his statement in that respect.

Senator STENNIS. Thank you, Senator. I appreciate that and I share your belief here that these gentlemen are going to be good witnesses.

Before we go any further, does any one member of the subcommittee wish to say anything?

Senator SYMINGTON. Mr. Chairman, I would support the position you have taken.

There is nobody in the Senate that I have greater respect for than the chairman of this subcommittee. I wish you all in the Department of Defense would take one thought away with you. If this all develops into a brawl between the Senate and the Department, that can only result, in the long run, in additional misfortune and casualties in the field. I hope you all appreciate the duties, and the rights of the legislative branch.

I was shocked to hear this statement this morning by the chairman. I would hope, Mr. Secretary, that you will give the fullest consideration to what he has to say, as you come before this committee.

That is all.

Senator STENNIS. Thank you, Senator.

Senator BYRD?

Senator BYRD. Mr. Chairman, I join with you, Senator Saltonstall and Senator Symington in the views which you have expressed. I feel precisely as you do and I feel precisely as Senator Symington has just stated with regard to the rights of the legislative branch to have full, adequate, thorough information on which to reach a basis of judgment.

I am grateful for the statement that you made at the beginning of the hearing. I think that it puts the whole thing in proper focus.

Senator STENNIS. Well, thank you very much, gentlemen. Without repeating any point I have made, I think that it just happens to be the Army that started off. To make myself clear, I wasn't directing my remarks to the Army any more than anyone else, and there are no personal shortcomings on the part of the witnesses we have here today, or anything like that. I blame myself solely for the delay of your statement in getting here this time. I want to make that clear.

Shall we proceed now, members of the subcommittee, to have these gentlemen present their statements? Then the staff and the members of the subcommittee will have a chance to go over them. For any questions that come to our minds we can have the staff make inquiries

and develop the points. Then when we come back the next time such points that we want to develop will be right down to the issue without any lost motion. Is that agreeable?

All right, then, gentleman, in keeping with our custom—the Preparedness Subcommittee, as you know is an investigating committee so if you will stand please and be sworn, you, too, General, if you are going to testify. Hold up your hands, please.

Do you and each of you solemnly swear that your testimony in this hearing and before this subcommittee will be the truth, the whole truth and nothing but the truth, so help you God?

General JOHNSON. I do.

Secretary RESOR. I do.

General CHESAREK. I do.

Senator STENNIS. All right, I believe it is customary for us to call on the Secretary first. We are glad to have you here, Secretary Resor, and you have your prepared statement with you, I am sure.

Secretary RESOR. I do.

Senator STENNIS. All right, if you will, proceed now.

TESTIMONY OF HON. STANLEY R. RESOR, SECRETARY OF THE ARMY

RESOR STATEMENT

Secretary RESOR. Mr. Chairman and members of the subcommittee: Let me first assure you that we certainly intend to give you whatever facts you feel are necessary for your investigation, and I think that will become abundantly clear with the presentation which we are volunteering and certainly in response to any questions you may have.

In fact, we welcome the opportunity today to provide you with the report of the Army's ammunition posture. I shall outline the procedure through which the Army plans for and buys ammunition and review our requests for ammunition funds. I shall, of course, cover the situation in Vietnam. At the conclusion of my presentation the Chief of Staff, General Johnson will describe how the Army manages distribution of its ammunition supply in the field and deal in particular with the adequacy of the supply in Vietnam. Major General Chesarek, the Assistant Deputy Chief of Staff for Logistics, will then take up one by one 17 items of ammunition which are of particular importance in Vietnam.

In peacetime the Army buys ammunition to meet two basic requirements: First, it buys sufficient ammunition to provide for its peacetime training consumption.

Secondly, it buys war reserve stocks. The war reserve requirement for each item of ammunition is computed separately and is called the Authorized Acquisition Objective, sometimes referred to as the AAO.

[Deleted] this is the quantity of ammunition required in inventory to provide the units in the Army's approved force structure all the ammunition required for training and combat from the time of mobilization until the rate of production equals the rate of consumption.

In the case of the [deleted] divisions stationed in or scheduled for early deployment to Europe, the AAO includes combat consumption for up to [deleted] based on their planned deployment schedule.

The AAO is under continuous revision based on changes in the size of the approved forces and their organization and their deployment plans and estimated rates of ammunition expenditure. In recent years, for a majority of rounds, the objective has increased and funds have been provided to achieve the higher objective.

When hostilities begin, as in Vietnam, the Army buys substantial quantities of ammunition for an additional requirement; namely, the estimated combat consumption of the forces engaged or projected for engagement. For this purpose the Army maintains an adequate production base, standby facilities, and on-going production lines wherever necessary, so that production can be rapidly expanded to meet the higher combat consumption rates. As Army units began to be committed to Vietnam, we provided for their combat consumption and for replenishment of their basic ammunition loads out of war reserve stocks accumulated for just such a purpose. At the same time the Army promptly requested and received from Congress additional funds based on anticipated combat consumption. As indicated in the following chart, in the past 8 months we have requested a total of well over \$2 billion for ammunition.

Ammunition funding requested May 1965 to January 1966

	Million
May 1965, fiscal year 1965 supplemental-----	\$117.9
August 1965, fiscal year 1966 addendum ¹ -----	315.5
January 1966, fiscal year 1966 supplemental-----	671.3
January 1966, fiscal year 1967 budget-----	1,052.3
Total-----	2,157.0

¹ In addition to original fiscal year 1966 budget request for \$344,900,000.

The Army's first three requests, which total \$1,104.7 million, are primarily designed to fund Vietnam combat consumption through June 30, 1967.

The \$1,052.3 million requested in the fiscal year 1967 budget will fund the purchase of the balance of the AAO's for substantially all items of ammunition.

While we have requested the Congress to appropriate the funds needed to meet anticipated combat consumption in Vietnam through June 30, 1967, this is in no sense a prediction that the war will end at that time. It is simply a device for orderly planning. If the war shows signs of expanding or lasting longer, the Army will request from Congress supplemental appropriations as necessary. In this way, we are planning 12-18 months in advance. This will give us sufficient time to request additional funds should that become necessary.

In our budget planning we have for the most part used the combat consumption rates set forth in Army Supply Bulletin 38-26. These rates are based on actual combat experience in World War II and Korea, both of which involved more intense levels of conflict than are currently being experienced in Vietnam. To date our short experience with actual consumption rates in Vietnam has shown, for most rounds,

a significantly lower rate of consumption than that set forth in the supply bulletin.

Type round	Vietnam actual consumption November and December 1965	Calculated consumption rate per supply bulletin (budgeted)
Small arms: 7.62 millimeters: cartridge, all types.....	[All figures deleted.]	
Mortar: 81 millimeters, HE: M374, W/F.....		
Mortar: 4.2 inches, HE: M329, W/F.....		
Recoilless rifle:		
106 millimeters, HEP-T.....		
M346.....		

We have, however, taken the prudent course, basing our estimates on the higher supply bulletin rates. In a few instances where experience in Vietnam has shown a higher rate of consumption than the supply bulletin rate, funds have been requested based on the higher rate.

Ammunition supply in Vietnam has been keeping pace with increasing needs. There has been a tremendous increase in weapons density there in the past 6 months. In the case of artillery, last June we had about [deleted] tubes, in September that went up to [deleted]. At the end of December it was [deleted]. For mortars it was [deleted] in June; at the end of September it was [deleted], and by the end of December [deleted].

Senator SYMINGTON. Excuse me, when you say "it was" what was?

Secretary RESOR. The number of mortars in Vietnam at the end of June was [deleted].

Senator SYMINGTON. I see.

Secretary RESOR. Then you see by the end of the table by the end of the year it had gone up to [deleted].

Senator SYMINGTON. Thank you.

Secretary RESOR. Similarly in small arms, at the end of June 1965, there were [deleted], by the end of September 1965 [deleted], and the end of December 1965 [deleted].

For helicopter-mounted weapons, at the end of June 1965, the number was [deleted], by the end of September 1965 [deleted], and by the end of December 1965 [deleted].

In 1964 we had no artillery in Vietnam; by the end of June 1965 there were [deleted]; by the end of December, over [deleted]. In March 1965 we had one ammunition supply point, which had 4,000 tons of ammunition on hand. We now have [deleted] ammunition supply points, with [deleted] tons on hand. Because of the volume of ammunition supply now available in Vietnam General Westmoreland has asked that automatic resupply be discontinued for all except a few specific items.

Our overall ammunition inventory position is excellent except for supplying two new helicopter-mounted weapons and certain illuminating rounds. The two helicopter-mounted weapons use the 2.75-inch aerial rocket and the 40-millimeter grenade. The 2.75-inch aerial rocket is a brandnew item in the Army inventory. It was not until the spring of 1965 that this weapon was proven in combat. The Army moved out promptly to fund production and to date has already requested in excess of \$400 million for this single item. The 40-milli-

meter, helicopter-mounted grenade launcher is also a brandnew item introduced only last spring. General Chesarek will describe the speed with which this new round is being introduced.

Larger stocks of the illuminating rounds are needed because of the unprecedented demand which has been generated by operations in Vietnam. Requirements are currently projected at rates from [deleted] times the rate provided for in the supply bulletin, which, as I said before, is based on prior combat experience.

However, combat units are not without alternate means of battlefield illumination. General Johnson will deal in some detail with the unusual requirements for these rounds and discuss the alternate means which are being used.

In early January of this year, the assistant chief of staff for logistics on General Westmoreland's staff summarized the ammunition situation in Vietnam as follows:

The over-all in-country situation at this time is very favorable and, except for a few regulated items, continues to improve daily due to the command interest at all echelons and the expeditious handling of shipments to Vietnam.

In conclusion, these are the major actions we have taken which will insure the availability of ammunition to meet the Army's present and future requirements:

We are buying ammunition for combat consumption in Vietnam calculated at the high level set in the supply bulletin for sustained combat.

We have requested funds to build the general war reserves, for substantially all items, to the authorized acquisition objective.

We have expanded the production base for ammunition by establishing new facilities projects at 26 plants at a cost of \$86 million since June 30, 1965.

We are keeping close watch on our production facilities and our anticipated needs, so that we can come promptly to the Congress for additional funds if circumstances require.

General Johnson will now explain the Army's ammunition supply system in Vietnam.

Thank you.

Senator STENNIS. All right, General, we will certainly be glad to hear from you. Thank you for your statement, Mr. Secretary.

TESTIMONY OF GEN. HAROLD K. JOHNSON, CHIEF OF STAFF, ARMY

JOHNSON STATEMENT

General JOHNSON. Mr. Chairman, and gentlemen, I would like to begin my remarks by defining and explaining a number of terms commonly used in the ammunition business. These include the Army acquisition objective, the day of supply, basic load, required supply rate, and the available supply rate.

The Army acquisition objective represents the quantity of ammunition required to support fully the approved Army forces in accordance with the Secretary of Defense's logistics guidance. It includes ammunition for training as well as ammunition consumed in combat.

A day of supply is a planning factor for distribution and procurement planning. It is generally expressed in round per weapon per day applied against the total weapons inventory in the hands of troops.

Bulk items, such as hand grenades and mines, are expressed as so many per 100 men per day or so many per division per day. For example, a day of supply for the M-60 machinegun on a ground mount is [deleted] rounds per weapon per day. If a unit had 10 M-60 machineguns, the unit day of supply would be [deleted] rounds. The antipersonnel mine is a bulk item. A division day of supply is [deleted] mines.

A basic load is the amount of ammunition authorized to be on hand in a unit at all times. It includes ammunition carried by individuals and in unit supply trains. It is generally constrained by the unit's transport capability. As an example of a basic load for a 105-millimeter artillery battalion, it consists of 256,440 rounds of 7.62-millimeter rifle and machinegun ammunition and 4,950 rounds of 105-millimeter ammunition.

The required supply rate is the amount of ammunition, expressed in rounds per weapon per day, estimated by the major commander to be required to sustain operations over an extended time frame. This rate is based on a designated size force and mission. This rate is used by the Department of the Army for distribution planning and for analyzing future needs and making continuing adjustments to the ammunition program.

The available supply rate—and this is a most important definition—is the amount of ammunition, expressed in rounds per weapon per day, estimated by the major commander to be available for his use for a specific time frame. It is based upon availability of ammunition and the densities of weapons and is changed at frequent intervals depending on—

- (1) Planned increases or decreases in combat activity.
- (2) Availability of resupply.
- (3) Transport capability.
- (4) Imbalances of available ammunition.

As an example of this last point, that is imbalances that might exist, a commander could be long on stocks of mechanical time super quick fuzes, but short on proximity fuzes at any given period of time. The available supply rate would then reduce the use of the short item and would increase usage of the item in long supply.

The available supply rate, commonly called the ASR, can also be used by the major commander to vary the amounts of ammunition authorized to different units within his command based on their projected activity. As an example, a division in a quiet sector might receive a low ASR in order to insure fire discipline, while a division involved in a major engagement would be authorized a high ASR. Because the available supply rate technique is subject to widely varying interpretations, I would like to use two examples to demonstrate further its proper role. First, the 2.75-inch rocket.

This slide indicates the location of major Army units in Vietnam. Also indicated on the slide are the number of 2.75-inch tubes on hand in the 1st Cavalry Division (Airmobile) and in the other major fighting units. These figures constantly change as the units modify their systems to meet local anticipated demands.

This overlay shows the location of the [deleted] prestock points at which 2.75-inch rockets are stored. These are prestock points. These are selected reasonably safe areas in which we pre-position roughly [deleted] rounds, and the helicopters, as they expend their loads know

where these locations are, go back on a relatively short flight in order to reload and get back into the fight.

Now, our concept here is that as helicopters are engaged in combat and fire off their rockets they need only go to the nearest prestock point to reload. At each of these prestock points [deleted] rockets are stored. This has no relationship to the ASR. They are just locations of some of the stockage in Vietnam which, as of 20 January 1966, totalled [deleted] rockets.

In addition to the 2.75-inch rocket for air-to-ground suppressive fire, the commander, General Westmoreland, also has at his disposal [deleted] M-60 machineguns with helicopter mounts, and [deleted] weapons systems mounting the 40-millimeter rapid-fire gun. He also has his artillery, mortars, and tactical air for supporting fires.

I might add that in December, when I was out there, he had issued an instruction to his major units that they would conduct operations within the range of supporting artillery, and he was able to establish this instruction because of the capability of the Chinook or CH 47 helicopter, to move his artillery frequently. By this means he could maintain supporting fire in support of combat actions through the artillery mode with which we are, of course, most familiar in the Army, and have trained most.

Now, let us assume that the First Cavalry Division is engaged in heavy action in the vicinity of Pleiku. Their helicopters and any others needed to assist them have no constraint with respect to ammunition. As already indicated, the helicopters will shuttle from prestock points or the Division supply point to the combat area as often as need be for replenishment. The ASR plays no role whatsoever. After the battle is over, General Westmoreland's staff assesses the stockage position of 2.75-inch rockets to determine what action to recommend to General Westmoreland, if any, from an overall command area viewpoint. The staff may find that while the 1st Cavalry was heavily engaged, the missions of the 1st Infantry Division and 173d Airborne Brigade were such that their utilization of rockets was very low. As a matter of fact, they may have recommended use of the XM-16, another weapons system, which mounts seven 2.75-inch tubes on either side of the helicopter, along with two 7.62 machineguns on each side (I think those are visible there on the slide) instead of the XM-3 system which has 24 tubes on either side of the helicopter.

The point I wish to emphasize is that the ASR is a command-wide assessment of availability and weapons density and must be weighed in relation to other weapons systems which perform similar missions or have a roughly similar capability.

General Westmoreland has advised me that when engaged in combat, and I quote:

The unit expends its ammunition as necessary to accomplish its mission without regard to the ASR. Basic load ammunition is replenished without regard to the ASR.

I would speculate that the average soldier, and this would be most of them who are at the front, has never heard of an ASR in connection with what he himself expends or shoots.

Now, I would like to develop this explanation further by using as an example, the 105-millimeter illuminating round. The problem of battlefield illumination is vastly different in Vietnam than it was

during World War II or in Korea. Our Ammunition Supply Bulletin, which specifies the rate of fire for all weapons system, is based on World War II and Korea experience and we have updated it to the best of our ability by computerized war games and theater commanders' review of contingency plans. The bulletin rate for the 105-millimeter illuminating round is 0.64 round per weapon per day.

In Vietnam, the requirements for battlefield illumination have risen drastically, and General Westmoreland has requested higher rates than those specified in the bulletin. For example, this chart lists all the illuminating rounds, the bulletin rates, and the recommended rates or required supply rates for Vietnam.

You will note on the 81 illuminating, for example, our supply bulletin rate is appreciably less than what General Westmoreland wants in the middle column, but we are supplying to General Westmoreland something more than the supply bulletin rate although it is still less than what General Westmoreland wants. You have the same situation on the 4.2-inch illuminating round. You have the same situation with the 105-millimeter illuminating round. The 155-millimeter illuminating round and with the Mark 24 flare are substantially in balance.

Now, in addition to these means of illuminating the battlefield, General Westmoreland also has searchlights mounted on helicopters and flare ships, helicopters of the Army, and flare ships of the Air Force and the Navy.

Because our inventory of illuminating rounds, in large measure had been met based on supply bulletin rates, the production line was cold, and the call for increased quantities required us to crank up production. The first run was accepted in December 1965. ASR's have been established on illuminating rounds, as shown on the chart, which is the right-hand column of the chart which faces you.

You will note that the required supply rate and the available supply rate are the same for the 155-millimeter and the Mark 24 flare. In other words, the quantities on hand of these items are sufficient to meet the requirement. The others are in deficit, as indicated, although the ASR's have been established at rates somewhat better than the bulletin estimates. General Westmoreland, then in planning his actions, will be required to select alternate means of providing illumination and to make his allocation of illuminating ammunition in conformity with the plan that he develops.

In the subcommittee staff report, which was forwarded to the Secretary of Defense on January 14, 1966, it was stated that the ASR, and I quote, "is a severe inhibition on a unit commander's plan for action, limiting the boldness of his conceptions and the vigor of his actions at any time."

Again, at another point, the report states:

In the case of individuals who have a freedom of choice in action, such as the mentioned pilots of an armed helicopter, it is a personal inhibition or restraint of a most frustrating nature. When a pilot goes out to support an action with his ration of ammunition, how soon, and under what circumstances, can he shoot it all up, and finish his usefulness for the day?

I would like to respond directly to the two allegations covered in the part of the report that I have quoted.

First, I would like to say that we do have imbalances in our ammunition stocks, and these imbalances exist at different locations in the supply system at different times. This results in part from the manner in which we plan to distribute munitions and the manner in which those plans are carried out.

To address the issue of inhibition of a unit commander's plan for action and limiting the boldness of his concepts and the vigor of his actions, I believe that there is no real evidence whatsoever to support such an allegation. I have not talked to all commanders in South Vietnam, and I did not interrogate, and I mean by this, bore in on ammunition supply during my recent visit out there. However, many of them, down to the level of battalion commander, volunteered the information to me that their ability to carry out operations, or their ability to accomplish their mission had not been inhibited. One reason for the redundancy in Army weapons systems and the overlapping capabilities of some weapons is to provide an alternate fire support capability in the event some unforeseen circumstance occurs.

The second allegation implies that the pilot of an armed helicopter cannot finish his job. I believe, first, that the explanation of the available supply rate, coupled with the chart describing the locations of prestock points for helicopter ammunition, should answer that question. I repeat that the available supply rate does not have an application to the individual soldier, nor to individual small units. The available supply rate is a tool used by a senior commander to assure himself that his stocks of ammunition will support operations planned for the future and to meet any unexpected battlefield situations that might arise.

It is a conservation measure rather than a rationing measure.

I hope this clarifies the matter of available supply rates. We received from the staff of the committee detailed guidance from you with respect to the kind of information you desired for specific rounds.

General Chesarek will describe the charts that follow that have been designed to provide the desired information in detail.

Senator STENNIS. All right, General Johnson, we thank you for your good statement. General Chesarek, are you comfortable where you are?

General CHESAREK. Yes, sir.

Senator STENNIS. You have your statement, and we have copies of it. Will you proceed in your own good way. We are going to hear you now, and we will have questions for you later.

(The charts referred to are as follows:)

Ammunition rates of supply

	Supply bulletin rate	Recom- mended rate or required supply rate	Available supply rate (Dec. 31, 1965)
81-millimeter illuminating.....	[All figures deleted.]		
4.2-inch illuminating.....			
105-millimeter illuminating.....			
155-millimeter illuminating.....			
MK-24 flare.....			

TESTIMONY OF MAJ. GEN. F. J. CHESAREK, ASSISTANT DEPUTY
CHIEF OF STAFF FOR LOGISTICS (PROGRAMS); ACCOMPANIED
BY JOSEPH J. MATT, PICATINNY ARSENAL

CHESAREK STATEMENT

General CHESAREK. Mr. Chairman, and Members of the subcommittee, we have a series of 17 charts covering the information you have requested on key items of ammunition in use in Vietnam and copies of these have been provided.

In order to insure a thorough understanding of the chart format, I would like to describe it for you in some detail on this sample chart.

The unit of measure of the figures in the chart is at the top center. For small arms ammunition the unit of measure is millions of rounds. For all others, the unit of measure will be thousands of rounds.

Note next the five columns covering the time sequence of the report. The guidance from the committee specified that you wanted information on the dates indicated in the first four columns, and we added the June 30, 1967, column in order to present a rounded picture.

The first line on each chart states the authorized acquisition objective which has been described by Secretary Resor and General Johnson.

The next line is the total on hand inventory broken down into standard A, or preferred items, and standard B and others. Standard B and others are older items which, while not preferred, are still useful. In order to give you a total inventory figure as requested, we have included stocks in the hands of troops or in the basic loads. In several instances, the June 30, 1965, starting total inventory will pick up bookkeeping inventory adjustments which occurred during the remainder of 1965. I will describe these whenever they occur.

I mention this in order to provide your staff the basis of reconciliation of figures which we have already provided.

The next three lines show the stockage objectives, or the amount of ammunition authorized to be on hand in southeast Asia, Europe, and Korea. The southeast Asia forces are authorized to have on hand [deleted] days of ammunition in country for each weapon in the hands of troops. The backup depot at Okinawa is authorized another [deleted] days. Europe is authorized [deleted] days of ammunition for each weapon in the hands of troops, and Korea is authorized [deleted] days. The stockage objective figures on the chart express these days of supply as defined by General Johnson in terms of numbers of rounds.

The next four lines show the number of rounds in southeast Asia stocks on hand. These are broken down per your instructions into basic load; depot to include Army supply point (ASP), prestock point (PSP), port and other—other in this instance means in transit in Vietnam; and, lastly, the quantity on hand in the Okinawa Depot, and the total.

Next, receipts from production. The number which would appear in the column October 31, 1965, would cover the period from June 30, to October 31, 1965—in other words, a period of 4 months. Similarly, the column December 31, 1965, indicates receipts from October 31 to December 31—a period of 2 months. The column December 31, 1966,

is an estimate for the 12-month period ending December 31, 1966, based on the latest production schedules, and the column June 30, 1967, is an estimate for the first 6 months of 1967. The consumption totals in the next line cover the same time periods in the same manner. The figures in the October 31 and December 31, 1965, columns are actual reported consumption, whereas the figures in the last 2 columns are estimated consumption based on the required supply rates. This is an important point. Our procurement planning and funding are based on the rates recommended by General Westmoreland or, in cases where he made no specific recommendation, on the published supply bulletin rates for sustained combat.

The "Consumption, southeast Asia" line is broken out from the total consumption in order to give you a ready comparison between their stockage objectives, stocks on hand, and consumption. Again, the October 31 and December 31, 1965, columns reflect actual consumption.

Unless there are questions on the chart format, I would like to move to our first item, the 2.75-inch rocket.

This is a new item in the Army inventory. Mr. Matt is holding a cutaway of his rocket and will briefly describe it to you.

Mr. MATT. Basically, the item is made of three major components, the gray is the motor, the light green is the warhead and the olive drab is the fuze.

Senator STENNIS. Pardon me, which is this?

Mr. MATT. The 2.75. This happens to have the white phosphorus smoke warhead on it. It is identical to the HE except we do not have an internal burster on the HE head.

It is initiated electrically from the launcher, ignites what is indicated in red as your propellant grain. As it leaves the launcher these folding fins release and maintain stability.

On impact the round is detonated.

Senator THURMOND. The round is what?

Mr. MATT. Detonated. It is a point detonating fuze.

General CHESAREK. The Air Force used this rocket for a number of years as an air-to-air weapons system, and the Army experimented with a number of Air Force rockets in 1963. We found that these rockets were not suitable for our purposes.

[Deleted.] In order to achieve stability in flight when launched from a relatively slow speed platform, greater rotational spin of the rocket had to be built in. We proceeded to modify the Air Force rockets and by November 1964 we were ready for limited procurement of the Army type rockets. As the troops in the field began to utilize these rockets with ever-growing success, their demand grew precipitously.

The Army acquisition objective shown on the chart needs revision. It was based on unrealistic attrition rates and consumption projections. Correlation of expenditures of 2.75-inch rockets with operational tube density during the period August 1964 through March 1965 revealed an average rate of [deleted] rounds per tube per day. The month of April 1965 averaged [deleted] rounds per tube per day.

To provide for a stockage objective and an in-transit pipeline additive to consumption, a day of supply rate of [deleted] rounds per tube per day was established in May 1965 for future programing and budgeting. This rate was acceptable to General Westmoreland.

It was used in developing requirements for the fiscal year 1966 basic budget and supplemental as well as for projecting consumption during calendar year 1966.

Available supply rates established by General Westmoreland have ranged from [deleted].

Europe and Korea show zero stockage objectives as no 2.75 weapons systems will be operational there until rockets are available to support them.

The southeast Asia stocks on hand include a basic load in the hands of our aviation units. In other words, on December 31, 1965, our aviation units in Vietnam had [deleted] rockets in their possession. The depots, Army supply points, and prestockage points which General Johnson has previously described and the ports had an additional [deleted], for a total southeast Asia inventory of [deleted] rockets. The remaining [deleted] went to Okinawa, it is an error on the chart.

With respect to receipts from production, the chart projects only the Army portion of production as agreed to between the services, as all services use this rocket. The total consumption is a bit more than the southeast Asia consumption, the difference being accounted for by training in CONUS.

The key point in the December 31, 1966, column is the heavy increase in receipts from production—[deleted] rockets. These rates begin to mount in [deleted] when Army receives from production [deleted] per month. This permits consumption in southeast Asia to proceed at the full required supply rate of [deleted] rounds per tube per day. The June 30, 1967, column shows again this tremendous buildup of production of this item where we receive [deleted] rounds in a 6-month period with the Army receiving rockets at the rate of [deleted] per month.

Senator THURMOND. [Deleted.]

General CHESAREK. [Deleted.]

Senator THURMOND. You have [deleted].

General CHESAREK. That is an error.

Senator THURMOND. That is an error?

General CHESAREK. Yes.

We will examine two key rounds in the small arms area.

First, the 5.56-millimeter which is the round used in the new M-16 rifle. Note the size of this round, a .22 caliber, compared to the 7.62-millimeter and .30 caliber. This round is also relatively new in the Army inventory. The M-16 was first introduced for use by our airborne divisions and special forces. They received their rifles last year. The ammunition inventory buildup was geared to this proposed usage.

On the first line of the chart, note that the Army acquisition objective rises substantially in 1966. The reason is that General Westmoreland has [deleted] which the Secretary of Defense has approved. The acquisition objective is based on an expenditure rate of [deleted] rounds per weapon per day. This rate has been under debate ever since the M-16 rifle was first introduced. While the actual Vietnam consumption for November 1965 was [deleted] rounds per weapon per day, we do not yet have sufficient experience on which to make a final judgment, so all of our estimates of requirements and our production schedules are based on [deleted] rounds per weapon per day.

In July 1965 a decision was made to equip the 1st Cavalry Division (Airmobile) with this rifle from stocks already available. The stockage objective for southeast Asia reflects the growing inventory of M-16 rifles in that theater. There are only a few in Europe with the special forces located there. With respect to southeast Asia, on June 30, 1965, the only combat unit in Vietnam, other than the aviation companies, was the 173d Airborne Brigade, and it had just begun to arrive on May 31, 1965.

By October 31, as indicated by the figures, stocks on hand just about matched the stockage objective. Note the buildup in receipts from production. We are building the production base to a level of [deleted] rounds per month, and planning is now in process to increase this still further, probably to [deleted] rounds per month. The actual consumption in southeast Asia has been relatively modest thus far, with a monthly average of [deleted] rounds per month for November and December.

If we calculate the consumption for 1966 and the first half of 1967 at the actual consumption rates reported for the months of November and December 1965, consumption would be as indicated in red on the bottom of the chart.

Bob, would you lift the chart a little bit, please?

Thank you.

In other words, if we project the November, December combat consumption into the 1966-67 time frames, this indicates that we would shoot up [deleted] rounds in 1966 versus the [deleted] planned, and funded.

The [deleted] difference would almost achieve the new AAO of [deleted].

The next item is our standard 7.62-millimeter rifle and machinegun ammunition. Note that our acquisition objective is unstated during the 1966 and 1967 time frames. This is due to several major changes in weapons densities.

For example, the introduction of the M-16 rifle into Vietnam [deleted], we are introducing a new machinegun called the Minigun. It is on the left of the picture over there, which is a 6-barrel revolving Gatling-type gun with a cyclic rate of fire up to 4,000 rounds per minute, which will be introduced on helicopters in Vietnam [deleted].

Until such time, then, as quantities of these weapons are determined, we cannot predict with precision an acquisition objective. We expect it to be somewhat higher than the acquisition objective shown on the chart.

As the total inventory line indicates, we are in a good position on this round and have anticipated greater consumption as indicated by the total inventory figures on hand on June 30, 1967. It is interesting to note the increase in stockage objective for southeast Asia tentatively estimated to take care of the Minigun requirement in the 1966 and 1967 time frames. As the weapon densities in [deleted], their stockage objectives [deleted].

Under the actual southeast Asia stocks on hand, note that we are over the required stockage objective by [deleted] rounds in 1967 and the stock in 1966 and 1967 is sufficient so as not to count the basic load in the hands of troops. In other words, the quantity on hand in depots

and at Okinawa will be equal to the authorized stockage objective for Vietnam.

Note the receipts from production in 1966 of over [deleted] rounds. To achieve this, there are eight facilities in production and six others manufacturing metal boxes, links, and bandoliers. Total consumption in Vietnam has not been high as indicated by the [deleted] figure for the months of November and December. The remaining consumption is for Army throughout the world, the difference between the [deleted] figure.

If we project the actual combat consumption data into 1966 and 1967, the red figures tell us that we are shooting up [deleted] of the computed rounds.

In summary, we believe we are in excellent shape on this key item of ammunition.

The next chart examines the 40-millimeter M-384 used on a helicopter mount.

Mr. Matt has a cutaway of this round. This picture shows its location on a helicopter in the nose of the chopper.

The AAO stated on our chart is tentative as this is a new round just introduced in the spring of 1965 and the number of weapons systems and rate of fire have not yet been finalized. The R. & D. round was introduced for test in Vietnam in the spring of 1965, and the first assets from production became available in April 1965. The recommended day of supply rate for this round by COMUSMACV has varied from [deleted] rounds per weapon per day. The present rate stands at the latter figure.

General Westmoreland has established an ASR of [deleted] rounds at this time. The figures that are contained on this chart reflect the [deleted] round required supply rate. Being a new round, stocks on hand on June 30 were negligible. Production started to build up, and on October 31, 1965, assets totaled [deleted], in addition to the [deleted] consumed. On December 31, 1965, the situation was dramatically improved as receipts from production continued to rise.

During 1966 we are building up to a rate of [deleted] rounds per month, which is more than sufficient to meet the full RVN requirement at the required supply rate of [deleted] per month against the full introduction of all planned weapons systems. Here again, we are very proud of the speed with which a completely new round was introduced within 12 months.

By [deleted], just a year after the first production run, the rate of production will have risen to [deleted] rounds per month.

The 40-millimeter explosive M-406 is for use in the M-79 grenade launcher. Mr. Matt is holding up these two rounds. I don't know whether you can note the difference in size. This round is considerably shorter than the M-384 which we have just discussed and they are not interchangeable. The difference in size results from the recoil in the M-384 necessary to make its weapons system fire as a machine-gun, whereas in the launcher the recoil must be considerably reduced.

Please note we show no AAO in the 1966, 1967 time frame. This is because we plan on introducing additional grenade launchers into the Army inventory, and the exact quantity and the rate of deployment have not been established. The figures are based on the required sup-

ply rate of [deleted] rounds per weapon per day. On Monday of this week, we received a cable from COMUSMACV reducing the required supply rate from [deleted] rounds per weapon per day to [deleted] rounds per weapon per day. This next chart reflects this change and indicates a high total inventory in the 1967 period. However, as I have previously indicated, the further increase in the number of weapons which fire this round will tend to offset this somewhat. As soon as a new AAO is established, production levels will be adjusted accordingly. We consider our position satisfactory.

Extending our combat consumption experience into 1966 and 1967, the red figures at the bottom of the chart show that even at the reduced computed consumption rate of [deleted] rounds per weapon per day, combat consumption is [deleted] the computed rate.

Going next into the mortar area, this chart reviews the 81-millimeter high-explosive cartridge with fuze. Note that we start off on June 30, 1965, with [deleted], all of which is in older type ammunition but acceptable for combat use. The figure reflects an inventory adjustment of [deleted] rounds which resulted from a reconciliation of in-transit data on stocks not previously reported in southeast Asia. As I previously indicated on another chart, the low level of stocks on hand on June 30, 1965, was due to the fact that the only combat unit in Vietnam on June 30, 1965, other than the aviation companies, was the 173d Brigade which arrived on May 31, 1965. Substantial shipments to South Vietnam were made during the period from June 30 to October 31, until [deleted] rounds were on hand at that point. This was rapidly built up until by December 31 the figure stood at [deleted] rounds.

The preferred round, which Mr. Matt is holding up, is made of pearlitic malleable iron which provides for an extremely high degree of fragmentation. [Deleted.] Because of the high quantity on hand, the production base was cold and, as you can see from the chart, receipts from production do not start until [deleted].

Production rapidly picks up at that point until by [deleted] we are producing at the rate of [deleted] per month. This chart presents a classic case of drawdown of inventory of a high use item during the initial period of combat with a production buildup well before the inventory is in a serious state of depletion. Note here the average Vietnam consumption rate in November and December 1965 of approximately [deleted] per month, which extended would give figure as indicated in red for the 1966 and 1967 time frame, which is roughly [deleted].

The next item is the first of the illuminating rounds, and, as General Johnson has already indicated, we start from a low level of inventory based on the low rates projected in the supply bulletin. To refresh your memory, the bulletin rate for the 81 millimeter is [deleted] per tube per day. The required supply rate as recommended by General Westmoreland is [deleted] per tube per day, or almost [deleted] the bulletin rate. General Westmoreland is operating at this time on an ASR of [deleted] rounds per tube per day.

Because this is the first of the illuminating rounds, I would like to ask Mr. Matt to explain just how this round operates.

Mr. MATT. This design is typical of your gun-launched illuminating round. Consists mainly of a time fuze, a pyrotechnic canister supported by a parachute encased in a body, a tail cone, fin, and bomb.

On setting the time fuze, when the time runs out, the expelling charge is ignited which separates the body and the tail cone by shearing pins. The payload is expended rearward and is supported by the parachute. At the same time it is being forced out it also ignites your pyrotechnic mixture. This will give on the 81 approximately a half million candle power for about 60 seconds.

Senator STENNIS. What do you call it?

Mr. MATT. This is the 81-millimeter M-301 illuminating round.

Senator STENNIS. While we are interrupted here, gentlemen of the committee, we have a live quorum, it is already in progress, is it, and I think under the circumstances here it is up to each Senator whether he goes or not because we want to go on and get through with these gentlemen, who are busy men.

All right, will you proceed. I always give that information to the committee.

Proceed.

General CHESAREK. I am on page 11, Mr. Chairman.

The December 31, 1966, column highlights the heavy receipts from production. The consumption projection is based on the full required supply rate of [deleted] rounds per tube per day.

The next round is the 81-millimeter smoke, the last of this family of mortar rounds. As indicated, the inventory position on this round is good. We have large quantities of standard B assets on hand. The principal advantage of the new round is that it is ballistically matched with the high-explosive round, so the gunner only has to use one firing table. Our stocks on hand in Vietnam as of December 31, 1965, were sufficient to meet the stockage objective fully. At the rate this round was consumed during the period October 31, 1965, and December 31, 1965, these stocks in country would be sufficient for a period of about [deleted].

Extension of November and December combat consumption rates shows it to be about [deleted] percent of the calculated rate.

Moving to the next size mortar, the chart presents the picture on the 4.2-inch high-explosive cartridge. Note the initial inventory of [deleted] rounds as against [deleted]. Here is a case of deliberate action on the part of the Army to accept this shortage in anticipation of [deleted]. In the meantime, the fiscal year 1966 budget initiated action to build up the base for the [deleted] round. It reaches a level of [deleted] per month in February 1967. We consider our inventory position on this round to be satisfactory. Note the consumption in southeast Asia of approximately [deleted] per month as indicated in the December 31, 1965, column. Stocks on hand in southeast Asia would support combat at that level for [deleted] months.

Extension of combat consumption experience on this round into 1966 and 1967 proves to be about [deleted] percent of the computed rate. If the computed rate was actually consumed during November and December 1965, it would have totaled [deleted] rounds, or more than [deleted] the actual rate.

The next chart pictures the 4.2-inch illuminating round. The initial June 30, 1965, inventory was adjusted upward by an inventory adjustment of [deleted]. This is not in such great demand as the 81-millimeter illuminating, and you see the combat consumption in Viet-

nam is substantially less, averaging for the 81 millimeter about [deleted] per month and for the 4.2 about [deleted] per month. As you may recall, the bulletin rate is [deleted] per tube per day, the required supply rate established is [deleted] and the available supply rate is [deleted]. The chart reflects the full [deleted] rounds per tube per day combat consumption. We will watch this round closely to determine whether further production increases are necessary.

This round is not near as popular as the lighter 81 millimeter. It is hard to handle and receives less usage.

Moving to the next level weapons system, this chart shows a situation with respect to the 105-millimeter howitzer high-explosive round. Note we started with a huge inventory of [deleted] on hand. Also note the substantial drawdown with a buildup in production beginning in [deleted]. We had high hopes of going into production in [deleted].

Note our inventories in southeast Asia in October 1965 and December 1965 are more than ample to meet the stockage objective.

The extension of combat consumption rates on this round into 1966 and 1967 proves to be about [deleted] percent of the computed rate.

The round which causes us the most difficulty is the 105-millimeter illuminating. It has a bulletin rate of [deleted], a required supply rate of [deleted] and an available supply rate of [deleted] rounds per tube per day. No AAO is shown for the 1966 and 1967 time period, as we will have to recompute one after more study of the Vietnam requirement.

The chart reflects the problem. The figures reflect the full required supply rate of [deleted] rounds per weapon per day. Starting from a cold base, we pulled all the stops to build up production. Through these means, we will increase production to the high levels indicated, which will largely resolve the problem in [deleted]. This will require, however, continued high priority treatment which it will receive. Thus, for this round especially, the key lies in actual combat consumption needs.

One substitute item is the Mark 24 flare, which has a required supply rate of [deleted] per month, which we are able to supply. I would like Mr. Matt at this time to explain to you the difference between the Mark 24 flare and the 105 illuminating round.

Mr. MATT. Basically this is an aircraft flare and differs in design from the gun-fired types.

This item has a double fuze setting, one for ejection of the payload out of the canister, and the other for initiation of uncanning. It is initiated by pull wire, basically it is a static wire which would be attached to the aircraft and the item jettisoned.

A 12-pound-pull fuze is initiated and a 50-pound pull, the separator separates.

Depending on what the fuze setting for ejection is, the item then would eject and be suspended by the parachute. The second fuze for initiation then takes over, ignites the canister which contains the illuminant, and the item is active.

Basically this item will give 2 million candlepower for approximately $2\frac{1}{2}$ to 3 minutes.

General CHESAREK. The next category of weapons systems—
Senator BYRD. Pardon me, may I ask a question at this point?

Senator STENNIS. Subject to our general rule we are not going to have an examination, something for clarification.

Senator BYRD. Yes, what is the candlepower and the time of the 105-millimeter illuminant?

Mr. MATT. That is approximately a half million for 1 minute.

Senator BYRD. As against the 2½ million for the flare?

Mr. MATT. Against 2 million for 2½ to 3 minutes for the flare.

Senator BYRD. I see.

What is the candlepower for the 4.2-inch illuminating round?

Mr. MATT. The 81, the 105, and the 4.2 are practically equivalent.

Senator BYRD. Thank you, Mr. Chairman.

Senator STENNIS. All right, General, proceed, please.

General CHESAREK. The next category of equipment we examine is the 155-millimeter howitzer. The first chart covers the high explosive round. We are in good shape here. The southeast Asia stockage objective was more than achieved on October 31, 1965, and held at that level through December 31, 1965. We held ammunition in Conus rather than aggravate the unloading situation in Vietnam ports in December. This was judged a reasonable risk because according to reports received for October consumption totaled [deleted], and at that rate we had more than [deleted] supply on hand. The actual consumption rate of [deleted] per month for November and December confirmed this estimate.

Combat consumption, when projected into 1966 and 1967 shows at about [deleted] percent of the computed rate. This is the only round examined where actual experience [deleted] the computed. We will watch this closely to determine whether additional procurement is appropriate.

The AAO for the next round—the 155-millimeter illuminating shell—we recently increased from [deleted] indicated in the June 30, 1965, column as a result of the new supply bulletin and the increase in 155 howitzers authorized for Europe. This accounts for the deficiency in our starting inventory and our AAO. Upon approval of the new AAO, funds were budgeted in fiscal year [deleted] to build up the inventory. Production will come in during 1967 to offset the drawdown. Consumption of this round in Vietnam to date has been [deleted] per month.

We now move to the high explosive round for the 175-millimeter gun. This is a relatively new weapons system, that big shell in the display, having entered the inventory for the first time in September 1962. Battalions were not deployed to southeast Asia until October 1965, and large stocks of ammunition as indicated in the October 31, column were delivered in theater. Production continues to build up inventory. Consumption in southeast Asia has been [deleted]. We consider our inventory position on this round to be satisfactory.

Our next chart is the largest piece of ordnance to be examined today—the 8-inch high explosive projectile, M-106. As the chart indicates, we started off with a total inventory of [deleted] rounds. Our buildup in Vietnam has been more than ample, with a heavy inventory on hand as of December 31, 1965. While we reduce stocks slightly from the AAO in the time frame, we also bring in production from a cold base which will quickly offset that loss in the ensuing months.

We consider our position in this round satisfactory. Combat consumption in Vietnam has been averaging about [deleted] per month.

The last item we have charted is the hand grenade. Note here that our inventory position is very favorable. Our initial stocks are standard B which, however, are perfectly satisfactory and have been in use for many years. The new hand grenade is an improvement in that the fragmentation pattern is greater and the fuze somewhat better. Our buildup in Vietnam was satisfactory, and by December 31 we had more than achieved the stockage objective for southeast Asia. We envisage no problems.

This completes our item analysis.

(The tables referred to are as follows:)

Rocket, 2.75-inch—All types

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

Cartridge, 5.56-millimeter (all types)

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

¹ Based on actual rates.

Cartridge, 7.62—All types, except blank

[Units in millions]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

[All figures deleted.]

¹ Based on actual rates.*Cartridge, 40-millimeter, HE, M-384 (aircraft)*

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

[All figures deleted.]

Cartridge, 40-millimeter, HE, M-406

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

[All figures deleted.]

Cartridge, 81-millimeter, HE, M-374, with fuze

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total southeast Asia on hand..					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

¹ Based on actual rates.*Cartridge, 81-millimeter, illuminating, M-301A2*

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total Southeast Asia on hand..					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

Cartridge, 81-millimeter, smoke, WP, M-375, with fuze M-524A5

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total Southeast Asia on hand..					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

Cartridge, 4.2-inch, HE, M-329 with fuze

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total southeast Asia on hand.....					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

Cartridge, 4.2-inch illuminating, M-335A1, with M-565 fuze

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total southeast Asia on hand.....					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

Cartridge, 105-millimeter, HE without fuze, with fuze—PD and MTSQ

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:					
Total inventory:					
Standard A items.....					
Standard B and others.....					
Stockage objectives:					
Southeast Asia.....					
Europe.....					
Korea.....					
Southeast Asia stocks on hand:					
Basic load.....					
Depot, ASP, PSP, port, and other.....					
Okinawa.....					
Total southeast Asia on hand.....					
Receipts from production.....					
Consumption total.....					
Consumption, southeast Asia.....					

[All figures deleted.]

1 Based on actual consumption.

Cartridge, 105-millimeter, illuminating, M-314A2

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption total					
Consumption, southeast Asia					

¹ Includes acceleration of current program and additional quantities based on latest increased requirements.

Projectile, 155-millimeter, HE, M-107

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption total					
Consumption, southeast Asia					

¹ Based on actual consumption.

Projectile, 155-millimeter, illuminating, M-118A2/M-485

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption total					
Consumption, southeast Asia					

Projectile, 175-millimeter, HE, M-437

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption total					
Consumption, southeast Asia					

Projectile, 8-inch, HE, M-106

[Units in thousands]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption, total					
Consumption, southeast Asia					

Grenade, hand, frag, comp B, M-26A2, with fuze M-217

[Units in millions]

	June 30, 1965	Oct. 31, 1965	Dec. 31, 1965	Dec. 31, 1966 (estimate)	June 30, 1967 (estimate)
Army acquisition objective:	[All figures deleted.]				
Total inventory:					
Standard A items					
Standard B and others					
Stockage objectives:					
Southeast Asia					
Europe					
Korea					
Southeast Asia stocks on hand:					
Basic load					
Depot, ASP, PSP, port, and other					
Okinawa					
Total southeast Asia on hand					
Receipts from production					
Consumption total					
Consumption, southeast Asia					

NECESSITY FOR TIMELY RECEIPT OF INFORMATION AND STATEMENTS

Senator STENNIS. Thank you very much, General.

May I say this word now to the subcommittee members. The Chair informally outlined the general pattern of procedure, not only with reference to this hearing but as to all hearings and expressed our rights, as the Chair sees them, to get this information and get it promptly on all inquiries we make. I want the staff to bring this to the attention of the members who could not be here at the time of my remarks. Any comment that those who could not be here want to make about those remarks, you can put in the record. Others who were here did comment.

Now, secondly, these statements just got to the staff this morning. The Chair took the blame for that because of pressuring them about getting these hearings started, and pressing our witnesses to be here. But we did rule that there had not been a chance to examine them. We were not in a position to cross-examine the witnesses, if I may use that term. So we just agreed that we would have these gentlemen present these statements today. Then we would take a recess to allow the staff and the members of the subcommittee to make a proper study, decide what questions we want answered, and ask them at a later time.

Let me observe that they very thoughtfully brought along slides and cuts of many of these different weapons. Informally, the membership might want to look at them and have them explained. We have a little time for that.

Now, General Shaw, you are the staff member here who has been assigned the primary load, by no means all of the work, though, with reference to this ammunition problem. I know you are capable, you cannot plead that you are not. So we want you to continue working hard on this matter and with such aid as you need from the staff or anyone outside. Let's prepare ourselves as quickly as we can for a full examination of these gentlemen and any other witnesses.

The Chair, members of the subcommittee, is trying to find a way to get down to the issue without consuming so much of your time and coming here repeatedly for hearings that drag along with minutia. Maybe we can have what the lawyers call a pretrial conference on a lot of these things and either agree to them, or put the different contentions in the record and take testimony on the vital points.

In that respect each member may call upon the staff members for assistance on any matter that you have, not only this investigation but any other matter, and send in the questions if you want to in advance. We will try to get them answered preliminarily for you, and put into the record.

The membership of this subcommittee is spread out mighty thinly, and it is just impossible for you to cover all these matters.

Senator THURMOND. Mr. Chairman.

Senator STENNIS. Yes, Senator.

Senator THURMOND. I would like for the record to show that I desire to be associated with the remarks that you made this morning. I think it is highly important that this subcommittee obtain the facts. Unless we do have the true facts; we are not in a position to render the surveillance and supervision and to perform our responsibilities

as Members of the U.S. Senate and especially members of this subcommittee, a branch of the Armed Services Committee.

I realize that in some cases the uniformed people may feel they have got to defend what goes on in the Defense Department. On the other hand I think their duty to their country comes first. I am just hoping that we will be able to get the facts and that they will be perfectly frank and straightforward and let the chips fall where they will.

I don't think they have to defend every action. There are bound to be some mistakes. You make them, I make them, we all make them. They make them, and civilians in the Defense Department make them. And, if mistakes are made, why they can be corrected. We are not here to try to irritate or try to condemn people unjustly. We are here to get the true facts so that we can assist in this effort in which we do have a responsibility.

Now, I believe the Chair mentioned, too, about the statements coming in here. In several instances we have had statements coming at the last minute. I have been told and I think reliably so, not by these gentlemen but in other cases, that they have been intentionally withheld so we would not have the opportunity to delve into these questions that come up. I am going to delve into them and I am going to get all the information and get all the facts I can to propound questions which I think are appropriate. I have no desire to embarrass anybody. I do not intend to, I don't want to, but I have a duty to perform and I expect to do it. I do hope that the statements will come in as the rule requires, and if they don't come in at that time it would certainly suit me if the chairman sees fit to put off the meeting of the subcommittee to another time until we do have an opportunity to study those statements so we can prepare questions to propound to the witnesses pertaining to these important matters.

Senator STENNIS. I thank the Senator, very much. On this point about the statements coming in, as I have said, these gentlemen are not to blame today. I assume the blame. Secretary Resor very rightfully asked that it be postponed from yesterday until today, and I was glad to do it.

But hereafter, we are going to give you more time. I mean everyone, I am not talking to you especially. We are going to keep a box score for the record of their coming in. I want to be given that score before long, and I will make a speech on the Senate floor about it.

Now, the rule is it has to be in at least 24 hours, prior to the time that the witness is scheduled to testify. I know it presents problems to you gentlemen. I don't get my speeches ready, the few that I make, until 1 minute before I start making them so I know how these things work. But we can do better. I think, all of us can. So you keep score. There will be times when we may request more than 1 day, so make a record of any special requests that are made. Keep the score on how it comes out.

Senator Jackson, I want the record to note that we have had full attendance of the membership this morning, which shows an interest in the general obligations that the members have. Also, of special interest, Senator Smith, the lady from Maine, made an outstanding examination on this subject of ammunition after I came on the full

committee. I was not fortunate enough to be on her subcommittee, but Senator Smith, I point to that and say we are especially glad to have you here this morning. We know you have to preside over the Space Committee and you cannot be here all the time. We will all have a chance now to examine these statements and ask such questions as we wish.

Senator Jackson, I will call on you now. You have not had a chance to say anything yet. Do you have anything you want to say?

AMMUNITION PLANNING AND CONTINGENCY POSSIBILITIES

Senator JACKSON. I will be very brief. I regret that I could not be here earlier, but the Rules Committee took up the resolutions from the various committees and I was detained until now because of that fact.

Mr. Chairman, in every war we have been in, I guess, we have had an ammunition problem, and I can fully understand the problem of the planners. I think, looking at the present situation, and looking ahead a little bit, I would hope that the executive side would make sure that we have adequate means of accelerating production at the proper time. I would hope, too, that we don't get caught with a single source of supply. It is my understanding that all through the years we have always tried to have more than one source of supply, and I would, therefore, like to see during the course of this investigation some kind of assurance from the Defense Department, and the Department of the Army in this particular instance, that they will be in a position to meet whatever foreseeable or properly foreseeable contingency that may arise out of the situation in Vietnam, keeping in mind our commitments elsewhere. This is not an easy task. You can be condemned for having too much. But I just hope that you will at least do what a reasonable and prudent person should do under the known circumstances that exist.

It seems to me, of course, that we are in an area where the demands could be quite enormous. Let's make sure that you have planned this in such a way that you will be able to expand very rapidly, and I would hope, too, that adequate means for prepositioning of supplies in the Far East would be available. If you have it in being but the location is so far away and you cannot get it in time, it is the same as a shortage. I know you are thinking about all these things, but I am more concerned about your ability to respond to the need in a timely way, both at the production end and into the combat areas.

That is all I have, Mr. Chairman. I don't think anyone can ask properly that you have a total intuitive sense about every contingency that is going to arise. I think we are all on notice now, we either know or should know, Mr. Chairman, that we are getting into an area fraught with all kinds of possibilities and we ought to be prepared for them.

Senator STENNIS. I think we were all hopeful that this would not develop into a war on a large scale, that we held back and held back on our thinking and planning, hoping for peace when war was on us already.

Senator JACKSON. Mr. Chairman, I might just add this further point. It seems to me this situation in Vietnam, of course, is without

precedent. We are having to expend firepower a lot more in relation to the personnel involved, and I think what the Army is doing out there by way of introduction of artillery supported by aircraft is nothing short of fantastic. But, as I understand the thinking, this ratio of firepower is going to increase, and this is one of the key points of the tactics that you are employing; is it not, in Vietnam?

General JOHNSON. The ratio of small artillery units but not necessarily ratio of density of fire, and by that I mean our capabilities to move our artillery to extend what normally would be its range under a fixed line is improved markedly by the helicopter.

However, the number of pieces that we move to support these various small unit actions generally are relatively a small number. We move by battery rather than battalion frequently.

Senator JACKSON. Well, I was thinking in the totality of it, taking into consideration the adversary and the numbers involved, that you are trying to bridge some gaps that exist by the heavy use of your more efficient firepower than the enemy has. Isn't this the great change that is taking place?

General JOHNSON. Yes, sir. In a no-front war the points at which you might apply your firepower are infinitely greater.

Senator JACKSON. Well, there are indeterminate targets in many cases that you are laying your fire on. You know there is something there but you are not sure.

Senator STENNIS. All right, thank you, gentlemen.

Senator Smith?

SMITH STATEMENT ON AMMUNITION HEARINGS 1953

Senator SMITH. Yes, Mr. Chairman.

As has already been stated in 1953, to be exact, April 15, 1953, we were convened for the same kind of inquiry which we gather today to conduct. At that time in presenting the Army witnesses, I said, and may I quote:

Let me point out for the particular benefit of the witnesses that we do not propose to argue the matter of shortage of ammunition or the rationing of ammunition or the limitation of fire, call it what you will. This has been established. We are here to consider what bottlenecks, what redtape, what problems cause these shortages to occur. If there has been evidence of this sort of thing we want to know from these men whose organizations are involved what was wrong with the system. We want to know it. We feel sure that these gentlemen will speak with complete frankness to these points. Though we find it difficult to understand how some of the delays have occurred and why they occurred, we are here to look at past mistakes in a critical manner to assure that they are never repeated. We propose to set up a system of reports and checks that will keep the Congress advised as to our ammunition position.

Those were my words of April 15, 1953, when we opened the hearings on the ammunition shortages at that time.

I have some questions, Mr. Chairman, that I would like to ask, but before I present them or before the next meeting which you suggest we will have, I wanted what I have just said in the record so that we would not waste our time in getting to the heart of the problem as I see it.

Our committee has compiled convincing evidence of logistical shortages and again we are not arguing. I agree with the chairman. We

are not here to argue the fact of shortages but to learn why they have occurred and to insure they are corrected promptly, reliably, and not at the expense of the vital stores of the combat forces. I will withhold my questions for the next meeting if you wish.

Senator STENNIS. Thank you very much, Senator Smith. Those remarks were timely then and timely now and are a good guideline and very helpful to the subcommittee. I believe each one has had a chance to express themselves now. Was there anything you wanted to say, Mr. Secretary, or you, General?

Secretary RESOR. Not at this time.

SYMINGTON COMMENTS ON STATEMENTS AND TROOP STRENGTHS

Senator SYMINGTON. I wanted to say something, Mr. Chairman.

Senator STENNIS. I was not ignoring you, Senator Symington.

Senator SYMINGTON. I want to congratulate the Secretary and the Chief of Staff on their statements. I think they are excellent statements and well thought out. I was here listening to them and had to leave during the middle of the third statement, but as long as people have been offering a little advice, I would like to say, in my opinion, the two most important things to do are, first, to get those ships unloaded over there and, secondly, to find out as soon as you can how many more, if you want more, troops you are going to need. As anybody knows who has ever had any logistics problems in private business and government, too, you are bound to have heavy shortages if you have sudden accelerations. To the best of my knowledge, I think, considering the fact that you had so few troops at one point, and have so many now, that the net job has been an excellent job.

I would ask you, Mr. Chairman, if I may, that the record show the number of troops on the 1st of January 1964, the 1st of July 1964, the 1st of January 1965, the 1st of July 1965 and the 1st of January 1966, and then any agreed-upon expansion beyond that point.

Senator STENNIS. All right.

(The information referred to is as follows:)

Army Strength in Vietnam

Jan. 1, 1964-----	10,456
July 1, 1964-----	9,749
Jan. 1, 1965-----	14,697
July 1, 1965-----	27,350
Jan. 1, 1966-----	116,755

Senator SYMINGTON. I think that these items are much—I am clearer about the shortages from what I heard of the statement read by the general as to why there is a shortage in illumination shells and why there is a shortage in these rockets.

On the other hand, I congratulate the staff on finding out so quickly that these shortages were there.

Senator STENNIS. All right. Thank you very much.

Well, without objection then, the committee will take a recess subject to the call of the Chair.

I first thank you, gentlemen, all three of you, for your appearance as well as your supporting staff, and you are going to let these samples, I call them, stay here.

General CHESAREK. Yes, sir; at your convenience.

Senator STENNIS. Thank you, I think that would be helpful.

I want each member of the subcommittee who was not here to receive a copy of the remarks I made.

(Whereupon, a 11:55 a.m., the subcommittee recessed, subject to call of the Chair.)

STATUS OF AMMUNITION AND AIR MUNITIONS

WEDNESDAY, MARCH 9, 1966

U.S. SENATE,
PREPAREDNESS INVESTIGATING SUBCOMMITTEE
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee (composed of Senators Stennis (chairman) Symington, Jackson, Cannon, Byrd of West Virginia, Saltonstall, Smith, and Thurmond) met, pursuant to recess, at 10:05 o'clock a.m., in Room 224, Old Senate Office Building, Senator John Stennis presiding.

Present: Senators Stennis, Symington, Jackson, Byrd of West Virginia, Saltonstall, and Smith.

Also present: James T. Kendall, chief counsel; Samuel R. Shaw, Glenn A. Smith, Robert M. Neal, Stuart French of the staff of the subcommittee.

CHAIRMAN'S OPENING STATEMENT AND REMARKS

Senator STENNIS. All right, the subcommittee will come to order. The real purpose of our meeting this morning is to take testimony on this ammunition question which may be largely technical.

General, you and the Secretary have already been here and given your formal statements. You are back now for Mr. Kendall and General Shaw to get your further testimony in the record.

I notified the members of our subcommittee that this testimony would be largely technical. It happens, too, that the Armed Services Committee is having the posture hearings on the budget this morning. One member of the subcommittee is out of town, but really I have not made a special effort to get them here today. You understand that fully, I am sure.

I do have a statement for the record and one that I think I ought to make with reference to this matter as a whole. I will give you this later, Mr. Reporter.

The purpose of these hearings is to inquire into and establish the present and prospective supply of conventional ammunition and air munitions. We want the facts—whatever they may be—and it is not our purpose or intent merely to find fault or be critical.

No one connected with the subcommittee has ever charged publicly or privately that there is any critical shortage of or deficiency in our ammunitions in Vietnam. However, the presentation already made to us by the Army has shown that there have been and, to some extent, at least, there still are problems in this area. The extent of these problems, and the question of how and when they will be resolved fully, should and must be explored completely.

Assuring that our fighting men in Vietnam are fully supplied with all necessary ammunition is not the only issue involved in this hearing. We are also concerned with the adequacy of our worldwide ammunition supply. This problem must not be overlooked or neglected. Our fighting men in Europe and elsewhere who stand on alert and ready for battle, must not lack for any means to fight, of which an adequate supply of ammunition is most critical.

We are also interested in the adequacy of ammunition for the training which is so necessary for the building of effective fighting forces and the honing of the combat readiness of our troops to a sharp fighting edge.

Finally, we need to know whether there is a lesson to be learned from our past inventory, stockage and procurement policies with respect to ammunition. If mistakes have been made in these areas—and I emphasize the word, “if”—they should be identified and recognized so that we can take steps to avoid similar mistakes in the future.

Looking back at the situation which existed a year ago, and our inventories and procurement plans at that time, and comparing them with the present, it is not unreasonable to conclude that we are fortunate that we have had time for added procurement and to gear up the necessary production lines.

Recognizing that hindsight is better than foresight, the fact remains that the Army's budget request for ammunition for fiscal year 1966 was cut by higher authority by \$126 million before being submitted to the Congress. This was not fully restored by the amount allocated to the Army for ammunition from the \$700 million supplemental appropriation for fiscal year 1965.

In time of war an adequate supply of ammunition is critical. It is the life's blood by which our combat forces fight and win or lose—and by which individual soldiers live or die. It is our responsibility to obtain the facts with respect to this important matter and, to the extent that security permits, to report these facts to the Congress and the public. This is what we intend to do within the limits, of course, of security.

I submit, as I just said, this testimony here may be largely technical. General Chesarek has already given his formal statement, as has the Secretary, and he and General Shaw and Mr. Kendall now are to fill in the spots.

I will say this to the subcommittee: we think next week—in the first place we have been having considerable trouble getting responses to our requests regarding several subjects I will take that up later.

But now all the information we have asked with reference to ammunition not only the Army but the Air Force and the Navy has come in. And, after an examination of it, I think we can have hearings next week with the Navy and the Air Force. After finishing these, we will be able to get together an overall view of this entire picture. I do want to have a conference with the members of the subcommittee about a matter that I shall outline to you. Just glance through that, and I will send it to you later in the form of a memorandum.

Now, General Shaw has been the one who has concentrated on this ammunition matter for us, and after we give General Chesarek a

chance to say something further if he has a further statement, I am going to ask Mr. Kendall and General Shaw to proceed with the questions.

General, do you have something you wish to say in addition to what you said the other day?

General CHESAREK. No, sir, I have no further statement to make.

Senator STENNIS. After the General and the Secretary were here, members of the subcommittee, I had a telephone conversation with each of them in which they assured me that they were ready and willing to give the subcommittee all the information and deal fully with Mr. Kendall and other members of the staff. Thereafter, General, without you or the Secretary of the Army being at fault, I was disappointed that we did not get this information quicker. I just register that now without going into it further, but I hope you are prepared today to tell us everything you know about this thing. Is that right?

General CHESAREK. Yes, sir.

Senator STENNIS. All right. Let's cover it as quickly as we can, and get on to other business.

I will give the members of the subcommittee a résumé of what we have been doing to get information in our other fields of inquiry—a memorandum of the delays and the fact that we think we have now about what we have been asking for. We had to wait for some of it for 5 months and I did not personally realize that there was that much delay on one vital matter. But I will go into that with the subcommittee later, give you a memorandum and bring you up to date.

As I said a minute ago, we think we can finish this ammunition matter next week, getting testimony from the Navy and the Air Force. Then we will be in position to say something about the whole picture.

General, you have already been sworn. You recall that?

General CHESAREK. Yes, sir.

Senator STENNIS. All right, Mr. Kendall.

ESTABLISHMENT OF AVAILABLE SUPPLY RATE (ASR)

Mr. KENDALL. Thank you, Mr. Chairman. General, we were told by General Johnson that the available supply rate, ASR, is the amount of ammunition estimated by the major commander to be available for his use in a particular time frame, is that accurate?

TESTIMONY OF MAJ. GEN. F. J. CHESAREK, ASSISTANT DEPUTY CHIEF OF STAFF FOR LOGISTICS (PROGRAMS); ACCOMPANIED BY VINCENT P. HUGGARD, U.S. ARMY; AND RONALD V. BASEY, U.S. ARMY

General CHESAREK. That is correct, sir.

Mr. KENDALL. Would it be accurate also to describe an ASR as a form of rationing or at least a limitation of its use, in that there would be no ASR if the recommended rate or the required supply rate was on hand?

General CHESAREK. No, sir; I don't think that would be correct. As General Johnson also testified with respect to the ASR, the available supply rate, there are other factors which influence the establishment of that rate, other than the sheer availability within theater of the supply of ammunition.

For example, he may wish to concentrate his stocks. He may have difficulty within country in his in-country distribution of stocks. In a number of ASR's, General Westmoreland has established a rate higher than the RSR.

In other words, he uses this as a means of encouraging the expenditure of some rounds of ammunition.

Mr. KENDALL. You say he has established an ASR higher than the required rate?

General CHESAREK. This is correct, sir, in some cases. I can give you some examples if you would like.

AMMUNITION ON AVAILABLE SUPPLY RATE (ASR) IN VIETNAM

Mr. KENDALL. I would like for the record at this point if you would cover, in order to bring it together, I know it is already in the record, what rounds of ammunition are on an ASR in Vietnam.

General CHESAREK. Surely, I will supply that. I can give it to you now or I can give it to you later.

Mr. KENDALL. Is it a long list?

General CHESAREK. There are about 10 or 12 items on it.

Mr. KENDALL. Well, just read them into the record.

General CHESAREK. All right. As a matter of fact, what I will do is I will read you the required supply rates he has established. You want the ASR's, is that what you said, Mr. Kendall?

Mr. KENDALL. Yes, sir.

General CHESAREK. And I will also give you the required supply rates so you have some manner of comparison.

In the 5.56-millimeter rounds; that is, the light .22 caliber, the RSR is [deleted], the ASR is [deleted].

Mr. KENDALL. When you say [deleted] you mean [deleted] rounds per weapon per day?

General CHESAREK. [Deleted] rounds per weapon per day. The reason for this is that the [deleted] is broken down into [deleted] and [deleted] ball and [deleted] tracer. The restriction is on the tracer, not on the ball.

DIFFERENCE BETWEEN REQUIRED SUPPLY RATE (RSR) AND AVAILABLE SUPPLY RATE (ASR)

Mr. KENDALL. By the way, General, so that the record will be complete, if I may interrupt you, will you state briefly what the difference is between RSR and ASR. I mean technically, not in number of rounds, an explanation of what the different terms mean.

General CHESAREK. You mean to define the terms.

Mr. KENDALL. Yes, sir.

General CHESAREK. I think General Johnson defined them so well that if you don't mind I will just read his definitions again as a refresher here.

He said the required supply rate is the amount of ammunition expressed in rounds per weapon per day estimated by the major commander to be required to sustain operations over an extended time frame. This rate is based on a designated size force and mission. This rate is used by the Department of the Army for distribution planning and for analyzing future needs and making continuing adjustments in the ammunition program. That is the RSR.

Now, the available supply rate, the ASR, is the amount of ammunition expressed in rounds per weapon per day, estimated by the major commander to be available for his use for a specific time frame. It is based upon availability of ammunition and the densities of weapons and is changed at frequent intervals depending on planned increases or decreases in combat activity, availability of resupply, transport capability, and imbalances of available ammunition.

Now, back to the list; there is an ASA on 40-millimeter high-explosive M-406 that is for the M-79 grenade launcher. The ASR is [deleted] rounds per weapon per day, the RSR is [deleted] rounds per weapon per day. In other words, here is a case where he has assigned an ASR larger than the RSR. The 40-millimeter which is for aircraft 40-millimeter armament systems, the M-384 round has an ASR of [deleted] rounds per weapon per day, and last week, General Westmoreland reduced his RSR from [deleted] rounds to [deleted] rounds per weapon per day.

The 81-millimeter illumination round, the ASR, is [deleted] rounds per weapon per day against an RSR of [deleted] and in this case, as you recall in the descriptions we gave you in our previous hearing, the supply bulletin rate was [deleted]. This is a case where the theater requirement was considerably above anything we had estimated.

Senator SYMINGTON. Mr. Chairman, may I ask a question for understanding?

The CHAIRMAN. Yes, Senator.

Senator SYMINGTON. When you made that last observation does that mean that you used more than you thought you needed, or that you had it but you didn't have it where you needed it, or does it mean that you had a shortage in production?

General CHESAREK. What it meant, sir, was that in the establishment of our inventories we were procuring against a supply bulletin rate for sustained combat, which was [deleted] rounds per weapon per day. In actuality the use out in the theater was such that the theater commander said that he needed [deleted] rounds per weapon per day, and he actually has established an available supply rate of [deleted], so here was a case where the procurement planning did not forecast this heavy use of this round.

Senator SYMINGTON. So you had a shortage because you used more than you thought you would?

General CHESAREK. This is correct.

Senator SYMINGTON. Thank you, Mr. Chairman.

Senator STENNIS. That illustrates how we are trying to give him a chance to explain fully and pin it all down in the record.

Senator SYMINGTON. Just in the interest of the whole story, as I understand it there were some cases where you did not use as much as you expected to use.

General CHESAREK. That is very true, sir, in practically every round. We are nowhere near what we expected to use.

Senator SYMINGTON. That would be where the RSR would be considerably more than the ASR, is that correct?

General CHESAREK. Well, not quite, sir. The RSR, of course, is the theater commander's estimate of what he thinks he is going to need. Now, in some instances where his supply is ample, he establishes an ASR higher than that. I really can't rationalize why but he has, and I presume he is doing this as a means of encouragement of use of this round. Let them go ahead and shoot it up.

RESPONSIBILITY FOR ESTIMATING RSR AND ASR

Senator SYMINGTON. Then I have one more question. Who is the one—and the proper word, I think, is responsible, although there is no criticism in the use of the word—responsible for underestimating or overestimating? Is it the man at whatever level the mistake is made, and is it a logistics mistake or a mistake of an operations officer, or a combat officer?

General CHESAREK. If you are addressing, sir, these supply bulletins, which are our best estimates based on past experience in war gaming—

Senator SYMINGTON. My questions are based on the testimony you have given in the last 5 minutes. I am not addressing any bulletin.

General CHESAREK. That is what I am trying to get to, sir.

Senator SYMINGTON. Yes.

General CHESAREK. If you are addressing what we are actually procuring against, which is the supply bulletin rate, and this bulletin is updated now annually, the responsibility there rests with the general staff, I would say.

If you are addressing the RSR and whether this is too much or too little, this is the responsibility of the theater commander, in this case General Westmoreland.

Senator SYMINGTON. Thank you, Mr. Chairman.

AMMUNITION ON AVAILABLE SUPPLY RATE IN VIETNAM

General CHESAREK. I will proceed with the ASR list.

In the 105 HE area, an ASR, has been established at [deleted] rounds per weapon per day against an RSR of [deleted], which is the same as the bulletin rate. This I cannot rationalize as ample stocks are on hand. Apparently it is a means of fire discipline. In the 105 illuminating we find here again an ASR. All illuminating rounds have an ASR, and for the 105 it is [deleted] against an RSR of [deleted]. Yesterday we received a cable from MAC/V reducing the [deleted].

We haven't had any opportunity to make any recomputations of course, since this has been received. This indicates that the picture is constantly shifting as further assessments are made as to what the needs of the various forms of combat are.

In 4.2 HE, unfuzed he has an ASR of [deleted] against an RSR of [deleted].

In 4.2 illuminating an ASR of [deleted] against an RSR of [deleted].

He has an ASR established on the 155 HE, with no RSR established so we presume he means the bulletin rate.

Similarly on the 8 inch and 175 projectiles he has an ASR of [deleted] rounds per weapons per day with no RSRs established. Ample stocks are on hand, as you recall, so again I can only assume there is some internal theater problem.

For the 2.75 rocket, the ASR has just been set at [deleted], and the RSR has been reduced to [deleted].

Mr. KENDALL. RSR has been reduced?

General CHESAREK. From [deleted].

WHETHER AMMUNITION IS CONTROLLED ITEM

Mr. KENDALL. General, what is the difference between the Department of the Army control of items and items on available supply rate, or does the Department of Army control apply to Army ammunition items?

General CHESAREK. I am not quite sure I understand you.

Mr. KENDALL. Well, there is a list of items which I know applies to equipment.

General CHESAREK. Yes.

Mr. KENDALL. Which are controlled by the Department of the Army and I believe are referred to as the controlled items. Is ammunition on that list?

General CHESAREK. I don't know of any; Mr. Huggard, do you?

Mr. HUGGARD. No.

Mr. BASEY. No.

EFFECT OF ASR ON USE OF 2.75-INCH ROCKET

Mr. KENDALL. You mentioned the 2.75-inch rocket, General. General Johnson asserted when he testified, that the existence of an ASR was not an inhibiting factor in planning, and did not have application to the individual soldier or the individual unit, and that he doubted that an individual soldier ever heard of an ASR.

I don't want to take too much issue with the Chief of Staff for whom I have the greatest respect and admiration, but with respect to 2.75-inch rocket, frankly, when I was in Vietnam, I found an entirely different story among people with whom I talked, if they were representative. The unit commander and even the individual aviators were very acutely conscious of the ASR and the fact that their planning was affected by it.

As a matter of fact, we were even told by at least one aviator that when he was on a mission before he could fire a rocket he had to radio back and get express approval from his battalion commander, or at least his higher commander. I would say that would very definitely be an inhibiting factor in operation. I think you would agree that that is a fact that would be——

General CHESAREK. I was over in Vietnam, sir, shortly after you were, and discussed the 2.75 rocket with the key commanders, and I find a situation which leads me to believe that we probably are in an overbuy position on this round. The First Division commander indicated that he wasn't too enamored of this round because of the ob-

vious problem of its weight, and the fact that once you shoot your wad you have to go back and get another load. He prefers machine-guns for suppressive fires.

I talked to General Williamson both in the field and just recently. He was the commander, as you know, of the 173d Brigade. They have had more combat over there than anybody else, and he indicated much the same thing.

I also talked to General Kinnard. General Kinnard thinks that the 2.75 rocket is a very good rocket. So there, I guess it depends on who you talk to as to how they feel about this particular round of ammunition. But I might note that the actual expenditures, these are in January and in the month of January, add up to [deleted] against an ASR of [deleted]; in other words, they are shooting considerably less, a [deleted] less than authorized. While they may have felt an inhibition, there is a question as to why to such an extent, if they had ample targets for these rockets.

Mr. KENDALL. I would think that the existence of the [deleted] ASR would certainly have had an inhibition. By the way, at the time frame I was talking about the ASR I believe was [deleted] rockets per day.

General CHESAREK. It has varied all over the place.

STOCKAGE OBJECTIVE OF 2.75-INCH ROCKET FOR USAREUR

Mr. KENDALL. Still on 2.75-inch rockets, I believe you said in your statement that USAREUR showed no stockage objective for this weapon.

General CHESAREK. Right.

Mr. KENDALL. And that no 2.75-inch weapon systems would be programed for Europe until rockets were available to deploy there. You are, of course, aware of the fact that last year USAREUR reported a shortage of [deleted] of these rockets.

General CHESAREK. That is correct, sir.

Mr. KENDALL. How does this reconcile with your statement that they didn't have a stockage objective, in other words, how could they be short [deleted] if they had no stockage objective?

General CHESAREK. I am guessing as to what USAREUR's analysis was when they made this report. They are authorized [deleted] they count the number of tubes they are authorized, projected against the rate of [deleted] and come out with a total requirement of [deleted] rockets or whatever it is for their [deleted] supply level.

Now, the Department of the Army determines, must affirm, stockage levels. The Department of the Army did not approve the theater stockage level for 2.75, nor will we, until such time as we have rockets to provide them. There would be no purpose in it. So my statement is recording the Department of the Army decision that we will not send 2.75-inch rockets to Europe at this time, because we need them all in Vietnam.

Mr. KENDALL. Well, I can't see the logic of eliminating a stockage objective simply because you are unable to fill it, General. You could eliminate any deficit by saying, "We don't have it to fill, and, therefore, we will just wipe out the requirement."

General CHESAREK. The requirement, the total overall requirement of the Army is one thing. This is what the acquisition objective is. The stockage objective is that quantity which you want to put on the ground over there, which is, in the case of Europe a [deleted] supply. Obviously when the rocket is in high use in Vietnam, and it is a new item and production is building up, we just don't have it to put over there, so we are not going to honor a request to stock [deleted] rounds in Europe at this point in time.

Mr. KENDALL. Well, certainly not; but it would still remain an objective, wouldn't it?

General CHESAREK. When the inventory is built up, yes, and this is not very long off because our consumption will be exceeded by production this month.

Senator STENNIS. You gentlemen excuse me; let's say the question is this, it is still a need, isn't it?

General CHESAREK. [Deleted.]

Senator STENNIS. [Deleted], if it is an objective of modern warfare, what you will probably use and need if you have a conflict it seems to me, as Mr. Kendall says, that you could not possibly take it off your list just because you don't have it.

General CHESAREK. We don't strike it from a list per se.

We recognize that, [deleted].

Senator STENNIS. Yes.

General CHESAREK. [Deleted.] There really isn't any, wouldn't be any, sense at all to honor that objective at this point, Senator Stennis.

Senator STENNIS. No; you would not honor it, but you would not remove it as an objective [deleted].

General CHESAREK. We feel this way, sir, until such time as the requirement can be adequately met we don't want to address it. What is the purpose of it if you just leave it that way and he continues to report the same shortage? This probably stems from an Army system that is open to some question, that whenever a new weapons system is introduced, and a distribution plan for that weapons system is published, the theater commanders then requisition the total amount of that system, even though it may be years before there are sufficient items from production to meet their requirement.

It would be more logical if we used a somewhat different system, and that is to make the authorizations for these items available when the production schedules permit, but we don't do that.

Senator STENNIS. Well, what worries us, just to make a general statement, is that there are no shortages of anything in Europe. And when you pin it down, the only reason you can say that is that you do not have these things ready for use and there is a need for them, and it gives the wrong picture, that is my point.

General CHESAREK. Could I use a comparison, sir?

[Deleted.]

Mr. KENDALL. Going back to your statement, you said you would not [deleted].

General CHESAREK. The acquisition objective, Mr. Kendall, determines what the level of production, what you are trying to achieve as an objective, and you procure against that objective.

In the case of the 2.75 rocket this is an all-out national effort. There is well over a billion dollars on this one ammunition item alone. So

we have recognized the total requirement. It is just the fact that it is new and it takes a little time to get there.

AMMUNITION RESTRICTIONS FOR TRAINING PURPOSES

Mr. KENDALL. General, what impact have the "shortages"—if you will pardon the expression, I will put it in quotation marks for you, "shortages"—of ammunition had on training of divisions within CONUS? For example, the 4th Infantry Division told us last week that on February 18, 1966, the Department of Army directed that no illuminating rounds of the 81 millimeter, 4.2 inch, or 105 millimeter be used in training.

General CHESAREK. Correct.

Mr. KENDALL. They also advised that, effective as of July 2, 1965, restrictions were placed on the use in training of super-quick and point detonating fuzes for the 105 millimeter, 8 inch, and the 4.2 inch. They also stated that they had zero stockage of training rounds of signal flares and Claymore mines. Is this a situation which applies throughout CONUS?

General CHESAREK. With respect to the illuminating round, a training prohibition has been placed because of our heavy need for these rounds in Vietnam. Every round we have we will use in Vietnam.

Mr. KENDALL. Of course, the training round in that is identical to the regular one.

General CHESAREK. The same thing. They are using up the ammunition in training. We have other means of training under flare conditions. As you know, we are in an excess position in Vietnam on the Mark 24 flare. We have just loaned the Air Force 21,000 of them last week. We can train with these with perfect validity so we didn't feel as though this would hurt training.

Mr. KENDALL. What about the people training with artillery pieces?

General CHESAREK. Whether they are shooting an illuminating round, or whether they are shooting an HE round is of no consequence. I am an artilleryman, I have fired several hundred thousand rounds. The training of your crew is just as ample, providing they are firing something. There may be some fuze adjustments or one thing or another. But this can be done in training without actually firing a live round.

Mr. KENDALL. You are saying that firing at a point on land is the same thing as firing a point up in the air for illuminating purposes?

General CHESAREK. No; I am saying that the necessary aspects of having illuminating rounds in training relates to the infantryman, so that he sees the terrain as it exists under an illuminating round condition. It is not training for the artilleryman or mortarman. He couldn't care less whether he is firing a white phosphorous or illuminating or HE, it is just another round.

Senator STENNIS. Let's get this where we can understand it.

Mr. KENDALL. I am getting over my head in this discussion of actual training.

Senator STENNIS. Let General Shaw ask questions. I want to know this now. You say, Mr. Kendall, that you found a certain condition where the commander told you he did not have certain items for use in training. As I understand the general, he says that does not make any

difference. He has something else that is just as good. Is that what you meant to say?

General CHESAREK. That is correct, sir.

Senator STENNIS. That is right.

Mr. KENDALL. On that point, General Shaw, before you get into it, we are advised on the same subject matter that the 1st and 2d Armored Divisions turned searchlights on their tanks instead of firing illuminating weapons.

General CHESAREK. Yes; as a matter of fact, we are mounting searchlights on helicopters in Vietnam because what they really want is a continuum of light on the battlefield. An 81-millimeter illuminating round is good for less than a minute, it goes pretty fast. Searchlights are much better and this is the way we illuminated the battlefield in Korea.

Mr. KENDALL. As a substitute for training—I am not talking about combat but training—you say turning on a searchlight is an adequate substitute.

General CHESAREK. Yes; play them against low clouds.

Mr. KENDALL. I am not asking would it. Could it?

General CHESAREK. I would think so, I do not feel this is a difficult problem.

General SHAW. I would certainly agree with General Chesarek on training. In the field artillery problem there is no difference for the gunner, the airburst for the gunner, they do it for shrapnel, or whatever. But I don't think I would agree with the business on infantry.

Senator STENNIS. On what?

General SHAW. On the training of infantrymen who have the mortars because they don't have time-fuzed projectiles and they are trained on ground bursts to adjust fire. Unless they have had some training in putting the target, the burst, in the air at the right place and then moving it to where it is needed if that is required, they are without the training until they have that type of ammunition available.

General CHESAREK. What you are speaking of is the degree of training required of a mortar crew to make an adjustment with a wrench on a fuze setting.

General SHAW. Well, there is no airburst high explosive.

81-MILLIMETER MORTAR VT FUZE INVENTORY

General CHESAREK. Well, true. We have for that purpose VT fuzes, as you know.

General SHAW. Are there any in production?

General CHESAREK. I beg your pardon?

General SHAW. Are there any mortar airburst fuzes in production? I don't think there are.

General CHESAREK. We have quite a few in inventory. We have very heavy inventories of VT fuzes, extremely heavy.

General SHAW. For 81?

General CHESAREK. Yes; right.

Mr. BASEY. For the rounds we have in stock; yes, sir.

General CHESAREK. For artillery rounds, we have [deleted] VT fuzes in stock.

General SHAW. For the 81 mortars, you have VT fuzes in stock and in production?

Mr. BASEY. In stock. We are introducing the new fuze into production for the new 81-millimeter round, but there are ample supplies of the VT fuze for the 81-millimeters we have in stock.

General SHAW. VT's?

General CHESAREK. Yes.

Mr. BASEY. Yes, sir.

Senator STENNIS. Put in the record at this point how many you have, if you keep it under those terms, and where they are. Listen so you can get this question back there, young man. I want you to put in the record where they are. Is this the so-called shortage for training at Fort Lewis that we are talking about, or have we gotten on another fuze?

General CHESAREK. No; we are still back on that.

Mr. KENDALL. The fuze problem I am not aware of.

(The information requested is as follows:)

The number of VT fuzes for the 81mm Mortar in stock, where they are and if they are available for division training follows:

<i>Fuze VT M517, as of Feb. 1, 1966</i>		<i>Inventory (Unit M)</i>
Location:		
USAREUR	-----	} [Deleted.]
USARPAC	-----	
(USARV)	-----	
USARAL	-----	
USARSO	-----	
CONUS ARMIES	-----	
CONUS DEPOTS	-----	
ENROUTE	-----	
Total	-----	

This fuze is usable only with cartridge 81mm HE M362 w/o fuze. Total worldwide inventory of this cartridge is -----.

----- VT fuzes have been reserved in CONUS depots to meet worldwide training requirements. Actual training expenditures for the last two fiscal years were -----.

----- VT fuzes currently reserved in CONUS depots approximately an 18 month training requirement. They are available for division training.

Senator STENNIS. All right, General. Do you want to proceed, General Shaw?

OVERALL STATUS OF ARMY AMMUNITION

Mr. KENDALL. I am just about through, Mr. Chairman. General Chesarek and his people have very kindly furnished us several charts which were very helpful. Although I don't suggest we put them in the record I would like to have them identified as part of the official file.

Senator STENNIS. Identify these as part of the official file for the subcommittee.

Mr. KENDALL. I may have some questions later with respect to this, but I would like to close with one general question, General Chesarek. Is it accurate and fair to say that the Army's position is that they have had and are continuing to have some problems for certain items of ammunition which have been covered, but the Army further takes

the position that the problems are being overcome and also that they have not significantly affected combat operations? Is that a fair statement?

General CHESAREK. Yes, sir, I think that is a fair statement. We have, we are having, problems in cranking up the illuminating round base. We have gone at this to the fullest possible extent. There have been no shortage of funds of any sort. Our general overall shortage of ammunition is good. The funds which the Congress has provided, and which are contained in the 1966 supplement now under congressional consideration will do the job for us.

Mr. KENDALL. Thank you, sir. I would like to yield now to General Shaw, Mr. Chairman.

Senator STENNIS. All right, General Shaw you proceed, sir.

USE OF SUPPLY BULLETIN IN AMMUNITION PROGRAMING

General SHAW. We had previously mentioned, General Chesarek, the ammunition Supply Bulletin. I would like to clarify that for the record, and for the subcommittee, as to what it is. It is the bulletin which you use to calculate the amount of ammunition to meet your requirements for programing, and other logistical planning, and that prescribes the number of rounds per tube per day, or in certain cases bulk ammunition for allotment for units. Is that a reasonably accurate statement?

General CHESAREK. The Supply Bulletin, General Shaw, was really developed as a distribution document to establish the stockage levels of overseas command, that is what it was—its initial purpose was for—and that still is used basically for that purpose. Although it is used for many others, too, it is a handy document.

General SHAW. Then they base their requirement on the number of tubes they have, the rates in that bulletin and submit them to the Department of the Army. They put them all together and they become the requirements for ammunition?

General CHESAREK. No, if they were cumulatively put together they would indicate how much ammunition is going to be stocked abroad. In other words, Europe will use the bulletin to determine its stockage objective by figuring out the number of tubes and so forth, and say we need this number of rounds in Europe.

Similarly the Pacific would do this, and so forth. So, if you were to accumulate those they would indicate the total amount of your AAO which you would expect to have located abroad. The acquisition objective which is what you are buying against, of course, as we described to you the other day, generates from the joint strategic objectives plan for deployment of division forces abroad. As ammunition is on a D to P basis largely, we then calculate how many rounds of these various weapons systems are required over the period of conflict until such time as production equals consumption, and this gives you a total figure.

General SHAW. The supply bulletin is used in that calculation or the round per tube for contingency plan forces?

General CHESAREK. Yes, I think it is, I think that is a fair statement.

CAUSE AND EFFECT OF DELAY IN APPROVING 1963 AMMUNITION SUPPLY BULLETIN

General SHAW. Then to follow the development of that supply bulletin, we had a letter from the Department of the Army describing it. I just want to verify it briefly. In December 1963 the Army issued a new supply bulletin called SB 38-26 and this bulletin was to supersede the bulletin issued in 1956.

General CHESAREK. Right.

General SHAW. The 1956 bulletin included the Korean experience.

General CHESAREK. Right.

General SHAW. The Secretary of Defense directed, however, "No change in the ammunition programing level was authorized until he had approved the new rates." Then in January 1964, the Army commenced a new study of all of the ammunition that it proposed leading to the 1963 bulletin. This is correct. But I note here it says, speaking of this bulletin, the Secretary of Defense says that no change in ammunition programing levels was authorized until he had approved the new rates.

Now, we infer from that that this bulletin does govern, or is a principal factor in governing the programing. It determines the rates by which you determine the number of rounds—

General CHESAREK. He did approve the bulletin.

General SHAW. I was going to come to that. Then on January 13, 1965, the Secretary of Defense was briefed on the result of all the studies that the Army had been doing. On March 16, 1965, the Deputy Secretary of Defense approved for programing purposes the 1963 bulletin except for the toxic munitions which were left out of the approved version, is that correct?

General CHESAREK. Right.

General SHAW. So then in effect the Army's ammunition programing until March 1965 has been based on factors which were published in the 1956 bulletin or 9 year before. Is this correct?

General CHESAREK. I think that is correct.

Mr. HUGGARD. That is correct.

General SHAW. And the Army's attempt to update the basis of establishing the ammunition requirement was delayed a year for the reanalysis, including the cost differences between the 1956 rates and the updated rates, and then finally, except for the action on toxics, the original proposal was adopted. Is that correct? That is as we had it in this letter.

General CHESAREK. Yes. Actually there was a great deal of that time frame you speak of, in fairness which is not chargeable to OSD. Within the Army itself, within the Army staff and Secretariat there were great questions raised on this bulletin. As I recall, about 9 of the 12 months that you address were months wherein the rates were finally agreed upon within the Army, and I think there were some adjustments made before the matter was forwarded to OSD.

General SHAW. I am wondering if perhaps some of the things we have just been discussing are connected; the differences between the stock request by a theater commander for ammunition where he does not have a weapon at hand, and actually supplying him with it. As I understand it the new bulletin was issued to the field for their calculation—

General CHESAREK. That is correct.

General SHAW (continuing). Of their requirements for ammunition. The Department of the Army, because of the nonrecognition of the document by the Secretary of Defense was still using the 1956 document. So, in effect, you had the forces in the field calculating their requirement on the 1963 basis and the Department of the Army programming ammunition on the 1956 basis.

General CHESAREK. There are two points on that, General Shaw. First, the Army directed that the bulletin be used for distribution purposes. It isn't that the theater is calculating requirements, they are calculating their stockage objective, and that is true. They calculated their stockage objective on the new bulletin for a year before the new bulletin was approved for programming purposes.

Now, the statement you made that the Secretary of Defense held it up for a year, as I told you a little earlier, is really not valid. It was the Department of the Army itself that used up 9 months of that year.

General SHAW. Well, they were directed to restudy and it took them that length of time.

General CHESAREK. No, it really didn't address the directive to restudy. I know of this because at the time I was in the Office of the Deputy Chief of Staff for Logistics, in the readiness side of the house, and the bulletin was one of my responsibilities. Its development was made under my supervision, and we had a dickens of a time getting everybody agreeable to its changes. After all, we were making some substantive changes.

We were increasing the total ammunition requirement here by well over a billion dollars. Everybody wanted to be sure that this was correct, and that the rates were right. We queried the theaters. We went through quite a coordination process during this time frame.

FACTOR OF LEADTIME FOR NEW PRODUCTION IN ESTABLISHING AMMUNITION OBJECTIVES

General SHAW. Now, to turn to a new subject, we would like to be sure that we understand the general plan and scheme for the holding of stocks of Army ammunition.

Would you say that this was a reasonably accurate description? The general overall plan is to have enough on hand and placed with the forces deployed in accordance with contingency plans to last until production catches up with combat consumption and in the case of the U.S. Army, Europe, the stock level has been set at the amount for contingency plans for the first [deleted].

General CHESAREK. The acquisition objective for all forces or for all approved forces less the [deleted] division forces oriented to Europe is based on the D to P concept, which means that the quantities on hand should be sufficient to meet the requirements of those forces as deployed from D-day until production equals consumption. It is just a little bit different than the way you stated it.

With respect to Europe, the [deleted] division forces oriented toward Europe, the acquisition objective for those forces covers a period of [deleted]. It isn't that [deleted] worth would be stocked there.

That was the total quantity of ammunition authorized for those forces.

General SHAW. Then is it correct to say that the stock levels or the acquisition objectives, either way—

General CHESAREK. They are two entirely different things there.

General SHAW. I will say the acquisition objectives are all keyed to existing contingency plans for the authorized force levels approved in those plans. Is that a correct statement?

General CHESAREK. That is correct, because the deployment schedules must be considered in determining when units are going to start consuming ammunition in combat.

General SHAW. Then, is it correct that the United States does not maintain a general ammunition reserve for use in operations which are not stated in contingency plans? For instance, the Cuban affair in 1962, Santo Domingo, Vietnam since March 1965.

General CHESAREK. I don't think you could say that, General Shaw. No, you have to compute on some plan, you have to accept some plan, some contingency, and say let's compute on that.

But that doesn't mean that you can't use the ammunition that is available for any other contingency. I mean a selection of contingencies has to be done in order to arrive at an end figure so you can procure something. But the quantities that are on hand are available for any contingency, Cuba or anything else.

General SHAW. Is it true, with the situation such as we have in Vietnam, the large expenditure of ammunition requires that we draw down on stocks intended for contingency plans until such time as we set in motion, with the necessary leadtime, the procurement of replacement ammunition?

General CHESAREK. This is absolutely right, sir. The whole concept of D to P is that upon initiation of conflict stocks are drawn down. At the same time production is built up so as to minimize the period of time between D-day and the time when production equals consumption. There is a planned drawdown of assets.

General SHAW. One of the problems is that the drawdown of ammunition continues until all the other machinery for buying new ammunition is in operation. The leadtimes involved in opening plants, which may or may not be in active operation can lead to a substantial drawdown in some categories.

General CHESAREK. I understand you. Let me explain this a little bit. The Army acquisition objectives, the AAO's, are based on a hot or a cold basis. In other words, if that particular round of ammunition is in production, the AAO will be considerably less than if that round were not in production. The reason for that is that you plan and procure a greater quantity, if the base is cold, in order to take care of that period of time required to crank up the production base. That is built into the system of D to P calculation.

General SHAW. Would it be true then that the real key to the problem is when do you plan to succeed in saying now is the day we start production?

General CHESAREK. Yes, that is a key date, and an equal key is the maintenance of a hot production base in ammunition. From where I sit I much prefer to have less than my full AAO and a hot base than I would to buy it out and have a cold base, because then I have got an

uncomfortable time period in here which even though you may have sufficient on hand, it does take time to crank up the production base.

General SHAW. I think I understand what you are getting at, although it seems to me that the time period would vary. For instance, I remember in the ammunition plan it shows that to reopen a 7.62 plant, cold start, takes [deleted].

General CHESAREK. From cold.

General SHAW. I believe from cold.

General CHESAREK. Mr. Basey, would you respond to that, please?

Mr. BASEY. On the 7.62, to reactivate a line that has been in standby for some period of time it is [deleted].

General SHAW. The volume of the AMP which you gave us shows leadtime of [deleted] administrative and [deleted] production.

Mr. BASEY. Yes, sir. It is not necessary under accelerated conditions to take a [deleted] administrative leadtime. The [deleted] production leadtime is correct.

What I say in [deleted] we can get production out of an idle 7.62.

General SHAW. The AMP shows a plant in production has ability to expand in [deleted] so in that type of ammunition there is a considerable leeway, you might say.

Now, when you get over to illuminating shells, being a case in point, it took [deleted] to open from cold and from [deleted], I believe it was, to expand one already producing.

Mr. BASEY. You must relate these leadtimes to the situation that exists when you try to accelerate. Under peacetime conditions administrative leadtime, competitive procurement requires longer than under accelerated emergency conditions. There are many things that can be done to shorten the leadtime under emergency conditions, and we employ all of those actions when the need is immediate as opposed to producing ammunition for stockpile. We say that under emergency conditions—

General SHAW. That is, those are the conditions you are using now.

Mr. BASEY. Those are the conditions we are using now, accelerated production.

General SHAW. In other words, for the ammunition procurement now underway you are using the emergency provisions and emergency conditions.

Mr. BASEY. Accelerated conditions, yes, sir. And where under peacetime it may take [deleted] to get initial production of a new production line where you have to procure equipment, get it installed, train the people, under accelerated conditions this can be done in [deleted].

General SHAW. That is one of the points I thought might be important. In small arms ammunition it is of the order of [deleted] for expanding an existing line, to [deleted] or somewhere, [deleted] for getting a cold line going, whereas in the other types it is from [deleted] under any conditions.

Mr. BASEY. As you know, sir, we are now reactivating a small caliber ammunition facility, Twin Cities Army ammunition plant. We will have production out of the first 7.62-millimeter line at Twin Cities, I want to be sure of the dates so I am looking it up here. We had the authority to proceed with production on December 3. We anticipate initial production in [deleted].

General SHAW. [Deleted.]

Mr. BASEY. Yes, sir.

General SHAW. To reopen a cold plant.

Mr. BASEY. From a cold plant, one that has not been in operation since Korea.

General SHAW. But in that case all of the machinery and the full plant was there.

Mr. BASEY. Except, sir, that it had to be converted from a caliber .30 production line to a 7.62 and this did require more time than just to take equipment out of mothballs.

General SHAW. But you didn't have a problem of procuring machinery to install to open a plant.

Mr. BASEY. True, sir.

General CHESAREK. I might add at this point, that the Congress, which has been the great champion of the preservation of the ammunition production base since Korea deserves much credit, and it has really paid off in this period. We have activated a number of plants, they have been activated quickly, gone into production quickly, and things would be different if that weren't the case.

General SHAW. I can certainly see the merit as you say of a line in production even at a barely minimum rate waiting to go.

ADEQUACY OF LOGISTICS GUIDANCE FOR PROCUREMENT AND STOCKAGE OF AMMUNITION IN EUROPE

Next, General, we would like to clarify some of the problems of the guidance on procurement of ammunition, and stockage for Europe, on which we are still not clear in our minds. A letter dated February 7 from the Secretary of the Army stated: "The logistics guidance authorized procurement for combat support of [deleted] supply for the forces oriented toward Europe. Of this supply [deleted] is authorized by D.A. for stockage for the forces in Europe."

In two other letters one of September 16, 1965, and one of February 9, this year, these forces are described as [deleted] division forces. Thus, in February 1966 there was to be on hand or procured enough ammunition for the [deleted] division forces committed to NATO to last them through [deleted] of combat. In addition, they were to be supplied with enough ammunition to meet their training requirements. Is this correct?

We are not talking stockage at the moment. There was to be on hand or procured in 1966 enough ammunition for the [deleted] division forces committed to NATO to last them through [deleted] of combat. As well as the training efforts.

General CHESAREK. The logistics guidance prescribes that the forces in Europe, that is the [deleted] NATO oriented divisions are authorized [deleted] ammunition based on their deployment schedule. Of course, five of them are there now, [deleted]. This ammunition should be either on hand or on order as of whatever date you are talking about.

General SHAW. In that letter from the Secretary of the Army's office dated February 7, it says:

"Of this supply [deleted] is authorized from D.A. stocks."

General CHESAREK. That is the stockage objective.

General SHAW. For the forces in Europe?

General CHESAREK. Not for all the [deleted]. As I mentioned to you the other day the stockage objective is for the five divisions there for [deleted], plus [deleted] for the two division forces which have prepositioned supplies in Europe.

General SHAW. That is where we come to a difficulty. Europe is authorized [deleted] for ammunition for equipment in the hands of troops. Now, they have five divisions, so they have five divisions worth of weapons. Now, on top of that then they are to have prepositioned stocks for two divisions, as we understand it, for [deleted].

General CHESAREK. That is correct, for ammunition.

General SHAW. That is a more accurate description.

General CHESAREK. That is a very accurate description of what the stockage objective is in order for Europe today.

General SHAW. When you add that up you can say the stockage in Europe amounts to [deleted] of combat support, five divisions for [deleted] and two divisions for [deleted].

General CHESAREK. Right.

General SHAW. Then there were to be procured [deleted] for two divisions to fill out the prepositioned ammunition for two divisions and [deleted] for the [deleted] committed to NATO.

General CHESAREK. For the [deleted].

General SHAW. [Deleted.] Which would make [deleted]. That would amount to [deleted] of combat support.

Then finally there are [deleted] remaining to fill out the five divisions in Europe amounting to another [deleted] of combat. So then it appears that the plan calls for [deleted] of combat support ammunition as being on hand, plus stored in the United States or at least somewhere other than in Europe, is this correct?

General CHESAREK. Or coming from production.

General SHAW. In that fiscal year.

You would expect to receive that amount of ammunition and have previously on hand the total. Or another way of saying it there should be in the system [deleted] of combat ammunition, combat support ammunition for forces committed by plan to NATO, and [deleted] are to be stored in Europe.

Mr. HUGGARD. No; that is not correct. Actually it works out—

General SHAW. What we just said added up a different way.

Mr. HUGGARD. You have to consider the support for these forces as they are deployed into combat. Actually in the [deleted] if we are to discuss this in terms of division-months.

General SHAW. If I may interrupt, that is where we keep getting lost. All the words up until now have said combat support. Apparently the combat support for five divisions in the [deleted] is the same thing as combat support for the [deleted] still in the United States. There is no distinction made in the logistic guidance as we see it stated. It says combat support, and there is no distinction made in the term, "combat support," for the five divisions now in Europe, and the combat support for the [deleted], to reach Europe.

General CHESAREK. There has to be, General Shaw. You don't provide combat support for somebody not scheduled for combat in that time frame. In other words, if [deleted] going to come in on [deleted]

only needs [deleted] of combat support, not [deleted] not there to fight [deleted]. [Deleted] not fighting in CONUS, as you are talking here about combat consumption.

General SHAW. I don't see how you cut it up. [Deleted] going to be there. The ammunition is there.

General CHESAREK. Well now, you raise a whole different point of view. The logistics guidance says that our forces in Europe are going to be provided this conventional ammunition for a period of [deleted] considering when these forces are to be deployed there.

[Deleted.]

General SHAW. In other words [deleted] they have, I guess—

General CHESAREK. They start right off on D-day and they go right on.

General SHAW. They have full-rate combat support for [deleted]?

General CHESAREK. Correct.

General SHAW. You have [deleted] at the full rate?

General CHESAREK. We have [deleted].

General SHAW. And then—

General CHESAREK. Then the [deleted] have gone by, you don't need any ammunition on hand for [deleted].

General SHAW. In effect you only have to procure for combat stock-age objectives of [deleted]?

General CHESAREK. Yes.

General SHAW. To have available for it?

General CHESAREK. Yes [deleted].

General SHAW. I must admit there is where I think we are not the only ones who have not understood this.

General CHESAREK. This is a very complicated business, I agree.

General SHAW. It seems to me that some of the problem is just a flat statement, which has been repeated many times of [deleted] of combat support for [deleted] divisions, that is the way it reads time after time.

General CHESAREK. [Deleted] divisions, based on their deployment schedules should be added to that statement.

General SHAW. I would certainly agree with that. That would certainly change the understanding.

Senator STENNIS. Gentlemen, let me ask a question. Why do you take the [deleted] as a period? How did you arrive at [deleted], rather than [deleted], or something else?

General CHESAREK. The Department of the Army, sir, did not arrive at this. This is an element of the logistics guidance which comes from OSD, and I think Mr. McNamara in previous testimony has stated that he considered this an adequate quantity [deleted].

Senator STENNIS. [Deleted]?

General CHESAREK. Than the [deleted].

Senator STENNIS. You mean the [deleted]?

General CHESAREK. This is correct.

General SHAW. I am not sure where that leaves the United States.

General CHESAREK. Well, you, of course, now are addressing the adequacy of the logistics guidance and as I say we submit annually our recommendations to him as to what it should be, and the Joint Chiefs of Staff also address logistics guidance and the Secretary of Defense

makes his decision considering this guidance. In the case of Europe it has been [deleted] now for several years.

Senator STENNIS. What we want to know is, and you professional military men are successful ones, [deleted] adequate in your judgment? I don't have a bit more idea than the man in the moon. I would not know, but I want your judgment.

General CHESAREK. The Army position has been for some time [deleted].

Senator STENNIS. On what basis?

General CHESAREK. [Deleted.]

Senator STENNIS. I see. And [deleted].

General CHESAREK. Well, in some instances [deleted] is more.

Senator STENNIS. [Deleted.]

General CHESAREK. That is right.

Senator STENNIS. [Deleted.]

General CHESAREK. And it depends, Mr. Chairman, [deleted] as we indicated a little earlier.

In other words, [deleted]. So, it is a difficult thing to make an assessment on.

Senator STENNIS. I know that.

General CHESAREK. And I think the Secretary's position there has validity because the strategic concept of war in Europe, as you well know, gives consideration to tactical nuclear weapons. A statement was made just recently as to the quantities on hand.

Senator STENNIS. What I want to get at, though, is you said that [deleted]. But the other part of the question is, [deleted], is that correct?

That was the inference I got from it.

General CHESAREK. Well, it depends on what you mean by [deleted], you see.

Senator STENNIS. Well, [deleted].

General CHESAREK. This is correct.

Senator STENNIS. You didn't finish the other part of the question and you said some [deleted], is that correct.

General CHESAREK. That is correct.

Mr. KENDALL. I think what the general is saying, if I understood him is that if you had a going production line it would be one question. If you did not have a production line in existence it would be another.

General CHESAREK. This is exactly right.

Senator STENNIS. That is right.

We have a [deleted].

General CHESAREK. Right now I would say the [deleted] is a very good figure.

Senator STENNIS. But [deleted] to you.

General CHESAREK. [Deleted].

Senator STENNIS. That is what I wanted to clear up, you see. That is all. Go ahead.

WHETHER AMMUNITION BUDGET HAS SHORTFALL: IMPACT OF VIETNAM

General SHAW. We have had a previous discussion on this matter, I would just like to go over it again. The Army Chief of Staff blue book, the evaluation of the Army logistical picture, shows the M-day

materiel requiremmt for 22 division forces. Page 6 of this book shows this requirement ran \$4.5 billion. Of these 22 divisions the [deleted].

Now, on January 26 Secretary Resor testified that the \$1 billion plus in fiscal year 1967 budget will fund the balance of the Army acquisition objectives for substantially all items of ammunition.

This appears to mean there was a shortfall, or whatever you want to call it, of about a billion dollars in ammunition available to the Army as compared to its objective. Is that a correct statement?

General CHESAREK. Well, as you recall, General Shaw, during the last session we had here, and Mr. Gilleas was pressing us on the \$24 billion figure to which you have referred, I advised him that Secretary Resor last summer had amended that to a total \$20.7 billion, which reduced, of course, somewhat the ammunition requirement.

The shortfall that these figures might indicate actually lie in assets funded but undelivered, largely. In the same blue book that you referred to—

General SHAW. General, as I understood it, he said this was new money they were buying things with and that made up—I have it here, if I can find it.

General CHESAREK. Let me put it this way, General Shaw. If you would take the figures of 1965, 1966, and 1967 and take out the money which has been marked as earmarked for Vietnam, just take ammunition, you would find that total would be \$1,424 million. The total ammunition program over those 3 years totals \$2.69 billion. The difference there is for training and building up the AAO's, and that difference is \$1.27 billion.

General SHAW. What I was referring to was on page 3 of the Secretary's statement in January. I will just read his statement:

The \$1,052,000,000 requested in the fiscal year 1967 budget will fund the purchase of the balance of our acquisition objectives for substantially all items of ammunition.

General CHESAREK. That is substantially correct.

General SHAW. That gives us, to understand that whatever it is called, there was a shortfall in achieving the desired objective of about 1 billion overall.

General CHESAREK. It is the shortfall here that I can't rationalize. The Secretary's statement is correct. We substantially will buy out the AAO's through the 1967 funding period. That means, you know, 1967 funding period continues on for quite a little period of time when these deliveries come in.

General SHAW. Deliveries?

General CHESAREK. That is right. At that point in time, the shortages that we are willing to accept are some items that we have requested not to buy out the objective because we want to keep the hot base, and so we deliberately cut back on some of these items which are important to be sure that we do have an ammunition base, for the reasons we have already enumerated.

General SHAW. You don't want to cut off production and then possibly have to reopen it a few months or a half year later?

General CHESAREK. That is right. So, as I say the blue book figures are unfortunate. I might for the chairman's interest give you

an indication of what these figures are because I developed them and put them in this book. We were looking for a management document in the Office of the Deputy Chief of Staff for Logistics to give us a better grip on the overall program, and we created this book largely at the Chief of Staff's request and tried to give him as best we could a funding analysis.

We have really never reconciled all of these figures in this funding analysis and we have never published them since then because it is just too complicated.

The washouts, the wearouts, the consumption every quarter complicates a dollar rationale. This book has been quoted many, many times at hearings, and I must take a good share of the blame for that.

General SHAW. As one of those who had difficulty wading through the figures, but accepting the \$4.5 billion dollars as a reasonable—

General CHESAREK. That is high. There is quite a bit of R. & D. in there as I told you the other day. It probably would be something around, our figures show something around, 3.9 would be a better figure.

General SHAW (continuing). You would reduce it by point 6?

General CHESAREK. Point 7.

General SHAW. I will go ahead and use those figures.

General CHESAREK. OK.

General SHAW. Mr. Resor's statement said that the \$1.1 billion in the add-ons in the fiscal years 1965 and 1966 request would fund the Vietnam combat through June 30, 1967.

General CHESAREK. Correct.

General SHAW. This covers the period from May 1965 when one brigade of two battalions is engaged in Vietnam through December 1965 when the incremental buildup reached about three-division strength over a 7-month period. But the bulk of the troops did not reach there until after, well, beginning in October, or the latter 3 or 4 months of the year. Since the beginning of 1966 we have increased their strength to about 4 divisions. [Deleted], is that a fair statement?

General CHESAREK. The money in the 1966 and 1967 programs to fund Vietnam combat consumption included [deleted].

In other words, it is [deleted].

Mr. KENDALL. Could you give us a ballpark figure so we will know what we are talking about?

General CHESAREK. Yes, sir, I will give you an exact figure.

Mr. KENDALL. Fine.

General CHESAREK. On the Vietnam consumption for this period?

Mr. KENDALL. Yes, sir. [Deleted.]

General CHESAREK. You are talking about [deleted].

Mr. KENDALL. Yes.

General CHESAREK. I can't give you that figure [deleted].

Mr. KENDALL. You can't tell us what [deleted]?

General CHESAREK. The planning figures [deleted].

Mr. KENDALL. [Deleted], and that is the basis for the projected consumption that you have shown?

General CHESAREK. That is right.

General SHAW. Then for the first 2 months of 1966, 7 months of 1965 our average combat strength has been less than 3½ divisions. For the

6 months from December 30 to June 30, 1967, [deleted] combat support was calculated on the basis of sustained combat rates.

In case of [deleted] for all types of ammunition.

In the case of [deleted].

I believe that is accurate. I searched through volume 5 of AMP, and except for small arms, [deleted].

General CHESAREK. Yes; but you have got a situation now, General Shaw, which is so drastically different, this is one of the problems that concern me on your questions.

General SHAW. I am speaking of the theory of this, not of our existing situation, but of future production.

General CHESAREK. OK; speaking of theory.

General SHAW. Now, we have a fraction of the 22-division force in Vietnam engaged in intermittent combat, most of the time in combat, with only a fraction of the forces present in the theater. They require ammunition at the rate of \$1.1 billion during that period of time. There appears to be a discrepancy between the \$4.5 billion as adequate for 22 divisions [deleted], and a much smaller force requirement of \$1.1 billion for a much reduced period of combat.

General CHESAREK. I am not quite sure I have followed through on your rationale here.

Can you summarize what you say?

General SHAW. We are planning on 22-division forces. We were planning to have combat support for them [deleted], for everything except small arms were [deleted].

In other words, you had to have a calculation in there that this war production plan fighting had been going on for up to 12 or more months, so you had to have that higher stack of ammunition.

General CHESAREK. You have got to realize, though, General Shaw, that one of the elements of the D-to-P concept is receipts from more production.

In other words, you have to deduct from what you have on hand that which you are going to get from production in the period D to P, and this, as we talked to you about the other day, this gets into real big quantities, tremendous quantities. For example, in the 7.62 field, the Army is getting [deleted] rounds a month now; multiply that by, say, [deleted] and you have got huge quantities of ammunition, [deleted] rounds.

General SHAW. We recognize in small arms that this leadtime factor is not so acute, but in many of these items the leadtime was [deleted] months or more, and in some cases just to expand production and not to bring in new production. This deals with the total amount of existing ammunition for this very large force, when they are in combat, at a sustained rate, as in Korea and Europe, where it was sustained combat, shoulder-to-shoulder divisions across the front, would have to be very large if it is to last until new production is available.

Now, in Vietnam, only a fraction of the forces on any one day are ever engaged.

General CHESAREK. Right.

General SHAW. And very briefly, on many of those days we only have a fraction of 22 divisions there.

General CHESAREK. I think I understand. Put on that chart of an extract of Field Manual 101-10. I think I understand what is confusing you here. Field Manual 101-10 is our basic organization technical and logistical data guide which, I am sure, you have and the Marine Corps has a similar document.

What it projects is a series of levels of combat. As you can see here addressed across the top, it attempts to give some kind of a planning figure as to how much ammunition you could expect in terms of rounds per weapon per day for these particular weapons systems under these various forms of combat.

Now, you take a case of pursuit, and we high marked this particular round, the 155-millimeter which is a common round of basic artillery. In pursuit it uses 15 round per weapon per day. In a meeting engagement it rises to 60, and in an inactive situation you are at 30, and it can go up to 140 under certain circumstances.

Now, what happens here is when you, in your planning, determine from the tactical situation approximately how this thing is going to go over a [deleted], and you can compute how many rounds of this or how many rounds of this, and so forth, to come out with a composite total of [deleted] or whatever you think you are going to need. It is that amount of ammunition then [deleted], for example, that is the methodology of computation as to what they would need for [deleted] stockage.

On the other hand, in Vietnam no table exists for counterinsurgency, and so we are taking General Westmoreland's RSR's, which are nothing more or less than pure guesses on his part. He doesn't have any way of figuring them out. This is anybody's guess at this time. Does this give you a helpful—

General SHAW. You confuse me now with your supply bulletin. I understood that the supply bulletin was the basis of programing the ammunition.

General CHESAREK. Well, the supply bulletin is based generally on this sort of thing.

General SHAW. On the accumulation of those figures. That is where the \$4.5 billion comes from, was the supply bulletin a rate which is a compilation of those figures, adjusted by various studies by the Ballistics Laboratory and other study groups considering those items. They came up with this 4.5 as a proper asset to have on hand for 22 divisions engaged in the heavy type of, relatively heavy type of, expenditure, by divisions shoulder to shoulder, faced with a sophisticated enemy who can put on a real dingdong combat.

General CHESAREK. What do you compute this as 4.5?

General SHAW. I will take 3.9.

General CHESAREK. This is the total Army AAO—

General SHAW. Yes.

General CHESAREK (continuing). You are costing here, [deleted]?

General SHAW. I am not speaking [deleted]. It is for the 22-division force.

General CHESAREK. Yes; all right.

General SHAW. So that is what it took to keep them in combat for quite a length of time.

General CHESAREK. All right.

General SHAW. Then here we have only a fraction; for the first year and a half you are going to average less than three and a half divisions in the theater and of that three and a half divisions only a fraction of them are ever engaged at one time and when they are engaged it may be fierce shooting for a portion of the day, but it is not the type of heavy combat we knew in World War II and in Korea.

General CHESAREK. Right.

General SHAW. And to keep that fraction of a force involved intermittently, we calculate \$1.1 billion. That seems extraordinarily high using the rate compared to what we thought was adequate for 22 divisions to engage in a sustained heavy combat for a long period of time.

General CHESAREK. Right. The monkey in the woodpile here is the 2.75 rocket, a very costly item, which didn't even enter into these other dollar projections at all but for which we are spending in these 2 years alone \$400 million, just that one item. So, if you take that out you get a reasonable balance.

General SHAW. All right. In other words, the heavy expenditure for 2.75 rocket calculated.

General CHESAREK. Has thrown this analysis out.

General SHAW. And for the large number of helicopters which are there?

General CHESAREK. Right.

General SHAW. And there was no similar calculation for usage factor or number of weapons systems in the \$4.5 billion; is that correct?

General CHESAREK. Yes.

Mr. KENDALL. May I interrupt there for just a moment, General Shaw? The general has touched on a proposition that has given me some concern. In view of the problems, which we have already discussed, we have had in supplying Vietnam, if we had been forced to engage in really heavy and sustained fighting on the scale we wanted, the problems would have been much greater, I won't say you couldn't have solved them but you would have had to go to much greater type of emergency measures than that type, would you not?

General CHESAREK. Mr. Kendall, one of the things that is concerning us today is the very low level of consumption in Vietnam against what we have planned for it. We are somewhere between [deleted] percent and [deleted] percent; that is, the experience factors are somewhere between [deleted] percent and [deleted] percent of what we are buying for them.

In other words, I am saying, you can increase the intensity of fighting in Vietnam by a factor of somewhere between [deleted] and we will still be all right.

Mr. KENDALL. You are talking about now, but go back 2 or 3 or 4 months, for example, when you ended—

General SHAW. Before the procurement contracts were let.

Mr. KENDALL. You had something like [deleted] of supply in the theater. This was on a relatively low level of intensity of combat for illuminating shells. Other weapons were the same. I recognize what you are saying and agree with it, but suppose it had come about in that time frame and you had those problems, which you frankly laid before us, and we appreciate it. Naturally that would have magnified the problems, would it not?

General CHESAREK. Certainly the problem of illuminating rounds would have been difficult. But certainly in your key ammunition rounds and in the key kill-type ammunition rounds we are in long supply in all of them, practically all of them.

General SHAW. But that was because we had overbought or whatever you want to say in Korea.

General CHESAREK. That is true.

Nevertheless, when you are in long supply you are not going to buy more.

General SHAW. In other words, that oversupply, the excess as it was termed, beyond the acquisition objective is what we had kept us out of trouble and would have kept us out of trouble if Vietnam fighting had been much heavier. We were living off the so-called overstockage in many ways, on many items of ammunition if I read the succession of procurement orders correctly. Many of them were quite small. Some of them didn't even keep the hotline going. The zero purchase orders for 2 and 3 years in a row. So on those items we were living on what you might say was the accumulated leftover of Korea. If we had eaten our way down to the acquisition objective we wouldn't have been as well off for Vietnam.

General CHESAREK. Well, we certainly wouldn't have had as much inventory on hand. Your question is, using the AAO, could you have have supported a highly intensive form of warfare in Vietnam, and this gets down to the question of this last chart that I just showed you, and the nature of the computations involved in the supply bulletin, and how valid they are in a counterinsurgency operation under intense conditions.

I would think we would have done it. I would think, with those rounds that we weren't in long supply on we are not in difficulty today. We're only in difficulty on these illuminating rounds or new rounds, something like the M384. Then the theater comes in and they change the RSR of the M384 from [deleted] rounds per weapon per day to [deleted] and we now find ourselves in an overbuy position this month, whereas yesterday, before we received the news, we were in another short position.

What I am saying is that the situation changes so fast, it is so volatile, that it is extremely difficult to make a generalization such as you have made.

Mr. KENDALL. Off the record, General.

(Discussion off the record.)

INVENTORY, PRODUCTION AND UTILIZATION OF 7.62 AMMUNITION

General SHAW. On 7.62 ammunition, I would like to go to that, and particularly relative to Europe. On June 30, 1965, the objective for the 7.62 was [deleted] million rounds, I believe that is correct.

General CHESAREK. OK.

General SHAW. On June 30, 1965, volume 5 of the AMP shows the procurement was [deleted] million rounds. I believe I am correct on that.

General CHESAREK. Are you asking me for confirmation of that data?

General SHAW. Yes.

The procurement on June 30 was to be [deleted] million?

General CHESAREK. You mean that is for the 1966 buy?

General SHAW. Yes. That is what it shows as planned to be bought, in that column of the AMP.

Mr. BASEY. The 1966 procurement for the Army of 7.62 is [deleted].

General CHESAREK. That came later.

General SHAW. As shown in that volume.

General CHESAREK. He is looking at the AMP.

Mr. HUGGARD. That is correct. That is what the AMP shows.

General SHAW. This was an increase of [deleted] million over the procurement plan as it stood in May. Mr. Huggard at the same time you and I were out there in Joliet, that is what I wrote down in my notes as to the procurement. In May it was [deleted].

Mr. HUGGARD. I can't verify that. I don't have the data here on it but let's assume it was that for the moment.

General SHAW. That is what I put down. Now, prior to this increase in May, has there been a recommendation to increase the 7.62 production? Or rather when was this recommendation made which led to the May increase of [deleted] million.

Mr. HUGGARD. We actually had, I believe the figure was [deleted] million rounds in the amendment to the 1965 budget.

General CHESAREK. This was in August—

Mr. HUGGARD. No, this was the June amendment to the fiscal year 1965 budget which was developed in May—the budget was developed in May as I recall.

General SHAW. I had a series of questions about when you had let contracts and all that type of thing, but since it is included in your submission I will save ourselves time by not going through that now.

General CHESAREK. All right.

General SHAW. Now, the matter of what we have frequently referred to as the shortage of 7.62 ammunition, as reported in Europe. On March 31, 1965, the 7th Army declared a shortage of [deleted] million rounds of the A131 type of ammunition for the M-73 tank machinegun.

In a 7th Army fact sheet, describing an ammunition shortage [deleted] it was stated they had [deleted] million rounds of the A127 over their requirement of [deleted] million for the M-60 machinegun. Further, "For combat A127 may be used in the M-73 machinegun; however, an increase in stoppages can be expected to occur." APSA had informed 7th Army that [deleted].

In August APSA informed staff members of the subcommittee that [deleted].

Then, of course, USAREUR's training expenditures will continue to draw down on their stocks, you perhaps cannot answer it at the moment, [deleted].

General CHESAREK. First, I would like to reiterate what I told you over here the other day, and that is what they are talking about here is a round of ammunition for a tank machinegun, and they can achieve a low degree of stoppage by using the standard round and oiling them. [Deleted.] There is also a special round made.

General SHAW. At the same time I was out there, General, I don't like to interrupt you and you probably are better informed than I,

but at the time I was there I was talking to several of the people and they told me what they did. They took what otherwise would be classed as A127, took two M-73 machineguns, and fired 500 rounds through each gun. They were allowed one ruptured cartridge in 500 rounds, and no misfiring. The ammunition could have one defect in 500 rounds. I know that is a very high standard for machine-gun fire. If it can pass that test they can use it as 131. Otherwise it remained 127, not suitable for the M-73 tank gun.

That is how they described it. So it must be a valid distinction between the two grades, or they wouldn't go to the efforts they make.

General CHESAREK. There is a valid distinction but as I say, plain simple oiling of a round will reduce the number of stoppages, as a matter of fact, should eliminate them largely. But people like to ask for what the book says they are entitled to, and they should. We are not quarreling with that point.

General SHAW. It makes you wonder, if they can cure it by oiling, why don't we just tell them to do that and save all this—

General CHESAREK. They have been told to do it.

General SHAW. And they still continue to—

General CHESAREK. What they are doing is requisitioning against a specific requirement X number of machineguns on tanks. They are authorized this particular type of ammo and they say they are short, and they are. They would prefer to do that rather than oiling [deleted], but nevertheless it is a perfectly valid substitute.

General SHAW. As I understand it, not having been in a M-60 tank, there is a difficulty in clearing the stoppage without exposing yourself. If the machinegun jammed, the crew has to expose themselves to clear the jam. I don't know about that, I have just been told that.

Anyway, [deleted].

General CHESAREK. Right. [Deleted.]

General SHAW. [Deleted.]

General CHESAREK. Well, maybe use it [deleted]. They have plenty of linking and delinking capability over there. They have a great deal of flexibility that they can apply to help the situation out.

General SHAW. On the linking, I believe we had some information that there was only one automatic linker, in some place called Miesau.

General CHESAREK. I am sure there is one in Miesau, I commanded Miesau along with other depots in years gone by. There was an automatic linker there. I don't know whether the 7th Army has it. At any rate you can grind these things out like sausages on those things.

General SHAW. Of course, to take ammunition packed in cases and go through the drill of taking it out of the wood box and out of the tin box inside and out of the cartons and then running it through the—

General CHESAREK. Compared to what the people are putting up in South Vietnam today I don't see how that would be a particularly odious task.

General SHAW. It would take considerable man-hours of effort.

General CHESAREK. It takes some time, true.

General SHAW. And time. Along with this [deleted].

General CHESAREK. Was that [deleted]?

General SHAW. It just said [deleted] ammunition.

General CHESAREK. Well, at that point in time as we have reported to you in a previous submission, we determined that the [deleted]. I explained to you the other day why we did this. We were merely reinstituting a policy that had been in effect in the Army for 10 years.

General SHAW. Yes, now my point is on [deleted].

General CHESAREK. No, you see [deleted].

The policy was changed the following month which said, [deleted].

General SHAW. With that I agree. But the [deleted].

General CHESAREK. If I understand you what you are saying is we [deleted].

General SHAW. [Deleted.]

General CHESAREK. What we were doing was preparing, [deleted].

In other words, we are placing first priority on the need of Vietnam and while it may cause some inconvenience in Europe, they had more than their AAO on hand.

General SHAW. On November 30 your figures showed they were [deleted] million short then.

General CHESAREK. But this depends on their training schedule. This is like a sine curve. If they have a heavy field exercise they will use up [deleted] million rounds in less than a week, and you may have that many in shipment en route. [Deleted] million rounds against an objective of [deleted] million is not much. If you're plus or minus [deleted] percent at any time you are in good shape.

General SHAW. If I understood you correctly, [deleted].

General CHESAREK. [Deleted.]

General SHAW. Which [deleted].

General CHESAREK. No, sir. They had a [deleted].

General SHAW. Well, it is [deleted].

General CHESAREK. It is [deleted].

General SHAW. Yes, sir. So, out of the [deleted].

General CHESAREK. Yes, which I say was a phony shortage [deleted].

General SHAW. Again I haven't followed you.

The [deleted].

General CHESAREK. Sure, it was [deleted]; that is correct.

General SHAW. And [deleted].

General CHESAREK. They had plenty [deleted]. The depots in Europe are full of this stuff. They have [deleted] million rounds over there. They actually have on hand [deleted] million rounds, so I am not with you.

General SHAW. If you [deleted] you still wind up with the same amount of ammunition.

General CHESAREK. That is right.

General SHAW. And if you are [deleted].

General CHESAREK. The total number of rounds, General Shaw, that they are authorized is in all types, all type package authorization. The book for Europe shows an authorization of [deleted] million rounds, and they had, and it was all on hand in these various configurations.

Now, [deleted] what in effect the Army told Europe was, "You configure your [deleted] million rounds how you want it. You have the equipment over there to do it. [Deleted.] I think this is a very logical and fair decision.

General SHAW. It still seems to me they [deleted].

General CHESAREK. Not, when we [deleted].

[Deleted.]

General SHAW. But that didn't change the [deleted].

General CHESAREK. It is an overall figure, General Shaw, we are talking about. We are not just talking [deleted].

General SHAW. Well, I still haven't followed the arithmetic on it.

General CHESAREK. OK.

USE OF ILLUMINATING SHELLS IN VIETNAM

General SHAW. We have covered to some extent the illuminating round. Now, I am certain it was recognized by all of the advisory groups before the entrance of U.S. combat forces, that a distinguishing characteristic of the combat in Vietnam is the large requirement for illumination. This is because of the habitual night operations by the Vietcong. There still appears to be no change in that habit. When was the first recommendation from Vietnam to increase the allowances of illuminating shells for mortars and artillery?

General CHESAREK. Do you have any idea, Mr. Huggard?

Mr. HUGGARD. It couldn't have been before November 1.

General CHESAREK. I was just going to say November 1 is probably the date.

General SHAW. November 1 of what?

General CHESAREK. 1965.

General SHAW. 1965?

General CHESAREK. We didn't have anybody over there in 1964 except advisory groups, as you recall, plus aviators.

General SHAW. Wait a minute, you must mean—1965 is after we had—

General CHESAREK. You see the first U.S. Army forces, combat forces were introduced into Vietnam at the end of March, the 173d Brigade and then the buildup at that early stage—

Senator STENNIS. March of what year?

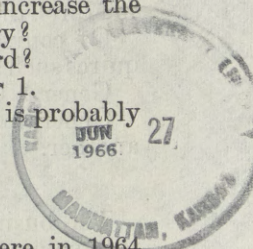
General CHESAREK. 1965, sir. Prior to that all we had were advisers with the Vietnamese Army plus our aviators, the helicopter companies, that is all.

Senator STENNIS. They were doing a lot of fighting, General, but we won't go over that now. I mean we won't go back over that.

General SHAW. In that connection, for instance, I was in Saigon in March of 1965. On all sides, you couldn't look from the top of any building in any direction without seeing star shells in the air all night long. That was true there, it was true in Da Nang, and it was true in Cantho. Anywhere you looked there was a star shell hanging in the air in some direction. So there was a heavy, obviously heavy requirement, which was going to face U.S. troops when they got into that theater. My question was, When did we make our, when was the first recommendation relative to recognizing the characteristics of combat that illuminating shells were a heavy requirement?

General CHESAREK. I think we started to budget substantially for additional illuminating rounds with the funds provided by the Congress in August of 1965.

General SHAW. Were there recommendations from Vietnam prior to then?



General CHESAREK. My recollection is "No." At that point in time, too, when we were formulating the 1967 budget the question came up on what basis shall we handle the illuminating rounds, and we went to the Marine Corps and said, "You have been there longer than we have, what has your experience been?" We then proceeded to submit a budget based on their experience because at that time we had no data from the theater as to what they desired.

General SHAW. And as a result of the advisory groups' experience there was no recommendation from them?

General CHESAREK. I would say, sir, that there was a lack of foresight on the part of those concerned with ammunition procurement who should have reviewed the advisory requirements as generated and projected this increase. Hindsight is a wonderful thing.

General SHAW. Well, of course, my experience was in the Pacific war. If we could get it, we kept the front looking like Broadway all night long, and we thought that was the way you fought at night, with things illuminated. It looked a good bit like that around Saigon in March of 1965.

Of course, the flares are of the same nature. Night combat requires such a heavy use of some signal.

General CHESAREK. You are speaking here of pyrotechnics.

General SHAW. Yes, sir, the colored signal flare of one kind or another.

REACTIVATION OF TNT PLANTS

The business of the TNT problem has been of concern. I notice that volume 5 of the Army Materiel Plan, dated June 30, 1965, carried the statement that the present level of readiness of Government-owned plants is [deleted]. Then at a later time in October, we were discussing the problem of loading bombs, which the Army has to do for the Air Force. In discussing their TNT requirements they made the statement that the additional TNT requirements of the bomb-loading program were not considered in the mobilization planning of the Army. They had a statement that an all-out effort would be necessary to keep the TNT from falling short of the loading requirements. When was the first recommendation made to reopen this TNT plant?

General CHESAREK. Mr. Basey, would you answer that?

Mr. BASEY. The first recommendation to open the TNT plant occurred soon after the August supplement, say September.

General SHAW. Wait a minute. They began to open it in August, didn't they? Wasn't Kankakee ordered to open in August?

Mr. BASEY. The 2d of August, you are correct.

General SHAW. Then there had to be a recommendation preceding that.

Mr. BASEY. Yes; there did.

General SHAW. When did the Army make a recommendation to the Defense Department that they crank up the money for reopening TNT production where [deleted]?

Mr. BASEY. I do not have an actual submission date here. It was a very rapid response to our request. It was authorized on the 2d of August. I can only say that it must have been during the month of July, early in July.

General SHAW. Could you find that?

Mr. BASEY. I can find the exact date; yes, sir.

General CHESAREK. Actually in this connection, General Shaw, we have received extremely fast action in the approval of plant re-activations.

General SHAW. We just want to show on the record when and how this whole thing has worked as to the means of meeting our emergency requirements.

General CHESAREK. Right.

(The information requested is as follows:)

The Army forwarded a request to the Secretary of Defense for authority and funds to activate the Kankakee plant for production of TNT under date of July 16, 1965.

Senator STENNIS. Let's see now, gentlemen, let me intervene right there. Are you going to put the full statement about the situation on these plants in the record, or do we already have it?

General SHAW. Yes, sir; this document General Chesarek has given us will provide most of that information.

General CHESAREK. We don't have it yet on the plants, but we will. We have it in work.

Senator STENNIS. Yes. You have that in the works and will get it to us soon.

General CHESAREK. Yes, sir.

Senator STENNIS. We have in mind making a preliminary report of some kind on these matters, General, not somewhere way out in the future but in the next few days. And, if you can get those matters in, we would like to know. I say a few days, I don't mean 3 or 4 days but 10 days or 2 weeks.

General CHESAREK. We may have been reading your request too literally. This was question No. 9 that you had submitted, and this is what the question is: Describe briefly the production factors affecting ammunition production particularly attention to problems such as the TNT and powder production machinery, sole-source production, the dates when Army recommendations were made and the dates commencing current status.

We had actually directed a staff study on each of these to give you a complete and thorough picture, but now I think what you want is a summary of that detail as soon as we can get it over to you.

Senator STENNIS. Yes. Just more of a summary; is that your idea about it, Mr. Kendall?

Mr. KENDALL. Yes, sir.

Senator STENNIS. General Shaw, is that your idea?

General SHAW. Yes, sir. We didn't want to harass them in the accumulation of a lot of insignificant detail, but merely to get the essential picture.

General CHESAREK. All right; we can do this.

Senator STENNIS. All right; thank you, General.

TNT PRODUCTION REQUIREMENTS AND CAPABILITY

General SHAW. Now then, again going back to the documents which we had given to us in the briefing prepared by the Ammunitions Command on the bomb production, and where they said that the TNT requirements of bombs were over and above the Army's own planning

for mobilization production, since that time the plans for production of high explosive ammunition, of course, escalated, too.

Can you give us a feel for how the ammunition, the TNT situation, is going to turn out. You referred to your comment in that in answer to question 9. Can you give us something briefly on that now?

Mr. BASEY. Yes, sir. I can say that we will be building a stockpile of TNT within the next [deleted] in addition to satisfying our current production requirement. We are to produce more TNT than we now have scheduled for production to satisfy these requirements.

General SHAW. That is for bomb loading problems and high explosive ammunition.

Mr. BASEY. Satisfy all the TNT or any composition that requires TNT.

General SHAW. It sounds good.

Mr. BASEY. Yes, sir; we have a capability of producing more TNT than we will need to satisfy our end item production requirements.

General SHAW. A question on [deleted] ammunition.

Senator STENNIS. What was that, [deleted]?

General SHAW. Yes.

Senator STENNIS. All right.

General SHAW. We had a document from the [deleted] which stated that, in November, that they would need [deleted] or assorted rounds of ammunition. That was not for [deleted]. Can you answer that? Where does this problem fit into the existing problem?

General CHESAREK. The problem you address is a distribution problem. In other words, the statement you have read indicates that the [deleted].

Now, as a general rule for [deleted]. Our analysts indicate that this can be achieved.

General SHAW. If we had [deleted]?

General CHESAREK. It is very true, General Shaw. If we have [deleted].

General SHAW. Everybody views [deleted].

General CHESAREK. I think our policies [deleted].

General SHAW. Well, the total accumulation, you might say [deleted] shortage, if you consider that their stock level is accessible to [deleted].

General CHESAREK. I would, I certainly wouldn't call this a shortage. Again as I say this is a distribution problem. How much shall you put there, and because contingencies can occur just as easily in [deleted] or some other place, there is a limit to how much stockage you can place in these points. To leave it in Conus where you can move it as needed has much merit.

As you know we were planning on going into fast deployment logistics ships. When these things come along we will be able to move this stuff very quickly. I think that makes a lot of sense.

STOCKAGE LOCATION OF RESERVE AMMUNITION

General SHAW. That gets back to my question earlier about some type of thing we could call a central reservoir of ammunition, whatever the level it is maintained at, as a cushion [deleted].

General CHESAREK. You mean [deleted]? You are speaking [deleted]?

General SHAW. [Deleted.]

In other words, we stockpile on the basis of identified threats matched by a contingency plan with a certain level of force. [Deleted.]

General CHESAREK. Right. The problem of [deleted] is now being addressed by the Joint Chiefs of Staff.

Senator STENNIS. In what way, General?

General CHESAREK. Insofar as how do we [deleted].

Senator STENNIS. There is a lot to be studied, is there not?

General CHESAREK. It is a very difficult area, difficult because of [deleted].

Senator STENNIS. The different problems you would face in different types of warfare?

General CHESAREK. Right, exactly.

SUBCOMMITTEE HEARING SCHEDULE AND INFORMATION TO BE FURNISHED

Senator STENNIS. Gentlemen, since we are interrupted anyway, let me make this observation. I have plenty of time, and this has top high priority with me today, subject to going on the floor to vote. If necessary we will come back this afternoon. I assume you gentlemen can come back, too. I can.

General CHESAREK. Yes.

Senator STENNIS. But if we might get through, we could sit until 1 o'clock.

General SHAW. I just have one question.

Senator STENNIS. I am not trying to rush you. I have a few questions, maybe Mr. Kendall has some.

Mr. KENDALL. I have 5 minutes before—

Senator STENNIS. I am not trying to rush you. Do you think you can finish?

General SHAW. Yes.

Senator STENNIS. Suppose we keep that in mind and try to do it.

General SHAW. I believe that the documents that General Chesarek has already given us, with the two to come, will give us a vast amount of information for our use, and we may have to have some additional conference with him to make sure we understand them.

General CHESAREK. May I ask a question at this point?

Senator STENNIS. Yes, sir, General.

General CHESAREK. There was serious concern on the part of the Secretary as to just the detail that you wanted, and we gathered from your letter back to him that the full detail on all 9 points that you raised on these 17 items would suffice to do your analysis; is this correct?

General SHAW. Yes.

General CHESAREK. OK.

Senator STENNIS. Well, now, we spoke of item 9, I believe it was a minute ago.

General CHESAREK. Right.

Senator STENNIS. And it was decided that the ultimate full detail was not necessary there.

General CHESAREK. Right. We will give you a summary analysis.

Senator STENNIS. Let me express it this way. I want us to reach a stopping point on this matter sometime soon.

General CHESAREK. Right.

Senator STENNIS. If it is necessary then to take another start, we can decide that then.

General CHESAREK. Then I think this should also apply to the other question that we were unable to fill which was No. 5, which was: "list all items on which expenditure controls have been placed in southeast Asia or elsewhere, indicating the command instituting the controls," and so forth. This requires a cable to go out to every theater everywhere and asking them what have you done over what period of time and which will take some research.

If you want to limit it just to southeast Asia we can cable General Westmoreland and probably get an answer back next week.

General SHAW. What we were trying was, for instance, the controls on training ammunition in the case of illuminating rounds. The possible substitution of the—

General CHESAREK. What time frame are you addressing yourself to? Can you limit your time frame so our research can be reduced?

General SHAW. What would you suggest?

General CHESAREK. To a minimum. Well, the period you are really analyzing is from July 1, 1965, to now, I think.

Mr. KENDALL. I think this would be a reasonable period.

General CHESAREK. All right. We will treat that question then on that basis.

Senator STENNIS. When did you get this request, General?

General CHESAREK. This request here, we received it on the 3d of March, sir.

Senator STENNIS. Well, you haven't had much time.

General CHESAREK. No, not for the full detail on it. We just couldn't even assess it. But for 17 items we have given you a great deal of data, and with this additional guidance here we will be able to provide the remainder in a reasonable period of time.

Senator STENNIS. All right. I don't waive anything. I just say we want to come to a stopping place sometime soon, and then we will decide whether to proceed further. But work it out within that time, or as soon as you can.

General CHESAREK. Right.

Senator STENNIS. Do you think that you can have it in within the 10 days or 2 weeks?

General CHESAREK. Yes, sir; I believe we can.

Senator STENNIS. All right. That is very good. We thank you for your suggestion here about it. All right, General, proceed.

INVENTORY STATUS OF DEMOLITION MATERIAL

General SHAW. My only question is a matter of information. None of these items on ammunition has covered demolitions. There is a heavy use of demolitions in Vietnam. Is that considered engineer supplies?

General CHESAREK. We buy demolitions. Actually there is no problem in it.

General SHAW. The reason I ask is, that it is not listed in the ammunition volume. I was wondering where do you find demolitions?

General CHESAREK. Where is it physically there cited, Mr. Hugard?

Mr. HUGGARD. It is treated as a material. It is not treated as one of the end items here.

General CHESAREK. I think it is probably considered in calculations on engineer unit requirements. We have ample quantities of demolition materials.

General SHAW. It came to my mind in connection with the TNT. This material is a heavy user of TNT. I will ask later to clarify it. That is all I have, Mr. Chairman.

Senator STENNIS. All right, thank you, General Shaw. Mr. Kendall, do you have something further?

INVENTORY STATUS AND REQUIREMENTS OF CLAYMORE MINES

Mr. KENDALL. General, I was going to follow up on one item along the same line. None of these presentations has made any reference to the Claymore mine. Isn't that used pretty generally in Vietnam?

General CHESAREK. Not as generally as I had thought from hearing so much about it. The Vietnamese have used it, and the Vietcong have devised their own type Claymore which looks like a washtub. It is quite crude but very effective. Let's see if I have something on it.

Mr. KENDALL. Well, you can supply it. If you can give us some information for the record.

General CHESAREK. Mr. Huggard has some data on that.

Mr. KENDALL. Suppose you put it in the record so we won't take up any more time today.

Mr. HUGGARD. I can answer it in a sentence.

Mr. KENDALL. Inventory status and requirements in Vietnam and worldwide.

(The information requested is as follows:)

The inventory status and requirements for Claymore Mines in Vietnam and world-wide follow:

Mine apers M18A1, data as of Jan. 31, 1966, unit: M

Location	Assets	Stockage objective
USAREUR.....	[All figures deleted.]	[All figures deleted.]
USARPAC.....		
(USARV).....		
USARAL.....		
USARSO.....		
CONUS Armies.....		
CONUS Depots.....		
En route.....		
Total.....		
Army acquisition objective:		
Army planned procurement:		
Fiscal year 1966 enacted.....	[All figures deleted.]	
Fiscal year 1966 supplemental.....		
Fiscal year 1967.....		

REDUCTIONS OF ASR'S AND RSR'S IN VIETNAM

Also, General, you mentioned that General Westmoreland had made some reductions in, I believe you said, both ASR's and RSR's recently. I am sure the information was not available at the time but when you get the information could you give us the justification for those

reductions, say, for those that have been made since the first of the year, would that be too onerous.

General CHESAREK. Surely.

(The information requested is as follows:)

Justification for reductions in ASR's or RSR's in Vietnam since 31 December 1965 follows:

Reduction of ARS's, Dec. 31, 1965 to Mar. 15, 1966

Item	From	To	Unit
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[All figures deleted.]

Reductions were made by COMUSMACV based on his estimate of the availability of assets within theater during March 1966. ASR's are normally revised monthly. Note reduction in RSR's for same items below.

Reduction of RSR's, Dec. 31, 1965 to Mar. 15, 1966

Item	From	To	Unit
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[All figures deleted.]

Reductions were made by COMUSMACV based on evaluation of combat experience and planned employment of weapons in the future.

MDMR AND AAO ARE ONE AND THE SAME

Mr. KENDALL. One final question and I don't want to get into any extended discussion of this, but I am still confused about the difference or lack of difference between the MDMR and the authorized acquisition objective, AAO. Let me ask you one or two direct questions about that. Does the Army maintain the MDMR on a specific item, say the 2.75-inch rocket, separate and apart from the AAO?

General CHESAREK. No, sir, they are one and the same.

Mr. KENDALL. Thank you, sir.

Senator STENNIS. What is this now?

Mr. KENDALL. I am talking about Army recordkeeping, the mobilization day materiel requirement and authorized acquisition objective.

General SHAW. Why don't they word it the same way? There is a distinction in wording.

General CHESAREK. I don't know. Every once in a while somebody changes the name of Arkansas.

Senator STENNIS. That is a good way to explain it when you don't have any other answer, General. Did you gentlemen back there wish to say something? Did you indicate you wanted to say something?

Mr. HUGGARD. No, sir.

BUY BACK OF MAP AMMUNITION

Senator STENNIS. Here on page No. 3, there is this notation, which says, "There were no shipments of MAP country excess made to U.S. Forces."

I will just ask Mr. Kendall, I saw a headline somewhere last week which said we were having to buy back ammunition that we gave these military assistance countries.

General CHESAREK. I saw that.

Senator STENNIS. I did not have time to really follow it up. I read it, but I never got back to it. What about that situation, General. Was the information correct, or what is the situation? I don't know that it is so material. I am not at all sure about things like that.

General CHESAREK. Mr. Huggard, do you have an answer on that? Senator STENNIS. Anyone prepared?

Mr. HUGGARD. Yes, sir. After the Korean war we had excesses of certain types of ammunition above our requirement. Over the period of years we have given this equipment under the grant aid programs to MAP. It is true today some of the specific types of items that we might have given away under MAP programs in previous years in Vietnam we now must buy back, a typical example is the 155 howitzers.

Senator STENNIS. Pardon me right there just a minute. Do we actually have to pay for it to get it back?

Mr. HUGGARD. When we buy it today, yes, sir, we buy it out of the Army appropriations.

Senator STENNIS. You have to buy it from these countries that you gave it to?

Mr. HUGGARD. No, we are not buying it from the countries. We are buying it from production.

Senator STENNIS. I see.

General CHESAREK. I don't know of any case——

Senator STENNIS. You are just replacing them then?

Mr. HUGGARD. That is correct. That is the only type of buy back that we are making.

Senator STENNIS. All right, speak out about what you know.

General SHAW. In the case of Air Force ammunition there has been one instance of buying bombs back from German manufacturers—German commercial people who had them for demilitarizing. They were sold as excess some time in the past. We are getting a complete story on that from the Air Force.

Senator STENNIS. Bought them from whom; from us, or from West Germany?

General SHAW. We don't have it. But we are getting the story from the Air Force.

Mr. HUGGARD. I was addressing only the Army problem.

Senator STENNIS. Go ahead.

General SHAW. I believe Greece and Belgium are also involved in the return of MAP ammunition to this country. Again the complete story is being given to us by the Air Force.

Mr. KENDALL. You are talking about Air Force ammunition.

General SHAW. Yes, bombs, 750-pound bombs.

Senator STENNIS. But you have not had anything like that to happen in the Army and you have not had them ship back any excess.

General CHESAREK. Not to my knowledge.

Senator STENNIS. Off the record here.

(Discussion off the record.)

Senator STENNIS. All right, thank you for your comment, and exchange of thinking on that. Is there anything else, gentlemen?

Mr. KENDALL. I have nothing further, Mr. Chairman.

Senator STENNIS. Are you in position now to follow up on these matters that you still want, and do you gentlemen understand each other?

General CHESAREK. Yes, sir.

Senator STENNIS. All right, gentlemen, with the thanks of the subcommittee we will excuse you, and the subcommittee will take a recess until the call of the Chair.

(Whereupon, at 12:40 p.m., the subcommittee recessed, subject to call of the Chair.)

STATUS OF AMMUNITION AND AIR MUNITIONS

TUESDAY, MARCH 15, 1966

U.S. SENATE,
PREPAREDNESS INVESTIGATING SUBCOMMITTEE
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee (composed of Senators Stennis (chairman) Symington, Jackson, Cannon, Byrd of West Virginia, Saltonstall, Smith, and Thurmond) met, pursuant to call, at 10 a.m., in room 224, Old Senate Office Building, Senator John Stennis presiding.

Present: Senators Stennis, Symington, Jackson, Cannon, Saltonstall, and Smith.

Also present: Hugh Witt, USAF; Maj. Gen. Thomas Corbin, USAF; Brig. Gen. E. Ramme, USAF; Lt. Col. L. R. Garcion, USAF; Maj. Robert Givens, USAF; Maj. John F. Christensen, USA; Sgt. Archie Crutchfield, USAF; Lt. Col. John W. Cathey, USAF; Lt. Col. Robert Old, USAF; and Lt. Comdr. Herb Brickson, USN.

James T. Kendall, chief counsel; Samuel R. Shaw; Glenn A. Smith; and Robert M. Neal, of the staff of the subcommittee.

Senator STENNIS. The subcommittee will please come to order.

As we proceed with our inquiry into the status of ammunition and air munitions, we turn our attention to the Air Force's situation with respect to air munitions. We are pleased to have as our witnesses today Hon. Harold Brown, Secretary of the Air Force, Gen. John P. McConnell, Chief of Staff, and Lt. Gen. T. P. Gerrity, Deputy Chief of Staff, Systems and Logistics.

The holding of these hearings does not constitute either an express or implied charge that there are critical shortages of essential munitions. Our purpose is to obtain the facts—whatever they may be—and to make these facts public to the extent permitted by national security considerations. To the best of our ability we intend to do just that.

To the fighting man in the field nothing is more important or critical than an adequate supply of the right ammunition at the right place and the right time. To insure that such a supply is and will be available is the common objective of all of us. That is our primary concern in this matter and I know that it is a matter of the highest priority with the Air Force.

The staff has advised me that the Air Force has been very cooperative in supplying in advance of the hearing some very valuable, helpful, and detailed information. We appreciate that and the information you will give us today.

Secretary Brown, General McConnell and General Gerrity, we are delighted to have you three here today. I think this is an important hearing, really testing out the status of your inventories with reference

to your ammunition, what you have now and what you expect to have in the future, the problems you have and how you are planning to overcome them. As far as I know your record is mighty good, and I think the public ought to be told about that.

We certainly want to find anything reassuring that we can find in this readiness program. And, I don't believe that will be censored when we start to issue a report.

I want to commend the Air Force, too, for what I think is a very fine job they are doing in this war in Vietnam. I get this impression, that you are not really getting the credit you deserve for the contribution you are making on the battlefield in the whole war effort over there. Of course, you are not fighting for newspaper recognition, but I would like to see you get a better deal in evaluation of these things and a better understanding of it by the people and by the Congress. Certainly I am trying to do this in a small way.

Gentlemen, the Air Force has been very cooperative with our requests, in responding to the problems that we have representing the legislative branch of the Government. I want to thank not only you three gentlemen but also the others who have contributed.

You three have certainly done your part. We are fighting the same enemy, and we are all on the same side in the same war. This subcommittee wants to help all of the Services as far as that is concerned, and we have continued to have that attitude about it. We do not want to deal at arm's length with you or with anyone else. We are not going to do that unless we are driven to it.

It is the unbroken rule of our subcommittee, which is not directed at any particular witness, to swear all the witnesses. So, I will ask you to stand and be sworn, all three of you at the same time.

Do you solemnly swear that your testimony before this subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Secretary BROWN. I do.

General McCONNELL. I do.

General GERRITY. I do.

Senator STENNIS. Have a seat, gentlemen. As I say, that oath is not directed at any particular witness. I think it is really a protection in a way, to some witnesses anyway, not that you gentlemen need any protection, but I think it works pretty well around the clock.

All three of you have prepared statements. You got them over here ahead of time and we appreciate that. It is indeed helpful to us. If you want to proceed with the reading of your statements, you may do so. I cannot promise that you will not be interrupted. I will mildly discourage interruptions, but I think a Senator has a right to interrupt when he sees fit.

Secretary Brown, we will hear you first please.

TESTIMONY OF HON. HAROLD BROWN, SECRETARY OF THE AIR FORCE; GEN. JOHN P. McCONNELL, CHIEF OF STAFF; AND LT. GEN. T. P. GERRITY, DEPUTY CHIEF OF STAFF, SYSTEMS AND LOGISTICS

Secretary BROWN. Thank you very much, Mr. Chairman. First, I want to say that it has always been our intention to cooperate with the committee, and we expect to continue doing so, in making data

available in whatever form is most useful to the committee, and in briefing staff and members of the committee before formal appearances.

And I want to thank you for your kind words about our cooperation. I also want to thank you for your kind words about our performance in the conflict in southeast Asia. Of course the most important thing is doing the job, and we think we are doing that. We hope we are doing it well. This isn't a conflict in which any one Service can do all of the work. Teamwork of all of them is needed. As I say, doing the job is most important. Getting recognition for it is secondary, but we appreciate it when we get recognition.

I want to thank you for your kind words about that, too.

Senator STENNIS. You deserve it and I am certain the other members of the subcommittee share this opinion. I have said, gentlemen, that the Air Force has been quite cooperative with this subcommittee and we thank them for that. Also, I said I thought they were making a splendid contribution to the war in Vietnam and that they had not received full credit for that, as I see it. But they have with us.

Senator SALTONSTALL. Mr. Chairman, I am sure Dr. Brown has been nothing but cooperative and I am confident that applies to General McConnell too.

Secretary BROWN. Gentlemen, I welcome the opportunity to discuss with you today the Air Force nonnuclear air munitions program. I will be talking about our munitions program objectives; General McConnell will talk about the management of munitions, and General Gerrity will discuss specific items of munitions with particular emphasis on those that are being used in Vietnam.

Establishing a stockpile or reserve of munitions equal to full anticipated consumption during a continuing nonnuclear conflict of uncertain duration is not a feasible way of solving the problem of readiness. The uncertainty of the conflict duration, expenditure rates, enemy action, tactics and strategy, the value of a going production base versus a stockpile, the obsolescence of some bombs, all argue instead for the methods now being used. These are to establish a reserve of war-readiness materiel (WRM) on the basis of our more taxing contingency plans and the limitations set by the number, sortie rate, and expected attrition of our aircraft. This reserve is then used during whatever contingency develops. Munitions production is expanded to catch up with the consumption and to replace the original reserve. The War Readiness Materiel serves as a kind of ballast tank.

This chart (chart No. 1) provides a ready reference to the "ballast tank" approach. Inventory on July 1, 1965, the solid line, is about [deleted] tons of munitions. The inventory drops as expenditures exceed production. In this case, the trend continues until July 1, 1966. At that point, production deliveries begin to exceed expenditures and the inventory is rebuilt to slightly above its starting point by July 1, 1967.

This is all air munitions, taken together, and it provides kind of a rough-sum reference. You, of course, will want to get into details on each munition and this will be taken care of later by General Gerrity.

This chart is the actual data for the USAF inventory, expenditures, and acquisitions since July of last year. It is projected for the next

18 months. I believe there is another significant fact apparent on this chart. In the period July through September of 1965, we expended about 20,000 tons of munitions per month. By December of 1966, we can support a monthly expenditure of 50,000 tons. This same data can be displayed in a slightly different way (chart No. 2). Note the same inventory curve is the same, but in this chart the expenditure and acquisition data are plotted on a cumulative basis.

That is, we add all the expenditure and all the acquisition up to the date shown. Note that over the 2-year period, the Air Force has expended or is planning to expend from assets and acquisitions almost [deleted] tons of munitions in southeast Asia.

It also shows why acquiring all that inventory before the combat begins is impractical. We expect to go up to about [deleted] tons by the end of fiscal 1967. We don't know how much longer we are likely to continue. It could be [deleted] tons, and you can't have all of that before you start. It is much better to make most of it during a war, and that is just what we are doing.

With all the factors of geography, tactics, and usage patterns which vary with a new combat situation, it is inevitable that there will be local or temporary imbalances. The air munitions availability picture also must consider that when a contingency arises, stocks must be shipped to the scene of action, new pipelines established and adjusted. But the fact is that the Air Force has been able, since the beginning of 1965, in combat 10,000 miles from CONUS, to go to a total rate of [deleted] combat and combat support sorties per month, including nearly [deleted] strike sorties a month, and is dropping ordnance at the rate of over 20,000 tons per month.

CLARIFICATION OF STARTING INVENTORY

Senator STENNIS. Let me interrupt you for just a minute here. Let me say to the members of the subcommittee that it has been the understanding of the Chair that, as far as we could, we would let these gentlemen read through their statements, and then submit themselves to questioning. I told them that we would do that as a general proposition, but there might be slight interruptions. Senator Saltonstall has a matter that he wants to ask now.

Senator SALTONSTALL. Dr. Brown, on both of these charts you start at zero, but munitions were being used at that time. Is that a percentage figure or numerical quantity?

Secretary BROWN. This is the inventory, Senator Saltonstall [indicating]. This is the acquisition after the beginning of combat, and this is the expenditure after the beginning of combat. Both of those start at zero. In other words, before the war started we had not made any new acquisitions. We had not made any new expenditures.

Senator SALTONSTALL. But the war started before fiscal year 1966.

Secretary BROWN. Right. We are taking this as a starting point really, and the numbers that were expended and acquired in 1965 are much smaller than these numbers. We are just taking this as an arbitrary starting point.

Senator SALTONSTALL. Could you put back your other chart for a moment. There, you see your inventory is almost [deleted] tons.

Secretary BROWN. That is right, [deleted] tons.

Senator SALTONSTALL. You start at zero. Again you just take that as a starting point.

Secretary BROWN. This shows the starting inventory, which is over [deleted] tons. These show acquisitions and expenditures subsequent to this date, and so you start both of those at zero. What happens is you take the expenditures during a given period, and you subtract them from this number. Then you add the new acquisitions, and that gives you this number. Then you do the same thing during the next period.

The other chart does the same thing in a slightly different way. This is the total expenditure up to a certain point. Let's take June of this year. We expect to have expended between July 1st of last year and July 1st of this year about [deleted] tons of munitions. We expect to have acquired about [deleted] tons of munitions. That means that we have expended [deleted] tons more than we acquired, and so our inventory will have fallen from about [deleted] tons to about [deleted] tons.

Senator SALTONSTALL. Thank you.

Senator STENNIS. Senator Symington, while we have interrupted, do you have any questions?

Senator SYMINGTON. No questions.

Senator STENNIS. All right, Mr. Secretary, that makes it clearer.

Secretary BROWN. Yes, I think it was important to clarify this point. As I say, we have gone to nearly [deleted] strike stories a month, and are now dropping ordnance at the rate of over 20,000 tons a month.

BROWN STATEMENT RESUMED

Since World War II, the Air Force nuclear capability has been continuously increased. Along with this nuclear deterrent, we have had an inventory of World War II and Korean vintage nonnuclear bombs which we retained at the end of the Korean war. We have gradually modernized our inventory by adding air-to-ground rockets, a family of dispenser munitions, and bombs required for high speed jet aircraft.

Before last summer, our munitions program was designed to support [deleted] nonnuclear sorties by the Tactical Force over a period of [deleted] days (chart No. 3).

The logistics guidance is shown on this chart.

We planned to acquire increasing quantities of modern low-drag munitions as our combat inventory of high speed jet aircraft increased.

Those aircraft require low-drag munitions in order to keep the range from being too greatly decreased by external carriage of munitions. For the older aircraft still in the inventory, we expected to use compatible World War II and Korean type bombs. In general, our war reserve objective for nonnuclear munitions was about [deleted] of the old type and [deleted] of the new type.

In other words, about half those sorties were planned with modern munitions and about half with older munitions. You can see [deleted] and [deleted] sorties.

During the spring and summer of 1965, the Air Force looked carefully into its aircraft sortie capability. At the same time, we analyzed the munitions we would need to attack a wide array of targets associated with approved war plans. This study indicated a capa-

bility to generate [deleted] sorties within the general purpose tactical forces instead of the [deleted] sorties that had been previously used.

This was associated in part with our increased aircraft inventory. It identified [deleted] sorties that should and could be flown by Special Air Warfare Forces. It also indicated that the B-52 could be used effectively in a nonnuclear role against certain targets. This study recommended programing enough munitions to support [deleted] B-52 sorties during the initial 6 months of operation. In August of 1965, the Secretary of Defense approved changes in our program objectives to provide for the munitions associated with the higher level of operations of our Tactical, Special Air Warfare, and Strategic Forces. Requirements for those munitions were included in our fiscal year 1966 supplemental and fiscal year 1967 basic budgets.

Associating specific munitions with specific aircraft forces and planned targets provides us with the first element of our munitions program process—a reserve stock readily available for any contingency operation—not necessarily those for which the war readiness objectives were established.

The second element consists of the annual requirement for training and for maintaining the capability of our personnel to deliver these munitions on target. Added to this, of course, are the small quantities required for reliability testing. Though this portion of our program is relatively small, it is essential if we are to maintain a constant state of readiness.

The third element of our munitions program is that associated with continuing combat consumption in southeast Asia. Our fiscal year 1965 budget contained only minimal quantities to support the counter-insurgency forces that were then programed for southeast Asia. As our involvement grew during calendar year 1965, we reprogramed funds (with congressional approval) and requested supplemental authorizations. Funds have been requested on a timely basis to meet the increased activity and expenditures which far exceed that experienced during the Korean war. In southeast Asia we are flying just over [deleted] sorties per month per tactical aircraft. Of these [deleted] are in support of the ground forces (chart No. 4). In Korea, where we had a concurrent air war, we flew approximately 22 sorties per month per aircraft of which 13 were for ground attack. In southeast Asia, our average load per attack sortie is 2 tons against nine-tenths of a ton in Korea. This means we are expending about four times as many munitions per total attack sortie, about twice as many per ground attack sortie in southeast Asia as we were in Korea. The same condition exists for the B-52 when compared with the B-29 used in Korea—20 tons per sortie for the B-52 versus slightly over 8 tons for the B-29. Even though fewer aircraft have been deployed to southeast Asia than were deployed during the peak of the Korean effort, our monthly expenditure of ordnance is quite different. For example, we expended 17,000 tons of munitions in Korea in June 1953, that was the peak month of the Korean war so far as munitions expenditures were concerned, whereas in southeast Asia this past December 21,000 tons were expended. We will have the capability to support an expenditure of 50,000 tons a month by [deleted].

In programing for the future, we have utilized actual southeast Asia expenditure rates for each type of munitions used on each type of

aircraft deployed to southeast Asia. These rates are reviewed weekly and the munitions program modified as required. We are now projecting those expenditures through June 30, 1967, for planning purposes, not because we expect the war to end then, necessarily, but because this protects procurement leadtime and gives us an opportunity to adjust our production programs to changes in expenditure rates. The fiscal years 1966 and 1967 budget programs will support the expected consumption and build our war reserve stocks toward the required level.

ASSURANCE ON ADEQUACY OF AMMUNITION FUNDING

Senator STENNIS. Pardon me right there just a minute. That is just a complete statement without any qualifications whatsoever. Of course you hope it will.

Secretary BROWN. Will support the expected consumption.

Senator STENNIS. I know.

Secretary BROWN. It will support the expected consumption.

Senator STENNIS. Yes.

Secretary BROWN. If there is an additional consumption beyond that, then we have to run this production up.

Senator STENNIS. That is what we are interested in now; if you have more than your present appraisal, what is your production capacity? I suppose you will cover that.

Secretary BROWN. That will be covered.

Senator STENNIS. We assume you certainly have already figured this thing.

Secretary BROWN. Right.

Senator STENNIS. On the project as far as you can see.

Secretary BROWN. Yes, sir.

Senator STENNIS. But we are vitally interested in your plans for the future.

Secretary BROWN. Yes, sir.

Senator STENNIS. And you are, too.

Secretary BROWN. Yes, sir.

Senator STENNIS. That is what we want you to emphasize. I say to the members of the subcommittee, I think that is the main thing for us to consider here. These gentlemen have a good showing to make on what they have done.

Secretary BROWN. Yes, sir. I think that is a vital point.

Senator STENNIS. We want you to confide with us and tell us everything you are calculating and what your plans are.

Secretary BROWN. Yes.

Senator STENNIS. And the money if you can. A lot of us are on the Appropriations Committee and, after all, we don't have much idea when we start to set figures.

Secretary BROWN. We have funded for the special consumption. I should point out, I think, that by the end of fiscal 1967—actually before the end of fiscal 1967, by about the end of the second quarter of fiscal 1967—that is, by the end of this year—we will be up to [deleted] a month of 750-pound bombs. This is just for the Air Force, about [deleted] a month of 500-pound bombs, and about [deleted] a month of 250-pound bombs. That will be quite a bit more than our expected consumption, so that if the consumption

doesn't go up, we actually will be putting some of these into the War Reserve Materiel. If the consumption does go up, then we can either try to expand this production further or build up the war reserve stocks more slowly.

Senator STENNIS. All right.

Secretary BROWN. The war reserve stocks of munitions which were on hand at the beginning of calendar year 1965 have been used to meet the surge of combat expenditures. As one would expect, these have been repositioned, shifted to where the contingency took place. Thus, the rapid buildup of forces in southeast Asia has caused us to reposition reserve stocks from virtually every part of the world. However, since our European commitments have remained unchanged throughout the southeast Asia contingency, we have retained munitions prestocked in Europe.

With some very minimal exceptions. I believe those include some 2.75-inch rockets that have been moved. The buildup in southeast Asia—airfields, aircraft, troops—and munition stockage has put us in a better position [deleted].

I would like to review very briefly the fiscal years 1965, 1966, and 1967 budget programs with this committee (chart No. 5). Our fiscal year 1965 budget, prepared in October 1963 and submitted in January 1964, contained \$165 million for munitions. That is that first line.

Through reprogramming actions and supplemental funds approved by the Congress, this was increased to a total of \$316.3 million for fiscal year 1965.

That is the sum of that first column there. The bulk of the items procured with this budget included dispenser munitions, new type 500-pound bombs, 20-millimeter training ammunition, and CHAFF. Recall that this budget was prepared against the old program force level of [deleted] sorties. The fiscal year 1966 budget prepared in October 1964 and submitted in January 1965, contained \$284.7 million for munitions and was increased by the Congress to \$295 million. With changing conditions in southeast Asia, requirements were reevaluated in July 1965 and an addendum fiscal year 1966 request—it is called supplemental on the chart, but it is actually an addendum because it went through before the appropriations bill was passed—of \$268.8 million was approved by the Congress. Since that time, we have again adjusted the southeast Asia requirements on the basis of additional force deployment. To support this increased requirement, we have requested an additional fiscal year 1966 supplemental of \$738 million. Our munitions program for fiscal year 1966 including the most recent supplemental now stands at \$1,307.4 million.

That is the sum of the second column. The major items in this budget include 750-, 500-, and 250-pound bombs, 2.75-inch rockets, 20-millimeter ammunition, and dispenser munitions.

Our fiscal year 1967 budget for munitions submitted to the Congress, the third column, includes \$1,474.8 million for the munitions program. Approval of this budget request will permit us to support southeast Asia consumption at currently programed levels through fiscal year 1967. The fiscal year 1967 program will also provide for the rebuilding of our stockage objectives. In certain cases, we have elected to retain a production capability rather than to complete the final

increment of buildup of war reserve stocks. We consider it far more desirable to maintain a continuing production capability when it is economically feasible. For items in this category, we do not attain our total objective with stocks on the shelf but have a production facility ready to accelerate to a much higher production rate within a few months.

To conclude. On my recent trip to Vietnam, [deleted] and Guam, in January, I visited [deleted] operational bases. At each one I went into the situation with respect to spare parts, munitions stocks, and aircraft operability and sortie rate. I asked whether any sorties had failed of execution, or whether there had been any degradation of operational effectiveness because of logistic shortages or maldistribution. The answer can be summarized in these words: though there are always cases where it would be desirable to have more of some supplies, the planned sortie rate has not been reduced by shortage of parts or ordnance, nor has the effectiveness of combat operations been impaired. I believe that our past efforts and planned actions will continue to assure our combat effectiveness.

(The charts accompanying Secretary Brown's statement are as follows:)

[Deleted.]

COMPARISON, 500- AND 750-POUND BOMBS: WHETHER USE OF 750-POUND BOMB IS RESTRICTED

Senator STENNIS. Mr. Secretary, on that last statement, I hope that your inquiries there were broad enough and repeated enough to be sure that you are correct in your conclusion. I know you would not give us anything except what you thought was absolutely correct, and as far as I know, we have not had any appreciable evidence from individual sources out there that contradicts your statement. We have had lots of them in the Army with respect to ground matters, of course. But while we are on that point, do we have anything appreciable that shows a downgrading, either in the lack of ability to carry out the mission because of a shortage of ammunition, or in planning?

Mr. KENDALL. With respect to the 750-pound bomb, Mr. Chairman, the use of which is prohibited in the country except for the B-52's, there were statements to the effect that the substitution of the 500-pound bomb for the 750 was not as satisfactory in that the 750-pound bomb was more accurate, and also that the 500-pounder created a greater drag on the tactical aircraft. I heard this from several sources, but I am not really competent to evaluate it.

Senator STENNIS. We want to bring this in right now, and give you gentlemen a chance to appraise those statements.

Secretary BROWN. Yes. Let me speak to this and then I know General McConnell will have more to say on it. In the first place, it is not correct that the use of 750-pound bombs in-country, that is in South Vietnam, is confined to B-52's. For example, I know that the F-5 squadron did carry 750-pound bombs. Their standard load is three or four, 750-pound bombs.

Mr. KENDALL. That was an experimental project.

Secretary BROWN. They were dropping bombs on targets. As to effectiveness of 750's and 500's, the 750 does have more high ex-

plosive than the 500-pound bombs by about 25 or 30 percent. I am now speaking of the old 500-pound bombs which are the ones that are being used in many cases instead of the 750's. This produces a difference of about 15 percent in crater effectiveness or blast effectiveness, which is what most of these bombs are used for. In fragmentation the difference would be more, but there are very few targets in South Vietnam in which fragmentation is the principal means of destruction. So that I think that there are many cases where people would rather use 750-pound bombs but there is no noticeable effect, no substantial effect, no measurable effect that we have been able to see by the substitution.

When we get more 750-pound bombs, I think that the mix will change somewhat in the direction of 750's and I think that the optimum mix has not always been allowed, has not always been used. The other operational questions let me ask General McConnell to speak to. I am not aware of any difference in accuracy.

Senator STENNIS. I raise those issues——

Secretary BROWN. They are very important.

Senator STENNIS (continuing). While we have our experts here on the subcommittee. These gentlemen know more about it than I do. That is the gist of our inquiry.

General McCONNELL. In the first place, Mr. Chairman, I agree entirely with what the Secretary has said. One point that remains to be covered appears to me to be one of range, where the range is effected by the use of the 500-pound bomb versus the 750, because of its higher drag. We are talking about the old 500-pound bomb now. Also whether the accuracy is affected. Both of those statements are true. The accuracy is higher with the 750-pound bomb than it is with the old 500-pound bomb on account of the fact that the 750 pound is a more streamlined bomb and has better ballistic efficiency. The curve of the ballistic is better. However, the difference I would say against the targets we are operating on in southeast Asia is not enough to be of any substantial degree.

Senator STENNIS. The targets make the difference.

General McCONNELL. The targets make the difference; yes, sir.

ADEQUACY OF APPROVED AMMUNITION PROGRAM

Senator STENNIS. Let me ask both of you, and General Gerrity, too, this question. What we want to know is are you getting what you want for the future, based on your calculations, and do you get the plans approved that represent what you need? Do they have ways of carrying out those plans? That is, if it requires additional manufacturing capacity, are you getting that?

General McCONNELL. Do you want me to answer that, sir?

Senator STENNIS. Yes, sir.

General McCONNELL. In my opinion, yes, sir. In my opinion our plans were well laid, based upon previous experience and upon our projection of our requirements. We have sufficient factory production to bring these munitions in at the time period they will be required. We have a capability to expand that production in the event it is necessary to do so, if we have underestimated our requirements.

Senator STENNIS. How much time is required in this expansion you speak of, General?

General McCONNELL. Could I refer that to General Gerrity, please?

Senator STENNIS. Yes, certainly.

General GERRITY. Mr. Chairman, it varies by the type of munition. For example, a 750-pound bomb to start out from a cold start it has taken us just a little over a year. However, once production is in being, we can accelerate within a matter of a few months to a higher rate of production. On many of the other munitions, I would say in general the leadtime to accelerate is half or less the leadtime to start out with a production line.

Senator STENNIS. Do you think your presently approved program will take care of your needs?

General GERRITY. Yes, sir.

Senator STENNIS. As far as you gentlemen can calculate.

General GERRITY. I do, Mr. Chairman.

Senator STENNIS. And you have neither been restricted nor cut back; is that correct?

General GERRITY. No, sir. As a matter of fact, we will continue to review our experience as we go along, and we do this weekly and monthly—and quarterly, we get together with all of the commands to review experience and project our planning for the future on that basis. Undoubtedly, we will have some adjustments in our program.

Senator STENNIS. I understand that.

General GERRITY. Based on our new experience.

Senator STENNIS. As far as money is concerned, for these purposes at least, did you get what you asked for in the regular 1967 budget, as well as this supplemental that we passed recently?

Secretary BROWN. As closely as we can calculate for bombs, rockets, 20-millimeter ammunition, we got all of the money that we asked for. Now our calculations may be in error. Our arithmetic is right, but the number of sorties may go up from what we projected or they may go down.

Senator STENNIS. I understand that.

DIFFERENCES BETWEEN AIR FORCE AND OSD ON BULLPUP AND SPARROW PROCUREMENT

Secretary BROWN. This would make a difference. There are two exceptions I think, neither of them having to do with the kind of munitions that we are talking about here, and really involving differences in judgment on what the requirements were. These are the Bullpup, where we asked for a larger buy than is included in the fiscal 1967 budget, but that will not affect our fiscal 1966 or fiscal 1967 consumption. That is something that can be adjusted later. And the same thing is true with respect to the Sparrow air-to-air missile, which of course is at the moment being used not at all in southeast Asia, and in which there is a difference in judgment between us and the Office of the Secretary of Defense on whether we can use some excess Navy stocks.

As you can see, these really are not particularly relevant to the southeast Asia situation, but I wanted to make it clear that there was a difference of opinion here in which I think that their arguments

may be correct or our arguments may be correct. In any event, it is not something that we can't decide later on.

Senator STENNIS. This difference of opinion—and I like differences of opinion, because if men get to agreeing too much there is something wrong, and I like to see opinions aired—whatever it is now, does not have to do with your munitions and supplies for fighting this war in Vietnam now.

Secretary BROWN. That is correct.

Senator STENNIS. Nor for the foreseeable future.

Secretary BROWN. That is correct.

Senator STENNIS. Do all of you gentlemen agree on that?

General GERRITY. Yes, sir.

General MCCONNELL. That is right, sir. As the Secretary said, there are two items in which we had differences of opinion, and both of them are matters of judgment. Experience will demonstrate which one of us was right. It can be corrected in sufficient time.

Senator STENNIS. General, I am not pitting one against the other now, but we want to know your thinking. Do you think that that is a correct situation?

General GERRITY. That is correct, Mr. Chairman, and we are reviewing and restudying this proposition with regard to these two items.

Senator STENNIS. Yes.

General GERRITY. And would expect to get together with OSD again later this spring to resolve these differences.

DIVERSIFICATION IN AMMUNITION PRODUCTION

Senator STENNIS. What about the diversification in the production of these munitions material? My Lord, it wasn't long ago that we were having a strike in some factory that was producing some small arms weapons. We do not know what to expect in the times we are living. What about your diversification in the capacity of which you speak? Is this all in one company, one factory, or one unit? What is that? Give us that picture.

Secretary BROWN. First I should point out, Mr. Chairman, that the contracting for this, including the source selection, is done by the Army and the Navy for us. However, they do consult with us, and we know what the situation is. In the case of the 750-pound bombs, for example, there are three sources: LeTourneau, A. O. Smith, and American Machine & Foundry. Then there are five sources for 500-pound general purpose bombs, the Mark 82's, and four sources for the 250-pound general purpose bombs, and already four sources picked for the Mark 24 flares. I don't have a breakdown here for the 2.75 rockets, but I was told yesterday that there are at least a dozen different companies now in the program, although there were only three I believe up until a few months ago. So that there is a very substantial amount of diversification here, and no single company can by its failures knock out the program entirely.

Senator STENNIS. General, based on your experience over the years as to the need for these munitions, do you think you have a fully satisfactory setup for production?

General MCCONNELL. Yes, sir, I think we have a good base for it, satisfactory.

Senator STENNIS. The diversification satisfies you?

General McCONNELL. Yes, sir, it does.

Senator STENNIS. Does it satisfy you, General?

General GERRITY. Yes, sir.

Senator STENNIS. Those statements are very reassuring. We believe what you say, and know you can be mistaken as to what the future holds, as all of us can. All right, Senator Saltonstall, do you have some questions? Then we will proceed with the General's testimony.

COMPARISON OF AIRCRAFT USED IN VIETNAM AND KOREA

Senator SALTONSTALL. I have a few questions. Mr. Brown, isn't the fundamental difference between Korea and South Vietnam the fact that the sorties are very much shorter in South Vietnam than they were in Korea?

Secretary BROWN. Not the ones in North Vietnam.

General McCONNELL. Better aircraft. We have aircraft that will just carry a heavier load of weapons.

Senator SALTONSTALL. Would you repeat that?

General McCONNELL. We have aircraft that will carry a heavier load of ordnance than we had in Korea.

Senator SALTONSTALL. And that is portrayed there?

General McCONNELL. Yes, sir.

Secretary BROWN. That is right. That is part of the difference.

General McCONNELL. Due to the aircraft capability, the capability of the aircraft.

Secretary BROWN. The other is that by one means or another we are able to get more sorties out of our aircraft and a larger fraction of them are air to ground because there is at the moment no air opposition.

General McCONNELL. That is right.

BUILD UP OF NEW AMMUNITIONS

Senator SALTONSTALL. I think you probably have covered this, Mr. Brown, but I just want to make sure. You say you have an adequate supply of ammunition for the future as you see it. Are you building up the supplies of ammunition for the new weapons also, such as the 2.75 rocket and so on.

Secretary BROWN. Yes, in very large quantities. The new acquisitions are the new munitions. Now we are reevaluating the mix, because we are using more of the old style ammunition, the 750-pound bomb in southeast Asia, than we would expect to use in most places in the world. [Deleted.] But our whole program in the past has been directed very largely or almost entirely to the acquisition of the new style munitions, Bullpups, 2.75 rockets, fragmentation munitions; that is, optimum fragmentation munitions, cluster bombs, and so on.

AMMUNITION STOCKS IN EUROPE

Senator SALTONSTALL. Let me ask two more questions. I was interested in this. You say you haven't used the reserve supplies elsewhere, in Europe and so on. If I read your statement correctly,

Secretary BROWN. We have moved some [deleted], because we have moved them to where the war is. But the stocks in Europe have been relatively untouched.

Senator SALTONSTALL. That is what your statement says.

Secretary BROWN. Yes, sir.

Senator SALTONSTALL. Does that mean that Europe is stocked with the older type weapons as opposed to the ones that you have found effective in Vietnam, or do you believe that the ones that are effective in Vietnam are for the type of warfare there, and would not be suitable Europe.

Secretary BROWN. Both would be used in both places, but it is my impression, and the Chief should really correct me on this if I am wrong, that in southeast Asia by and large the old type munitions are in many cases just as good as the new ones. There are lots of places where cluster bomblets are not particularly more effective than general purpose bombs in southeast Asia.

If you are cratering a road, for example, what you want is the 750's or the 500's and not cluster bomblets. In Europe it is the other way around. We tend to rely, we expect to rely more on the newer type munitions, and that is what we have left over there.

Senator SALTONSTALL. And you have them over there in Europe?

Secretary BROWN. That is correct.

Senator SALTONSTALL. So that the war in Vietnam isn't putting us at a great disadvantage in Europe or elsewhere?

Secretary BROWN. It may have slowed down the stockage that might otherwise have occurred there. But we haven't pulled many out.

Senator STENNIS. Of course, Mr. Secretary, you are speaking only for the Air Force.

Secretary BROWN. I can speak only for the Air Force on that matter.

Senator STENNIS. And your ammunition.

Secretary BROWN. And I would like to be corrected even for the Air Force if General McConnell has anything to add.

General MCCONNELL. No, that is exactly right, Mr. Chairman.

ADEQUACY OF AMMUNITION AND SPARE PARTS IN VIETNAM

Senator SALTONSTALL. The general statement on page 9 of your testimony to the effect that you examined [deleted] different places and their operations, concludes that you found spare parts, and so forth, in good supply.

Secretary BROWN. They are in sufficiently good supply so that operations have not suffered. I would not say, I don't want to convey the impression that they are as good as we want them to be. There is not an optimum mix right now of 750- and 500-pound bombs, as Mr. Kendall pointed out. To take another example, our not operationally ready rate for spares or supply has been higher on some aircraft than we like it to be—on the F-4, for example. But that has never been such as to hurt operations, and it has been improving. The rate on the F-4 came down from nearly [deleted] percent from December to January, and now it is down to something like [deleted] percent I believe, so that things have been adequate from the beginning, and they are getting better, but there are still improvements that we can make.

CONGRESSIONAL EFFORT TO INCREASE 1966 BUDGET

Senator SALTONSTALL. I think that is all, Mr. Chairman. You showed, Mr. Brown, a congressional addition in the 1966 budget of \$10.3 million. I was curious that the Congress should increase that. Certainly we did that at your suggestion, did we not?

Secretary BROWN. This was before my time, so I don't remember it, but my impression is that the Congress expressed the judgment that the Department needed more than the Department calculated it needed, and I think that the Congress in that case was right.

Senator STENNIS. We tried to give you some extra money last year, and the Department of Defense at least would not give an estimate on it.

Secretary BROWN. At that time it was very hard to make an estimate.

Senator STENNIS. They said as late as June and July that they did not need any more money.

Secretary BROWN. We couldn't calculate the need.

Senator STENNIS. No, that was not what you said.

Secretary BROWN. All right.

Senator STENNIS. That you didn't need any more.

Senator SALTONSTALL. As a man who considers these appropriations, I was just as surprised at that heading. Maybe that heading is correct, but I am a little cynical regarding it.

Senator STENNIS. Thank you very much, Senator. Senator Symington, do you have something now?

AMMUNITION TONNAGE DROPPED IN SOUTH AND NORTH VIETNAM

Senator SYMINGTON. Yes, Mr. Chairman, I would ask a couple of questions.

Senator STENNIS. Yes, sir.

Senator SYMINGTON. What percent of what you have dropped have you dropped on North Vietnam, what percent on South Vietnam, [deleted]?

Secretary BROWN. I will have to look up those numbers and supply them for the record.

General GERRITY. I have it.

Secretary BROWN. Why don't you answer it now.

General GERRITY. For the calendar year 1965 we dropped 115,000 tons on South Vietnam, 22,000 on North Vietnam [deleted].

EFFECTIVENESS OF BOMBING IN VIETNAM

Senator SYMINGTON. I discussed this with you in Saigon, Mr. Secretary [deleted], and as someone not in the Air Force said, so far as we know, because of the lack of intelligence we hit a lot of leaves. Do you have any hard data as to what your tonnage [deleted] resulted in?

Secretary BROWN. I would not deny that some strikes, Senator Symington, hit only leaves. However, during my stay in South Vietnam [deleted], the operations people there told me that they were very gratified with what was being done [deleted], at least on

most of the strikes. There has been over the past 4 or 5 months quite a change in our intelligence and in our ability to locate targets. There has been a greatly increased use of forward air controllers.

Senator SYMINGTON. Have you any hard evidence as to what was accomplished?

Secretary BROWN. Yes, sir.

Senator SYMINGTON. [Deleted.] Have you got any hard evidence as to what was done?

Secretary BROWN. I cannot identify that day's strike, but there is some hard evidence in terms of craters in the roads and secondary explosions.

Senator SYMINGTON. Will you furnish for the benefit of the subcommittee any evidence of the effectiveness of bombing [deleted] in these quantities—I would go back to General Gerrity, and would appreciate the figures for the last 2 months, if you have them, for the last 2 months of 1965, November and December, and if you could, add January 1966 for the record. I would appreciate having that.

Secretary BROWN. Yes, sir.

(The information referred to is as follows:)

The table below presents a comparison of Air Force combat munitions expenditures for three consecutive five-week periods. This time frame has been used since consumption data is submitted to this Headquarters on a precise weekly basis. These time frames are as follows:

Column A: 19 Nov. 1965–22 Dec. 1965.

Column B: 23 Dec. 1965–27 Jan. 1966.

Column C: 28 Jan. 1966–3 Mar. 1966.

Column B reflects the time period most closely related to the period of suspension of bombing over North Viet Nam (24 Dec.–30 Jan.). As may be seen, consumption of the majority of items during this period was equal to or greater than the previous period. Also, consumption remained at the same level during the subsequent period (Column C). Expenditure of these prime munitions items increased by [deleted] tons from Period A to Period B and by [deleted] tons from Period B to Period C.

Item	A		B		C	
	Tons	Quantity	Tons	Quantity	Tons	Quantity
100-pound GP, M30.....						
250-pound GP, M57.....						
250-pound GP, MK81.....						
500-pound GP, M64.....						
500-pound MK82.....						
750-pound Demo, M117.....						
1,000-pound GP, M65.....						
1,000-pound GP, MK83.....						
2,000-pound GP, MK84.....						
3,000-pound Demo, M118.....						
250-pound Napalm, BLU-10.....						
500-pound Napalm, BLU-11/23/32.....						
750-pound Napalm, BLU-1/27.....						
100-pound PWP, M47.....						
220- to 260-pound Frag. Bomb, M88/M81.....						
Total.....						

COMPARISON OF BOMBING TARGETS IN KOREA AND VIETNAM

Senator SYMINGTON. You mentioned Korea, how much more you are bombing than in Korea. Several pilots said: "We are hitting targets in this situation we wouldn't even look at in Korea." So it

really isn't the number of bombs you drop unless you just want to get rid of them for fun. It is what your targets are, isn't it?

Secretary BROWN. Yes, I think that that is certainly correct so far as the effect on the war is concerned. I was making the observation or comparison with Korea to show that we were in a rather good situation so far as munitions were concerned.

M-16 RIFLE PROCUREMENT

Senator SYMINGTON. When the Army was up on the M-16 rifle, they said that we have only one source for that rifle, which everywhere in Vietnam they said they wanted, as against the M-14. That was especially true for the South Vietnamese, because the 3-pound differential makes so much difference to those little people. I think the Army said they borrowed some of these M-16 rifles from the Air Force. You talked about 2 sources in one case, 5 in another, 12 sources in another. Why does the Army only have one source on the M-16 rifle?

Secretary BROWN. I can't answer that question.

Senator SYMINGTON. Haven't you been interested in it?

Secretary BROWN. Yes, we have been interested enough to get enough of these rifles for the Air Force.

Senator SYMINGTON. Haven't you asked why they only have one source?

Secretary BROWN. No, I never have, because we have gotten the rifles that we needed.

Senator SYMINGTON. But you have had to give some up to them.

Secretary BROWN. We have got enough to do that, too.

General McCONNELL. And they have paid us back out of their production.

Senator STENNIS. Dr. Brown, weren't you the head man on this before you came to the Air Force?

Secretary BROWN. I had a certain amount to do, as did General LeMay and some other people, with getting the M-16's, then called the AR-15's, adopted at all.

Senator STENNIS. We want to commend you for that.

Secretary BROWN. But I did not take any action—

Senator STENNIS. You deny any knowledge?

Secretary BROWN. I didn't take any action to have two sources.

RESPONSIBILITY FOR MUNITIONS PROCUREMENT

Senator SYMINGTON. Based on the opinion of the people fighting this war, the fact we only have one source on something so badly needed is incredible. You could have a fire; you could have a strike; you could have sabotage. Who is responsible?

Secretary BROWN. The Army contracts for these.

Senator SYMINGTON. Do you supply the Navy with these air weapons, or do they supply you, or do they buy independently?

Secretary BROWN. The Air Force is supplied with munitions, that is bombs, by Army and Navy. The Navy buys its own.

Senator SYMINGTON. Suppose you want the bombs and the Navy wants the bombs and you both have the same sources. How do you decide?

Secretary BROWN. The Secretary of Defense has to decide who gets them in that case.

Senator SYMINGTON. Who buys the Marine——

Secretary BROWN. The Navy buys for the Marines I believe.

Senator SYMINGTON. If you are using a 500-pound bomb, you buy your bombs from the same source or from different sources?

Secretary BROWN. The Navy and the Army do the contracting for us.

Senator SYMINGTON. For you?

Secretary BROWN. And they use the same sources to supply us as to supply the Navy.

Senator SYMINGTON. The Navy and the Army, do they buy the rockets?

Secretary BROWN. Yes.

Senator SYMINGTON. What is this rocket?

Secretary BROWN. 2.75 inch.

Senator SYMINGTON. Who buys that rocket?

General McCONNELL. The Army buys it.

Secretary BROWN. Didn't it used to be the Navy?

General GERRITY. Both the Navy and the Army were buying it at one time, but recently the Department of Defense made the decision to assign the responsibility to the Army, so that the Army now has overall responsibility.

Senator SYMINGTON. And who buys the 750-pound bomb?

General GERRITY. The Army.

Secretary BROWN. The Army buys that one. I think we may be the only users of that, aren't we, or does the Navy use it too?

General GERRITY. We are the only ones.

Secretary BROWN. We are the only users.

COMPARISON OF AIR FORCE AND ARMY MUNITIONS PROBLEMS

Senator SYMINGTON. If the Army is doing all the buying, why are you not short and they are short?

Secretary BROWN. They don't use 750-pound bombs at all.

Senator SYMINGTON. I understand, but I am talking about the overall munitions picture.

Secretary BROWN. I think their problems are much more difficult than ours. They have many, many more items to buy than we have to. That makes their planning more difficult. I think that their stocking, their depot system and so on is historically more complicated than ours.

Senator SYMINGTON. I am just asking for this information.

Secretary BROWN. This is my observation, Senator Symington. I think that they have got a much more difficult problem, and even if they have worked as hard to solve it as we have, and I think they may well have, that would leave them with more problems.

Senator SYMINGTON. Mr. Chairman, I have two other questions. They have to do with weapons.

Senator STENNIS. All right, Senator, we will be glad to hear you. We do want to let the general testify while we have good attendance. Go ahead.

NUCLEAR MUNITIONS SUPPLIED TO FRENCH SQUADRONS

Senator SYMINGTON. I read an article on the De Gaulle situation. It pointed out the United States will stop supplying French air squadrons with nuclear weapons once they are removed from the NATO Command, so their attractiveness to West Germany would be greatly lessened. My question is, Are we giving nuclear weapons today to French airplanes under French Command in Germany?

Secretary BROWN. They are under NATO Command.

General McCONNELL. They are under NATO Command.

Senator SYMINGTON. But in Germany?

General McCONNELL. They are in Germany, they are French aircraft. They have American weapons provided for two squadrons.

Senator SYMINGTON. So the answer is that we are today supplying French airplanes controlled by French officers with nuclear weapons? Is that correct?

General McCONNELL. The answer to that is that we are supplying nuclear munitions to French squadrons which are committed to NATO and which are employed only by SACEUR. They are commanded by French officers, but they are operated by SACEUR.

Senator JACKSON. The custody of the weapons—

General McCONNELL. Is in the United States. They can't get their hands on the weapons unless we turn them over to them.

EFFECT OF MINING HAIPHONG HARBOR

Senator SYMINGTON. I heard in South Vietnam that 80 percent of munitions, wheat is going through the harbor of Haiphong down the Ho Chi Minh trail. General Wheeler testified before the Joint Armed Services-Appropriations Committees that what was going down the Ho Chi Minh trail came first through the harbor of Haiphong. The other day some administration people briefed a couple of hundred congressional administrative assistants, and the statement was made that nothing substantial would be achieved if we mined or knocked out by air the harbor of Haiphong to prevent munitions from going down the Ho Chi Minh trail. Were you at that briefing, Mr. Secretary?

Secretary BROWN. No, sir, I was not.

Senator SYMINGTON. Would you agree with the statement?

Secretary BROWN. It depends on what you mean by "substantial."
[Deleted.]

Senator SYMINGTON. Could you use the ammunition if you didn't have anything to eat?

Secretary BROWN. The people who used it would have to have something to eat, but the others could still be very hungry; that is, the other North Vietnamese could be very hungry. I think it would have an effect to mine the harbor of Haiphong, but it would also have additional risks.

Senator SYMINGTON. What do you think, General McConnell?

General McCONNELL. Certainly I think it would have a substantial effect to mine the harbor of Haiphong, or otherwise dispose of it; but it would also have additional risks, as Secretary Brown said.

BOMBING OF NORTH VIETNAM RAILROADS

Senator SYMINGTON. You talk about munitions coming in by railroad. I note that since the bombing resumption we have been heavily bombing the railroad from west to east.

Secretary BROWN. [Deleted.]

Senator SYMINGTON. All right, I will take that. But I don't see why they would take the ammunition over the mountains to the west, then send them back down East. Certainly it is coming east to west. The railroad is closer to—

Secretary BROWN. [Deleted.]

Senator SYMINGTON. Then why haven't you been hitting that railroad at all. Why have you been hitting the one that wouldn't be coming down, but not hitting the one that would?

Secretary BROWN. [Deleted.]

Senator SYMINGTON. Will you furnish justification for that position?

Secretary BROWN. Sure.

Senator SYMINGTON. Because I get mine from other intelligence sources.

Secretary BROWN. Yours may well be better.

Senator SYMINGTON. It is all Government. Thank you, Mr. Chairman.

Senator STENNIS. Thank you. Gentlemen, if we may, let's permit General McConnell to make his statement. It is rather short, and this will give you a chance to pick up. All right, General McConnell, if you will, proceed please.

STATEMENT OF GENERAL McCONNELL

General McCONNELL. Thank you, Mr. Chairman, and members of the committee.

First I would like to say that I believe we have adequate munitions, either on hand or scheduled from production, to accomplish the programed task that we have in southeast Asia.

As Secretary Brown has pointed out, our program for munitions provides a reserve stock of materiel that is immediately available for use in any contingency. These reserve stocks are being used for that purpose today. You will also recall that Secretary Brown informed you that a portion of our stocks were the older munitions of the Korean vintage. I would like to cover this point with the committee in some detail to insure that there is complete understanding as to the capability of our aircraft to utilize these older munitions. We have, for example, two types of 500-pound bombs; the old type is not streamlined and because of its shape is suitable for use only on conventional aircraft and by the F-100 which does not have the multiple racks which require the newer type bombs. The old-type bombs cannot be carried efficiently by the F-4 and F-105 aircraft nor can they be carried externally by the B-52. We also have a newer streamlined 500-pound bomb. This bomb can be carried by all aircraft, but was designed specifically for external use on high-speed jet aircraft with multiple racks. Both old nonstreamlined and new streamlined bombs exist in the 250- and 1,000-pound category also. The 750-pound bomb—the M-117—has been in our inventory for some time but is compatible with both conventional and jet aircraft.

We must consider the compatibility of each of these bombs with the aircraft involved in combat operations in southeast Asia. It would be poor management on our part to permit the use of large quantities of the streamlined bombs by the slower tactical aircraft which can use the older type, nonstreamlined bombs. The same situation exists for the B-52. We must insure that the older bombs are carried internally while the streamlined bombs are used for external carriage. Thus, our planning assesses the total munitions availability against the specific aircraft requirements. We update this planning on a constant basis. Each commander is furnished specific information as to the types and quantities of munitions programed for his use through June 1967. The most recent plan was completed on January 12, 1966, and was based upon a review at the Pentagon by the representatives of all commanders concerned of their assessment of requirements and an assessment of our total capability. This type of planning, I feel, is necessary and vital to an orderly conduct of combat operations.

This approach was used to determine individual aircraft loads by type of aircraft and number of sorties programed for Southeast Asia Tactical Forces. The problem for Tactical Forces becomes somewhat involved since there are always trade-offs between aircraft loads. For example, we must determine the percentage of loads requiring rockets, general purpose bombs, gun ammunition, dispenser munitions carrying small bomblets, and napalm bombs. Since there is such a great variety of munitions that can be carried by the tactical aircraft, we must insure that there is an available supply of all types of munitions and that the proper munition is utilized against selected targets. The range of stocks provided to the Tactical Forces is sufficient to meet all known requirements with one exception. The 2.75-inch rocket is being utilized at a very high rate. In fact, it is being used by all services at a rate far in excess of any previous expectation. We are making every effort to increase the production of this rocket and its associated components to provide the Tactical commander with a sufficient quantity to meet fully his projected requirement. General Gerrity will discuss in more detail the specifics of the 2.75-inch rocket.

Finally, I would like to show you summary data on the status of the general purpose bomb inventory. This chart (chart No. 1) shows the inventory in numbers of bombs last July, the solid line, and traces the inventory level by quarter through fiscal years 1966 and 1967. Note that we had over [deleted] general purpose bombs of all types in the inventory on July 1, 1965. Our inventory will drop to about [deleted] bombs by this coming June and then begin to increase as production exceeds expenditures. Expenditures are the blue line, and the production is the red line. In July 1967, we will be producing about [deleted] bombs per month. The quarterly expenditures and acquisitions from production are also shown at the bottom. During the last 6 months of calendar year 1965, we dropped [deleted] in southeast Asia. During this calendar year, we anticipate about [deleted] bombs will be used in southeast Asia. With this level of effort we are reasonably certain we can support the operations required of the Air Force in southeast Asia.

(General purpose bombs status chart is as follows:)

[Deleted]

DROP ON BOMB STATUS CHART

Senator STENNIS. Just a brief question, and then I will call on Senator Jackson and Senator Cannon. In looking at the chart, I notice a precipitate drop there. Is that a 6-month or 12-month drop there?

General McCONNELL. That is from July of 1965 [deleted].

BOMBING SUSPENSION A POLICY MATTER: NOT LACK OF BOMBS

Senator STENNIS. This may sound like a farfetched question to you gentlemen, but the holding up of the bombing over there is not due to lack of bombs, is it?

General McCONNELL. No, sir.

Senator STENNIS. And never has been?

General McCONNELL. No, sir.

Senator STENNIS. That is a policy matter altogether?

General McCONNELL. Actually we used just as many bombs during the bombing stand-down.

Senator STENNIS. I thought I knew the answer to that, but I wanted you to say so. You refer to the 2.75-inch rocket, but you say that General Gerrity will discuss all of that in detail.

General McCONNELL. He will give you any details you require about the rocket.

Senator STENNIS. We want to cover that fully.

General McCONNELL. Yes.

COMMANDERS FURNISHED INFORMATION ON ALL AMMUNITION

Senator STENNIS. Now, on page 1 just below the middle of the page you say each commander is furnished specific information as to the types and quantities of munitions for use through June 1967. That brings to my mind this question: Are you talking about all ammunition that is now programmed through June 1967?

General McCONNELL. Yes, sir; that is right.

Senator STENNIS. Not just the bombs that you were talking about?

General McCONNELL. No.

Senator STENNIS. But this applies to all of the Air Force ammunition?

General McCONNELL. Yes, sir, that is right; worldwide.

Senator STENNIS. Worldwide?

General McCONNELL. Yes, sir.

Senator STENNIS. Through June 1967?

General McCONNELL. Yes, sir.

AIR FORCE SATISFIED WITH DIVERSIFICATION AND FUNDS

Senator STENNIS. Are you satisfied with that plan as far as diversification is concerned?

General McCONNELL. Yes.

Senator STENNIS. And as far as money is concerned, is that right?

General McCONNELL. Yes, sir; I am. I would consider it my own fault, mine and the Secretary's fault, if we weren't satisfied. We haven't had any requirements actually which haven't been met.

Senator STENNIS. I think if you had any complaints about it in one way or another, you would have let it be known before now.

General McCONNELL. That is right, sir.

Senator STENNIS. But I did want to give you a chance to say anything you wanted to say about it.

Senator Jackson, may I call on you next, please? We will question all these gentlemen together, even though General Gerrity has not read his general statement.

FLEXIBILITY REQUIREMENTS FOR NONNUCLEAR CONFLICTS

Senator JACKSON. Going back to the Korean war, we were not adequately prepared to deal with the nonnuclear nature of that conflict. The result is that we have a lot of problems with munitions. What I want to ask is this: Do you feel that we are doing everything we should be doing in the nonnuclear area to meet, not only our situation that we face in southeast Asia, but other situations that may arise, so that the Air Force will have the flexibility of meeting requirements on short notice to deal with that kind of conflict short of general war?

General McCONNELL. Yes, sir; I think we are, Senator Jackson; with the possible exception of stockpiling, aircraft, materiel, and other items, one of which of course you can't stockpile, and that is trained manpower. [Deleted.] Other than that, we are all right. [Deleted.]

Senator JACKSON. That is hardly likely.

General McCONNELL. I believe that is unlikely.

Senator JACKSON. In order to have that kind of flexibility, it is going to take a lot of trained manpower and a lot of resources.

General McCONNELL. If we are going to do that, we had better start building factories instead of trying to expand what we have got now.

Secretary BROWN. [Deleted.]

AIRCRAFT CAPABILITIES FOR NUCLEAR AND CONVENTIONAL CONFLICTS

Senator JACKSON. So far they have stuck to their ancient reluctance of drafting people into the service, and the result is they have not met their ground force requirements. What is your present situation, as far as making advanced aircraft that are designed primarily to carry nuclear weapons to meet the day-after-day strain of delivering conventional loads?

General McCONNELL. We must have built pretty good aircraft, because they are meeting that day after day strain with remarkable success and with a high degree of reliability.

Senator JACKSON. Are you satisfied?

General McCONNELL. I am, yes, sir.

Senator JACKSON. With the —

General McCONNELL. With the equipment we have?

Senator JACKSON. With the equipment that you now have.

General McCONNELL. Yes, sir.

Senator JACKSON. Essentially your advanced aircraft were designed and laid out to deliver nuclear and thermonuclear weapons, were they not?

General McCONNELL. Yes, sir, with a secondary capability for hanging iron bombs in them.

Senator JACKSON. Yes, but I mean the primary effort.

General McCONNELL. That is right.

Senator JACKSON. And the design and production of the aircraft were to carry out the first priority, the nuclear assignment?

General McCONNELL. That is right.

IMPROVEMENT OF NONNUCLEAR MUNITIONS

Senator JACKSON. I am concerned, however, in one or two areas in the nonnuclear aspect of our capability. Are we doing everything in research and development to improve upon our nonnuclear bombs? Dr. Brown might want to answer that.

General McCONNELL. I would prefer the Secretary to answer that.

Secretary BROWN. We have begun, over the past few years, to build up that kind of development. In the late 1950's the capability which existed down at Eglin Field to develop advanced non-nuclear munitions was phased down to a low level, because in the scale of priorities at that time it was not very high.

The priority for nonnuclear weapons was not very high. The new buildup started along about 1962 as the Division of Armament Development of Systems Command, and I believe we just changed the name to the Air Force Armament Laboratory. I was down there last fall, and saw some of the new things that are being worked on. [Deleted.]

Senator JACKSON. What kind is that?

General McCONNELL. [Deleted.]

Senator JACKSON. Antipersonnel?

General McCONNELL. [Deleted.]

Secretary BROWN. [Deleted.] I should add that we are using many Navy weapons because the Navy has had a continuing development program here, and we are not at all ashamed to use things that are developed by other people. [Deleted.] It is not as much as it should have been and would have been if there had been a higher level of nonnuclear weapons development in the Air Force during the fifties. But when national policies change, we change with them.

Senator JACKSON. There are indications, Mr. Secretary, if we take the enemy at his word, that we will probably have more and more of these conflicts involving attempts by an armed minority to take over a given government.

What I want to make sure—inasmuch as this is the likelihood that we face, and that the Air Force will be called upon to engage in more and more missions of this nature—is that we make a real effort to get the best possible nonnuclear weapons that we can lay our hands on. And, I would like to see the same kind of effort that you and your predecessors and successors made in this area at Livermore, at Los Alamos and Sandia. Let's face it realistically, this is the type of conflict that we have been fighting since the end of World War II. As anachronistic as it may sound, with the catastrophic thermonuclear devices available, the fact remains, at least taking the adversary at his word, that we are going to have more and more of this type of thing to face. I would just like the assurance that we are making a real substantial effort in this area.

Secretary BROWN. We take this very seriously, Senator Jackson.

We take it seriously and have taken action organizationally, taken action with respect to putting good personnel into this, and have taken action with respect to putting more funds into it. I think it is an area that may still be underfunded, but we are going to do everything we can.

Senator JACKSON. If we could increase the explosive power, I mean quantitatively and qualitatively, the capability short of something that has a nuclear label, it is certainly going to increase the effectiveness of our deterrent in dealing with these so-called wars of national liberation. I think we have this competency. There has been a tremendous improvement in chemical bombs in recent years, well, in the last 25 years.

Secretary BROWN. Yes.

Senator JACKSON. Do you foresee any new possibilities?

Secretary BROWN. I think that you can get more explosive power easily by additives. There are some conceptual ideas that might make a factor of [deleted], but they are likely to be either so expensive to produce or so unstable that I have questions about them.

I think that they are conceptually possible, they may be technically feasible, and we are working hard on them, but I think we shouldn't count on them. I think that there is an enormous advantage to be gained by reducing CEP's, that is by becoming more accurate, because if you can hit the target, it doesn't take very much high explosive to do the damage.

Our problem is that we generally land 100 yards away, or if we are very good, 100 feet away. But we are working on new munitions that we hope will get us [deleted].

Senator JACKSON. I was coming to that. That was my second item.

Secretary BROWN. I am sorry I preempted.

Senator JACKSON. To zero in a little more with a closer CEP is the point I want to raise. Of course, I am referring to air-to-ground missiles.

Secretary BROWN. Yes.

Senator JACKSON. The tragedy, it seems to me, is that with all of the research that has been going on through the years, we have been geared to the thermonuclear standoff missiles, which does not require the kind of CEP that we are talking about here. I wonder if you can report any progress on the kind of standoff missile that will save the pilot and the plane, and still come within the degree of accuracy that is essential to knock out pinpoint types of targets.

Secretary BROWN. The WALLEYE program, which is a Navy program—

Senator JACKSON. And the CONDOR.

Secretary BROWN. Has gone very well. [Deleted.]

Senator JACKSON. What kind of a CEP?

Secretary BROWN. [Deleted.] It depends on the target. [Deleted].

Senator JACKSON. [Deleted.]

Secretary BROWN. That is right.

Senator JACKSON. [Deleted.]

Secretary BROWN. [Deleted.]

Senator JACKSON. What would be the range on that?

Secretary BROWN. [Deleted.]

Senator JACKSON. It seems to me that these two things, an improvement in the design of your conventional nonnuclear bombs, plus the delivery system so as to protect—

Secretary BROWN. The launch.

Senator JACKSON (continuing). The pilot and the plane. I trust you will give these the highest priority.

Secretary BROWN. We are, and I did not mean to be so negative about the effectiveness of a given weight of bomb. There is more you can do than simply increasing the energy per pound.

[Deleted.]

Senator JACKSON. Would you supply for the record the type of research and the amount of effort that are being made in the non-nuclear weapons field?

Secretary BROWN. I would be delighted to, and I will include all of the Air Force effort and mention the relevant Navy and Army activities.

Senator JACKSON. Right.

Secretary BROWN. Which is quite a lot.

Senator JACKSON. I am anxious to find out whether that effort can be improved, and I wish you would state frankly the areas where you see difficulty and where improvements could be made. This is something, Mr. Chairman, I think that this subcommittee should look into in connection with the appropriations pending in fiscal year 1967.

Secretary BROWN. Yes, sir.

(The information requested follows:)

AIR FORCE CONVENTIONAL MUNITION DEVELOPMENTS

The development of conventional munitions follows the traditional cycle of exploratory, advanced, and engineering development. The exploratory development effort being concept oriented is difficult to separate into individual munitions tasks directed to specific hardware. The effort in this area is maintained at a fairly constant level of approximately \$5.0 million per year. The advanced and engineering development projects can be separated into reasonably distinct types of effort. The following descriptive summary of Air Force munitions developments is divided into types of end product such as Hard Structure Munitions, Area Denial Munitions; and Fuze and Fuze Components. Both advanced and engineering development efforts are included under each heading. Relevant Army and Navy development efforts of interest to the Air Force are covered under separate headings.

[Deleted.]

Senator JACKSON. Thank you. That is all.

Senator STENNIS. Thank you, Senator. Senator Cannon.

ADEQUACY OF MUNITIONS: 2.75-INCH ROCKET

Senator CANNON. Thank you, Mr. Chairman.

General, do I understand correctly from your testimony that there has been no mission you were assigned that you were not able to perform because of lack of munitions of one type or another?

General McCONNELL. That is right, sir.

Senator CANNON. And the area that may become critical is that of the 2.75-inch rocket.

General McCONNELL. [Deleted.] We are doing the best we can to catch up with it. The reason for that is, as you know, we never had any experience in using 2.75 rockets on helicopters, and the Army

uses a considerable number of those, for which I can't blame them at all.

In addition to that, from your own experience, you know you can fire at a target a long distance away, a relatively long distance away, you can keep the heads down while you are coming up to put the bomb on it, so for that reason we are using more 2.75 rockets than we had ever figured we would use. We are going fast to try to catch up.

Senator CANNON. You say that General Gerrity will discuss the specifics of the 2.75-inch rocket. Will he also discuss the production?

General McCONNELL. Yes, sir, he is prepared to give the production.

Senator CANNON. The picture on that?

General McCONNELL. The picture on it.

PROBLEM OF TARGET IDENTIFICATION

Senator CANNON. I won't pursue that further at this point, then.

Along the line of Senator Jackson's questioning, in addition to a better CEP in the targeting, I think we all recognize that one of the biggest problems is the identification of the target itself. Could you tell us what is being done by the Air Force now to improve our target identification, which would in and of itself give us a better CEP than we have now?

General McCONNELL. Well, actually, of course, the best thing to identify a target with is the eyeball. When you can't identify it with that, then we are using infrared and we are using radar. Those are the two new elements which have come in. [Deleted.]

Senator CANNON. Why is that?

General McCONNELL. [Deleted.]

Secretary BROWN. We are doing pretty well with respect to reconnaissance aircraft; that is, the RF-4-C has both of these, and it identifies targets, [deleted].

Senator CANNON. Do you have a sizable R. & D. effort in this area that is giving you a product improvement at this time?

Secretary BROWN. Yes, I think that the RF-4-C capability itself is evidence that we have had a substantial R. & D. capability, [deleted].

General McCONNELL. [Deleted.]

Secretary BROWN. There are other techniques that we are using similar to the kinds that General McConnell has mentioned. [Deleted]. Flashers are also used at nighttime to illuminate the scene and allow the fighters to come in. And of course the forward air controller is a very big use in this. The eyeball doesn't always work too well from a very fast-flying aircraft, as you know. But the forward air controller can fly over the target more slowly and mark it. Then the attack aircraft can hit it pretty well. It is easy to see smoke and the details of the target.

Senator CANNON. Of course, in the jungle area this is quite ineffective.

Secretary BROWN. Under the leaves, it is very difficult to see through the leaves. [Deleted.]

General McCONNELL. [Deleted.]

Secretary BROWN. [Deleted.]

Use of B-26's and T-28's

Senator CANNON. In the South Vietnam operation we have seen the use of a little bit of everything in the use of airplanes. I would like to inquire as to your present situation by going through what we have had there. We initially started with the B-26's and the T-28's. Do we have any of those in use there now?

General McCONNELL. Yes, the T-28's are still in use in Laos, but the B-26's were withdrawn. However, [deleted].

Senator CANNON. But the T-28's are not being used by us?

General McCONNELL. They are being used by the Laotian Air Force.

Senator CANNON. And we ourselves are not using either the B-26's or the T-28's now?

General McCONNELL. The T-28's have been turned over to the Laotian Air Force. [Deleted.]

Senator CANNON. And do you have extra airplanes?

General McCONNELL. We have in Special Forces; yes.

Senator CANNON. That can be used for that purpose?

General McCONNELL. Yes, sir.

SITUATION ON B-57'S

Senator CANNON. What is the situation on the B-57's?

General McCONNELL. [Deleted.] They will have to be supplanted by another type of aircraft as they attrite.

Senator CANNON. With what do you propose to replace them?

PERFORMANCE OF F-4 IN VIETNAM

General McCONNELL. They will be replaced by F-4 outfits.

Senator CANNON. Is the F-4 working out satisfactorily in the rather primitive environment that is used in some areas there?

General McCONNELL. Well, yes, sir.

LOCATION OF F-105 SQUADRONS

Senator CANNON. What about the F-105's? Do you have all of your 105's over there now?

General McCONNELL. No, sir. We have F-105 squadrons back in the United States. [Deleted.] We also have F-105 squadrons in Europe. As you know, we bought some, I guess it must have been over 800 F-105 aircraft. The attrition on the F-105 has been [deleted]. Those F-105's will be replaced——.

OTHER AIRCRAFT

Senator CANNON. And that accounts for your present effort in 66's and F-4's, except——

General McCONNELL. The F-100's.

Senator CANNON. The F-100's and, of course, the miscellaneous C-47's.

General McCONNELL. Yes, sir.

STATUS OF F-5 USE OF A-1'S

Senator CANNON. What is the status of the F-5 experimental project?

General McCONNELL. The status of that is that we have made recommendations to the Secretary of Defense to turn that squadron into a permanent outfit [deleted].

Senator CANNON. Have you made any recommendations concerning acquisition of additional aircraft?

General McCONNELL. And get additional aircraft to bring it up to strength. [Deleted].

The F-100, of course, is also in use over there, and the A-1, the A-1-E and the A-1-H.

Senator CANNON. The A-1's are used principally by the Vietnamese.

General McCONNELL. They are used by the Vietnamese, but we also have two squadrons of the A-1's, about 50.

Senator CANNON. Are those used by the Air Force?

REPLACEMENT OF AIRCRAFT LOST

General McCONNELL. Yes, sir, by the Air Force. And of course the Navy has some, too. As those attrit out, we are going to have to replace them. We don't know what we are going to replace them with yet.

Senator CANNON. But all of these we have mentioned will eventually attrit without new replacements, except the F-4 and possibly some of these additional F-5's, is that correct?

General McCONNELL. Well, yes, the F-4's have been replacing aircraft right now, because it is the only one we have in production in numbers. We could produce more F-5's. We also have established a requirement for some A-7's, which is a new aircraft built rather specifically for close air support.

DELIVERY OF A-7'S

Senator CANNON. And when does that start coming in?

General McCONNELL. We don't start getting the A-7's, I believe, until about [deleted] isn't that right?

General GERRITY. [Deleted.]

Secretary BROWN. [Deleted.]

Senator CANNON. But operational, it would be——

Secretary BROWN. We will have a squadron by the [deleted].

WHETHER ADEQUATE STEPS HAVE BEEN TAKEN FOR AIRCRAFT PROCUREMENT

Senator CANNON. Do you feel that adequate steps are being taken now from the standpoint of aircraft to meet the type of contingency that might arise at some time in the future?

General McCONNELL. [Deleted].

Senator CANNON. But you have taken the necessary steps at this time?

General McCONNELL. Yes, sir; we have taken the necessary steps. We have made the necessary contracts, increased the production rate of the equipment and spare parts.

PILOT TRAINING PROGRAM

Senator CANNON. What about the pilot training program?

General McCONNELL. We have had to increase the production rate of pilots [deleted].

Senator CANNON. What will your pilot production be this year?

General McCONNELL. I think it is about 2,700.

Senator CANNON. Do you propose to raise it above that figure or will that be about it?

General McCONNELL. I think that will be enough.

Secretary BROWN. That will be enough. You see, it is up from about 1,100, I believe, or 1,200.

General McCONNELL. We are also pulling a lot of pilots back.

Senator STENNIS. Also what?

General McCONNELL. Also pulling a lot of pilots back from behind the desks.

CONSIDERATION OF RECALLING INDIVIDUAL RESERVISTS ON VOLUNTARY BASIS

Senator CANNON. We frequently have the question come up of the recall of people within an acceptable age limit who want to come back on a voluntary basis. What is the situation on that?

General McCONNELL. We haven't recalled any yet.

Senator CANNON. Do you propose doing that where people have applied for recall?

General McCONNELL. I don't think we have.

Secretary BROWN. We haven't decided to do that, but it is one of the things we are examining. The decision not to call the Reserves has been explained I think at great length by Secretary McNamara, as being desirable from the point of view of having them available to meet other contingencies. We are examining the question of whether individual volunteers would be accepted for recall. We haven't really seen how that would fit into our program yet, so I can't give you any final answer.

Senator CANNON. While I am sure it is true for other members of the subcommittee, I have had correspondence from individual persons desiring to be recalled in order to help. In some instances they have indicated to me specialized skills. I have gotten the usual form letter back that there is no need to call the reservists and they should be patted on the back for their desire to serve the country, and that sort of thing, which to me is not very practical in some of these instances where obviously we need this type of skill.

Secretary BROWN. If there is some special skill, I think that there may be a particularly good argument for doing it on an individual basis.

Senator CANNON. Thank you, Mr. Chairman.

Senator STENNIS. Thank you, Senator Cannon. Members of the subcommittee, let's see if the staff members have some major questions to ask these gentlemen. Maybe the Secretary and General McConnell will not have to return this afternoon. Ask the major questions you have, if you wish, of either of these two gentlemen.

Mr. KENDALL. I would just as soon withhold my questions until after General Gerrity presents his statement.

Senator STENNIS. And you, too, General Shaw?

General SHAW. Yes, sir, Mr. Chairman.

Senator STENNIS. Are there any other questions for these two witnesses?

Senator Smith, I don't believe you have had a chance to ask questions yet.

Senator SMITH. If I had had a question, Mr. Chairman, I would have asked for the time. Thank you very much. I have no questions.

Senator STENNIS. Thank you.

All right, General, you may stay where you are, if you wish. This is an informal hearing, and we are delighted to have you with us again. You have furnished a copy of your statement in advance, and that has been helpful to us. Will you proceed in your own way? If you wish to insert some of it in the record, you may.

STATEMENT OF GENERAL GERRITY

General GERRITY. I welcome the opportunity to appear before this committee with Secretary Brown and General McConnell. We have submitted the detailed data requested by the committee staff. In addition, I will give you today the status of the major munitions items that are being used in southeast Asia. I will trace the usage for the 6 months' period ending December 31, 1965, and give you our projection of usage, production, and inventory status over the next 18 months.

I would like to reemphasize a point that General McConnell covered. The projected expenditures you will see are identical to the allocation furnished in January to each of the air commanders operating in southeast Asia.

I would also like to expand briefly on General McConnell's comments about the need for management of our assets. This picture of the F-4—chart No. 1—shows the range of items that can be carried by that aircraft. Of course, not all of these items in the quantities you see can be carried at the same time. From the operational point of view, it is necessary to have the right kind of munition for the target assigned. From the logistics point of view, we must furnish a range of items so that the proper munition can be selected. For each type of aircraft, we have provided a selection of the types of munitions that are required. The F-4 and the F-105 have this versatile capability of carrying a wide assortment of munitions. The F-100 has a slightly lesser degree of versatility in weapons selection since it does not use the multiple-loading racks which are designed for the F-4 and F-105. The A-1E and A-1H aircraft can also carry a wide range of munitions. In addition, the requirements for missions in North Vietnam are quite different from those in South Vietnam since the targets, tactics, and environment are different. Sortie rates and munitions expenditures are reported on a daily basis. We analyze these expenditures weekly and monthly in order that the logistics system can meet these varying requirements through our 10,000-mile pipeline.

I believe our pipeline control will be of major interest to the committee. In April 1965 we leased five vessels through Military Sea Transport Service for exclusive use as Air Force munitions carriers.

These vessels load on the west coast, proceed directly to southeast Asia and offload as required [deleted]. Offloading is accomplished in most cases by using landing craft that were obtained from Army stocks. Where possible, we do not use regular berthing and docking facilities since the LCM's are available. We have not had any unreasonable delay in unloading these vessels. We now have 12 vessels operating and by May 1966 will have 15 vessels operating. Each vessel is selectively loaded so that any item can be removed at any location. The commander of the Pacific Air Force specifies the items to be loaded and unloaded and has full control of assets at all times. Our intransit times are running from 45 to 60 days including onload, vessel sailing, and offload times. Because of limited storage facilities at some of our bases in southeast Asia, which we are expanding, we have allowed for up to a 30-day "on-station" time in southeast Asia and have utilized these vessels as floating depots in some cases.

As I discuss individual items of munitions on the charts to follow, certain items will show relatively high expenditure rates in relation to the WRM objectives established for June 30, 1967. This is a function of the type of targets and the objectives in southeast Asia. Our overall WRM objectives are established for each type of munition based on several contingency war plans. These plans vary considerably in scope, and are updated as assessment of possible future contingencies changes. The total munitions inventory against these WRM objectives is made up of types of munitions to cover all probable targets in various parts of the world. As would be expected, the implementation of a contingency plan in one area could result in a higher expenditure of selected items than planned and with little or no utilization of other items. This is exactly what is happening in southeast Asia. The targets available are nearly all personnel and soft targets which do not require expenditure of very many large bombs. The portion of the munitions inventory designed for use against tanks is not employed; some items are designed for heavy troop concentrations which are not encountered in southeast Asia; air-to-air missiles are not currently used because we are not encountering air opposition. The task is to keep all these types of munitions in proper balance in our total WRM package. The committee should not be unduly concerned by the fact that some munitions are being expended at a very high rate in comparison to our WRM objectives for that munition.

A contingency in another area could very well show the reverse to be true, and we would expend munitions at a higher rate for those items currently experiencing minimum expenditures. Accordingly, we maintain this type of balance in our inventory and it provides us with the flexibility for employment against SEA-type targets and the utilization of current types of aircraft. We continue to adjust the WRM levels based on changes in our aircraft force and the most recent combat experience.

I have highlighted only a few of the many variables in munitions management in order to provide the committee with an insight into the complexity in projecting usage, managing production, and controlling the munitions inventory and pipeline. The Air Staff is presently engaged in a nonnuclear study which could change some or all of our present inventory objectives (WRM).

With this background, I would now like to discuss selected items in some detail. As I cover these items, I will point out our plans to

maintain a production base and the relationship of the production base to war reserve stockage objectives. The first of these charts (chart No. 2) covers small bombs in the 100- to 260-pound category.

On this and the following charts, I have graphically reflected the inventory position, acquisition, and expenditures. The trend line on the chart reflects the quarterly ending inventory position throughout the period July 1965 to June 1967. The blue bar shows the quarterly expenditures, and the red bar shows the total acquisition for each quarter. Statistics through December 1965 are actual while data for subsequent quarters are our current projections based on the latest approved programs and planned operations in southeast Asia. These smaller bombs are used primarily by the A-1E and A-1H aircraft in southeast Asia. The Air Force and the Navy have standardized on the Mark 81 250-pound bomb to cover these requirements in the future. As noted on the chart, our inventory position on June 30, 1965, was over [deleted] bombs. Our actual expenditures between July 1965 and December 31, 1965, exceeded [deleted] bombs. These expenditures by the A-1 aircraft were predicted earlier, and actions were started in fiscal year 1965 to acquire additional quantities to sustain an adequate inventory level. Most of our acquisitions in the quarter ending December 31, 1965, were comprised of older weapons. The acquisitions after that period are the result of new production of the Mark 81 250-pound bomb that was initiated last year. As we gain actual experience over the next 6 months, we may adjust the fiscal year 1967 procurement program.

This chart (chart No. 3) portrays the status of the 500-pound bomb. In this case, we have standardized procurement for the modern Mark 82 bomb. This bomb is used by all the tactical aircraft in southeast Asia as well as the B-52's. Our June 30, 1965, inventory position was over [deleted] bombs. We had projected a high expenditure rate of this item, however, and initiated procurement with fiscal year 1965 funds to establish the production base required to achieve the increased acquisitions by quarter as shown on this chart. Although our inventory position will fall to slightly over [deleted] bombs by March 31, 1966, our rapidly increasing production rate will improve our support levels each quarter thereafter through June 30, 1967. Our inventory objective on June 30, 1967, is [deleted] MK-82 500-pound bombs. Since our inventory objective will increase the following year, we will continue to retain a warm production base that can be accelerated to meet any future contingency.

You may wonder why our inventory objective, at the end of the period appears low in relation to SEA quarterly expenditures. It should be recalled when planning an inventory objective or WRM requirement, we are planning for an optimum mix of weapons to be employed by war-plan forces to cover a worldwide target spectrum. SEA targets are not representative of other targets [deleted]. While many of the weapons presently being expended in SEA will continue to be stockpiled and procured for employment in future contingencies, different weapons will also be procured and expended in large numbers if our forces are engaged in other areas of the world. Examples are dispenser munitions, the BULLPUP missile and the WALLEYE which will enter the inventory in the near future. While the 500-pound bomb, as well as the 750-pound bomb, which will be addressed on the next chart, are desirable for the average SEA target they are

not considered as the optimum weapon for many other targets in the world.

This chart (chart No. 4) portrays the status of the M-117 750-pound bomb; one of the most effective and versatile weapons used in southeast Asia by our tactical aircraft and the B-52's. The June 30, 1965, inventory of [deleted] bombs was adequate to support the planned expenditures [deleted]. Increased operations of the tactical forces and the introduction of the B-52 into southeast Asia operations at midyear 1965, however, disclosed that even this large quantity of bombs would not sustain planned operations through [deleted]. Accordingly, action was taken to reinstate the 750-pound-bomb production which had not been active since shortly after the Korean war. The long leadtime required to reestablish production is clearly revealed on this chart, as we do not acquire any 750-pound bombs until [deleted]. We are establishing a substantial production base, however, and although our inventory will be reduced to about [deleted] bombs by June 30, 1966, we will be able to rapidly increase the availability thereafter to cover increasing expenditures in southeast Asia and to increase the inventory to over [deleted] bombs by June 30, 1967. Our inventory objective on June 30, 1967, is [deleted] bombs. Again, we will maintain a warm production base that can be accelerated to meet any future contingency needs. On this chart I have shown, with the dashed line, how additional assets could be made available if production continued at the then existing rate. Should additional assets be required, the decision to continue this high production rate can be made by July 1966 after an updated analysis of expenditure rates in southeast Asia.

This chart (chart No. 5) shows the status of the 500-pound napalm bomb. [Deleted.] Our June 30, 1967, inventory objective for this item is [deleted].

This chart (chart No. 6) shows the status of the 750-pound napalm bomb which is carried primarily by the jet fighter forces.

The status of this item is similar to the smaller napalm bomb just covered. [Deleted.] Our June 30, 1967, inventory objective for this item is about [deleted].

This chart (chart No. 7) shows the status of the CBU-2/CBU-24 dispenser and bomb. [Deleted.]

You will note from the chart that our current inventory approximates our objective of [deleted] for our war reserve. Note also that our projected expenditure rate for this munition remains relatively small. This munition serves as another example of how a worldwide inventory objective for certain munitions cannot be directly compared to expenditures for SEA targets. While worldwide targets demand employment of different types of dispenser munitions, there has been little expenditure of these munitions in SEA due to the nature of the targets and other constraints. We are reviewing this item now for a further buy.

SUBCOMMITTEE STAFF CHARTS ON AIR FORCE AMMUNITION INVENTORIES AND OBJECTIVES

Senator STENNIS. General, if you will, pardon me for a minute before you go into the 2.75-inch rocket. It is important, and we want to get to it. It is almost 12 o'clock and some of the members are going to have to leave in a few minutes. Mr. Kendall and others.

on the staff have prepared a table that they want to interrogate you gentlemen about, while all of you and the members of the subcommittee are here. I want to give Mr. Kendall 2 minutes to raise some of these questions for the information of the subcommittee and the witnesses, too. I do not know whether we can dispose of the answers now but it will at least inform the membership. The charts will be distributed, and we will begin. I had hoped we would not have to ask you gentlemen to come back this afternoon, but I think we will. I hope to run to 12:30, if it is agreeable to the subcommittee.

Senator SYMINGTON. I would like to ask some questions, as long as we have these gentlemen here, with respect to some of the previous testimony.

Senator STENNIS. Very good. I am not trying to abbreviate it. I welcome the questions, and I am sure they do. Could you gentlemen come back this afternoon?

Secretary BROWN. Surely.

General McCONNELL. Yes.

Senator STENNIS. All right, we will count on that, then. Let Mr. Kendall raise these points for the staff and that will get the whole picture before us.

Mr. KENDALL. Thank you, Mr. Chairman. I would like to say that, although we have prepared these four charts, the information on them comes from the Air Force's response to subcommittee questions on the Air Force nonnuclear ammunitions. Incidentally, they did a tremendous job in furnishing the information, as is indicated by the size of the book.

In one instance, which I will comment on, the figures are taken exactly from the book. In one case I had to add to their figures. The first chart shows the war readiness materiel objectives versus the inventories for selected items for [deleted]. With respect to 2.75-inch rockets, you will see that on [deleted] the inventory is substantially less than the inventory objective, but they almost get well by [deleted].

The same situation is true with reference to the 20 mm. cartridges except that again their position improves by [deleted], but the WRM inventory objective is not met.

The 750-pound bomb—

Senator STENNIS. Pardon me, this is worldwide?

Mr. KENDALL. All of this is worldwide; yes, sir. The 750-pound bomb, Mr. Chairman, shows just what these gentlemen have been discussing. The inventory on December 31, 1965, was [deleted], and by June 30, 1966, it will have declined to [deleted], and of those, about [deleted] will be in Europe and some [deleted] available for southeast Asia.

Again the June 30 figures show that they are climbing back up to meet their war readiness material inventory objective. The 500-pound bomb shows the same trend. The inventory on June 30, 1966, is [deleted]. Again it climbs back up by [deleted].

The same thing is generally true with reference to the flare, the MK24 flare, except the climbing inventory is reflected by June 30, 1966.

The second chart is the Pacific Air Force and southeast Asia war readiness material inventory objective versus inventory. Again for

the same type of ammunition. All of the dates shown on this are June 30, 1966.

The first two columns cover the entire Pacific Air Force, including southeast Asia. The second column is southeast Asia only. The third column is the Pacific Air Force including southeast Asia.

The first figures on the left-hand side are the only figures which are not taken directly from the material furnished by the Air Force. They furnish separately the inventory requirements for Pacific Air Force and the inventory requirements for southeast Asia, and all I have done is add them together. [Deleted.]

Now the last column is arrived at simply by subtracting the southeast Asia inventory objectives and actual inventories out of the Pacific theater as a whole. You will see that on 20-millimeter cartridges the objective will not be met substantially, although the [deleted] inventory objective for southeast Asia, [deleted], will be met. That will leave an inventory shortage in Pacific Air Force excluding southeast Asia of about [deleted].

Senator SYMINGTON. [Deleted.]

Mr. KENDALL. [Deleted.]

Senator SYMINGTON. Thank you.

Senator STENNIS. In fact it is less than [deleted] percent.

Mr. KENDALL. Yes, sir. On the 750-pound M-117 bomb, you will see that this again is an item which is shown to be in trouble in the entire Pacific Air Force objective which is [deleted], the inventory is [deleted], and, incidentally, that entire inventory is in southeast Asia as against [deleted] inventory objective for southeast Asia of [deleted], so for the Pacific Air Force as a whole, excluding southeast Asia, the inventory is [deleted], and on [deleted], they will have a [deleted] balance. The [deleted], incidentally, is about [deleted] days of supply at the current rate of usage.

The same picture with reference to the 500-pound bomb as against inventory objective for PACAF as a whole [deleted]. The southeast Asia inventory objective is [deleted], and they will have an inventory on [deleted] of [deleted], which is the entire Pacific inventory, leaving again a [deleted] balance in Pacific Air Force excluding southeast Asia.

At the current usage the [deleted] pound bomb is about [deleted] days of supply, and the same picture holds true with reference to the flare, the M-24 flare. Again you take out the inventory for southeast Asia, the Pacific Air Force inventory excluding southeast Asia shows a [deleted] balance.

Senator STENNIS. Does anyone want to ask some questions about that while we have it before us, or do you want to put all of it in the record?

Mr. KENDALL. I would like to put all of them in the record, Mr. Chairman.

The next chart is the U.S. Air Force Europe WRM inventory objectives versus the inventory. As you will see, the 2.75-inch rocket is not in too bad a shape, and by [deleted] it substantially meets the objective. The 20-millimeter cartridge is considerably short there against an objective of [deleted] on [deleted]. The same figures for [deleted] it will build up some.

The 750-pound-bomb-inventory situation remains constant, at least to [deleted]. An objective of [deleted] versus an inventory of

[deleted], and then by [deleted] it will have built up to [deleted] although still short of the inventory objective of [deleted].

Senator STENNIS. This is all Europe.

Mr. KENDALL. This is all Europe; yes, sir. With respect to the 500-pound bomb, the 1,000-pound semi-armor-piercing bomb and the flare parachute inventory in Europe was a [deleted] balance on [deleted], will be a [deleted] balance on [deleted].

General McCONNELL. [Deleted.]

Mr. KENDALL. [Deleted], thank you, General, and will have recovered and they will have met their objective by [deleted].

The final chart, Mr. Chairman, shows the same information for the continental United States. Again you will see—

Senator SALTONSTALL. What is the fourth chart again, please?

Mr. KENDALL. The situation with respect to stocks in the continental United States.

Senator STENNIS. Here at home.

Mr. KENDALL. Here at home; yes, sir. The 2.75-inch rocket was about [deleted] below the inventory requirements on [deleted]. It goes down to [deleted] on [deleted] and then by [deleted] it will have built up some.

Senator STENNIS. Pardon me right there. That means that the units here in the United States are short these many rockets, according to the inventory objectives of this particular rocket.

Mr. KENDALL. The supplies in CONUS I believe are more in the nature of a reserve; are they not, General?

General McCONNELL. That is right, and for training purposes, of course.

Mr. KENDALL. Training purposes and strategic reserves.

General McCONNELL. Yes, sir.

Senator STENNIS. But [deleted] from this [deleted] you will still be short.

General McCONNELL. It will still be short. Mr. Chairman, we intended to reach this inventory objective for all these munitions. When we recently established a new inventory objective of WRM in each category of munitions for [deleted] sorties as against [deleted] sorties for [deleted] days. We intend to meet this objective as of [deleted]. We are not behind our program actually. We will not meet the inventory objectives in this time period.

Secretary BROWN. The WRM change of course took place late last year, and was scheduled to be accomplished with fiscal 1967 funds for the end fiscal [deleted]. I had another question on this chart. Do you show the pipeline for the special express munitions anywhere?

Mr. KENDALL. No, sir.

Senator STENNIS. Are you through putting in what you want in the record? Just finish that.

Mr. KENDALL. I just want to point out that the CONUS inventory of 750-pound bombs will be [deleted].

General McCONNELL. That is right.

Secretary BROWN. Right.

Senator STENNIS. Why not put all of this in the record?

Mr. KENDALL. Yes; I would like to put in all four charts.

Senator STENNIS. Without objection, these four charts will go in the record.

(The charts referred to are as follows:)

[Deleted.]

Senator STENNIS. Do you want to give these gentlemen a chance to respond?

COMMENTS ON SUBCOMMITTEE STAFF CHARTS

Senator SYMINGTON. Mr. Chairman, I am much impressed with the work the staff has done on these charts, and commend them for them. I hope the Air Force and General Gerrity, who is an old China hand at this business, will give them careful attention.

If what the charts show is correct, we have been doing a lot of cannibalization. If we have that is not exactly in accordance with some of the testimony, not from you but from others, with respect to cannibalization. I think these charts are very significant.

Senator STENNIS. I thank the Senator. That is why I wanted to get this out now. I thought there would be some special interest in it by the membership and by our witnesses, too. It graphically illustrates some things that have been kind of hazy before. Mr. Kendall, do you want to ask some questions specifically on this? Then we will let these gentlemen respond in any way they wish.

Mr. KENDALL. No, sir. I think the figures speak for themselves. They are taken from the information provided us by the Air Force, and if there is anything that should be added to it by way of clarification or explanation, that is the purpose of putting them in the record and giving them to you.

With regard to your Special Express, Mr. Secretary, I did not check all of these items. But, for example, for the 750- and 500-pound bombs, I totaled them, and what I totaled was the worldwide inventory, as shown on the first chart. Unless you take the Special Express out of your worldwide inventory, that would not be a factor at least for these two items.

Secretary BROWN. I believe that these do present a very well-calculated and well-thought-out picture, and I think that it is an important part of the picture. It is not, as you say, the whole picture. If you will look at the total situation, that is shown on the first chart, and if you will look at the June 1966 part of it, they show that we don't have as many 750-pound bombs as we would like to have.

If you go to June 1967, what you find is that we are well up toward the WRM worldwide on each of these. We have not achieved it in every case, partly because it wasn't planned to achieve it until June 1968, partly because WRM itself has changed.

If you look at the 20-millimeter cartridge line, for example, you find that the WRM objective has gone up by [deleted], and it takes some time to readjust to that. But overall the inventory will be quite close to the WRM inventory objective, and we don't want to be exactly equal in every case, because in many cases we would rather have the lines going, and not have the full objective and reach the full objective, turn off the line and then find later on that we get into a contingency where we would rather have those lines going.

So that worldwide I think the figures do provide a good picture and a complete picture, and I think a reasonably favorably picture.

Senator SALTONSTALL. Mr. Chairman, may I ask a question?

Senator STENNIS. All right, Senator.

OPINIONS ON AMMUNITION SHORTAGES

Senator SALTONSTALL. Mr. Brown, aren't there two important matters to determine from these figures? First, do you gentlemen believe that they are correct and, second, if they are correct, where the war requirement materials are larger than the inventory on any specific dates, which ones give you concern? In other words, where should we concentrate our attention? It seems to me those are two important questions to determine.

Secretary BROWN. I think that these figures on page 1 are not only correct but reflect an accurate picture, which is not quite the same thing, but in this case they do both. And I think in those cases where we are below, for the reasons which I have indicated, I don't think it presents a serious problem.

What could be said is we should try to achieve fully WRM inventory objectives on June 1967 instead of June 1968. I would doubt that, because WRM has changed during the last year, and it will change again during the next year. We would rather keep the lines going and be a little bit below the WRM than try to reach the WRM exactly and shut the lines off. So I don't think that there is any figure on page 1 that particularly bothers me.

I think that you may have a somewhat different opinion, but I have given the reasons for my opinion.

Senator SALTONSTALL. Mr. Chairman, it is our responsibility on the Preparedness Committee, as I understand it, to see that we are prepared.

Secretary BROWN. Right.

Senator SALTONSTALL. And what we want is your opinion as to these shortages, or where the inventories fall below the requirements, and ask what is your concern with relation to them. Then it is up to us to make a decision.

Secretary BROWN. Yes. I would say that my reaction is that I am not concerned with any of the figures on this first page for the reasons I have given.

Senator STENNIS. Mr. Secretary, I am glad that you can say that, but it certainly does prove how generous the problems have been to which we have given so much time in the last 12 to 15 months. Apparently we are going to have a little more time before they can bring things to a crisis over there.

Secretary BROWN. I was really speaking of the figures in the last column. I am concerned about the June 30, 1966 figures, but there is nothing that you or we can do about those now. It is too close to us.

Senator STENNIS. My idea, gentlemen, is to give you a chance to respond now with anything further you wish concerning these figures, and the individual Senators can ask questions.

Senator SYMINGTON. Mr. Chairman, based on your comment, I would ask a question.

Senator STENNIS. All right, Senator.

WHETHER ATTITUDE TOWARD RED CHINA INFLUENCED BY LACK OF AMMUNITION

Senator SYMINGTON. By any chance is our nervousness about irritating the Chinese based on the fact we didn't have enough ammunition?

Secretary BROWN. I don't think that that has anything whatever to do with it, Senator Symington. I think that we don't want, if we can avoid it, to get into a much bigger war, but that is not because we don't have enough ammunition.

Senator SYMINGTON. You see the point of my question?

Secretary BROWN. Surely.

Senator SYMINGTON. Maybe the reason we did take so much time was because we knew we didn't have enough to do the job until we built up the stocks.

Secretary BROWN. We had more conventional ammunition 6 months ago than we have now, so clearly that wouldn't explain any restraint during the past 6 months.

Senator SYMINGTON. But, if you had done a more complete job, as I believe you should have 6 months ago, then you wouldn't have any ammunition left at all; but I won't pursue it.

Secretary BROWN. I think I disagree because the question there is what targets you put it on, not how much does it take.

General McCONNELL. That is right.

Senator SYMINGTON. Did you have anything to do with target decision?

MUNITIONS AVAILABLE FOR OTHER CONTINGENCIES

Senator STENNIS. Secretary Brown, did you want to say something further about this?

Secretary BROWN. I did want to say something about the other charts, because I think there again while I have no reason to not believe the accuracy of the figures, I think they are probably accurate, I think that here the picture presented is perhaps not as complete. These other charts do not include the pipeline, the Special Express, and the inventory objective that you have at any particular time in Korea versus southeast Asia versus Europe, given a total inventory worldwide can, should, and does depend upon the military situation.

Should the military situation change, we would change the inventories among theaters or subtheaters. [Deleted.]

I guess what I am saying, Mr. Chairman, is that these other charts leave out a component of the total inventory. They show that if you break down the total inventory and the total inventory objectives, which are fairly close in total, into sufficiently small components, you will be able to show that they don't balance.

That is, there are some extra munitions at sea which don't appear here, and which will be sent to whichever theater requires the munitions in fact, that is whichever theater happens to have a conflict going on. We have [deleted] tons in CONUS and we have about [deleted] tons in Europe, and we have how many in the Special Express pipeline?

General GERRITY. There would be about [deleted] in that.

General McCONNELL. [Deleted].

Secretary BROWN. Right, and we would plan to redistribute those which we could do rather quickly, should another contingency arise. At the moment there is no question that southeast Asia is the active contingency. That is what we want, to meet those requirements, and we do, and we want to have extra munitions on the way to meet the consumption, and we do.

Senator STENNIS. I believe you have made that clear. How much time is involved in this pipeline we are talking about?

Secretary BROWN. It depends. Well, it takes us between 45 and 60 days to get material from the CONUS to southeast Asia by Special Express. [Deleted.]

Senator STENNIS. All right. While we have this attendance, let's give General McConnell a chance to say anything special he wishes to about these charts.

CANNIBALIZATION OF MUNITIONS

General McCONNELL. I don't have any comments to make. I think the Secretary has brought it out very well. I would like to address myself to Senator Symington's comment about the fact that there has been cannibalization. We did not say there hadn't. In fact the Secretary of the Air Force brought it out that we had moved weapons from other places [deleted] into southeast Asia. But we have not moved them out of Europe except for very small amounts.

Senator SYMINGTON. You didn't say so, but some other people have.

Senator STENNIS. Yes.

General McCONNELL. That there hadn't been cannibalization?

Senator STENNIS. Let's see if General Gerrity has a comment to make on these charts now while we are all here.

General GERRITY. No, sir. I haven't anything to add to what the Secretary said.

SUBCOMMITTEE HEARING SCHEDULE

Senator STENNIS. All right. We have a few more minutes. If it is agreeable with the subcommittee we will recess at 12:30 and come back at 2:30. There may be some voting this afternoon. We could meet over in the Capitol, but we have these charts here, the projector and these weapons displays. I would like for us to try to meet here. The staff has quite a volume of material here, too.

General, do you wish to proceed now with your statement? You were down to the 2.75-inch rocket. I thought maybe you could cover that, put the rest of it in the record, and then we could recess.

GERRITY STATEMENT RESUMED

General GERRITY. All right, Mr. Chairman.

This chart (chart 8) shows the status of the rocket motor which propels a variety of 2.75-inch warheads. These warheads come in a variety. In this case, the motor is the pacing item in support of the warheads used in south Asia.

Our inventory of over [deleted] rocket motors on June 30, 1965, appear adequate to support all southeast Asia requirements plus our inventory objective. However, the introduction of new 2.75-inch warheads, such as the new fragmentation head, proved highly effective in southeast Asia operations and the requirements for rockets increased and remained at a high level after July 1965. Therefore, procurement of the motor was included in our fiscal year 1966 program and production deliveries will start during this quarter. Our inventory level will not improve until after [deleted] when the production quantities will exceed planned expenditures. During [deleted]

however, production limitations will not permit an allocation of rocket motors to meet the quantities of rockets desired by our southeast Asia units. Meanwhile, general-purpose bombs, napalm and other type weapons must be substituted for some 2.75-inch rocket requirements. We plan to use about [deleted] 5-inch rockets of Korean war vintage per month to cover a period of A-1 aircraft rocket requirements. Our June 30, 1967, inventory objective for this motor is about [deleted],

This chart (chart 9) shows the status of the Mark 24 flare which is used extensively in night operations. The increasing expenditures projected for this item are directly related to the growing activity of the ground forces in the Republic of Vietnam.

As noted on this chart, our acquisitions increase each quarter through September 30, 1966, and then remain level through June 30, 1967. Our production stays ahead of planned expenditures and enables us to build our inventory to about [deleted] flares by June 30, 1967. Our inventory objective at that time is about [deleted] flares; however, we will have a going production base that can be accelerated to meet contingency needs.

This chart (chart 10) shows the status of the 20-millimeter cartridges fired by the M-39/M-61 guns used by the F-100, F-105, F-4C and B-57 aircraft. Fortunately, our inventory of over [deleted] on hand on June 30, 1965, was adequate to support the rapidly increasing expenditures planned in support of southeast Asia operations. Action was taken with fiscal year 1965 funds to establish a production base that will build to a level of over [deleted] rounds per month by [deleted]. As noted in this chart, our acquisition rate of 20-millimeter cartridges will exceed planned expenditures before June 30, 1966, and our inventory levels will increase progressively after that date. Our June 30, 1967, inventory objective is over [deleted] rounds of 20 millimeter with about [deleted] on hand at that date. Our production base at that time, however, will assure a capability to cover contingency needs and continue the buildup of our inventory objective.

Senator STENNIS. All right, gentlemen, we thank you, and we will be back at 2:30. We will finish up then.

(Whereupon, at 12:25 p. m., a recess was taken until 2:30 p.m. the same day.)

AFTERNOON SESSION

Present: Senators Stennis (presiding), Symington, Cannon, and Smith.

Senator STENNIS. The subcommittee will please come to order. General, I believe you had a further statement.

TESTIMONY OF HON. HAROLD BROWN, SECRETARY, AIR FORCE, ACCOMPANIED BY GENERAL JOHN P. McCONNELL, CHIEF OF STAFF, AND LIEUTENANT GENERAL T. P. GERRITY, DEPUTY CHIEF OF STAFF, SYSTEMS AND LOGISTICS—Resumed

General GERRITY. Sir, I just have about two more pages. Do you wish me to proceed?

Senator STENNIS. First, Senator Symington, we will call on you. You said you have a special matter. We will all question the Secretary and the Chief of Staff first, then let them go. Suppose we do that now, General Gerrity.

General GERRITY. All right, sir.

Senator STENNIS. Let's have your questions now if we may, Senator Symington, for the Chief of Staff and the Secretary.

DISCUSSION ON BOMBING AND MINING HAIPHONG

Senator SYMINGTON. Thank you, Mr. Chairman. Mr. Secretary, I don't want to be persistent, but there seems to be a difference of opinion as to what the effect would be if we either mined or bombed the docks of Haiphong; and inasmuch as this involves ammunition, my first question would be, Do we have enough ammunition to attack the docks?

Secretary BROWN. Yes, there is no question about that I don't think.

Senator SYMINGTON. Mining, as I understand it, was recommended by General Taylor but not approved.

As I see it, because of the accuracy of the bombing we do, we would not be destroying civilians, unless they were actually walking on or near the docks. I would ask General McConnell, is there any problem about accurate bombing of docks that is not characteristic of bombing other things?

General McCONNELL. No, sir, Senator, there is not anything. Undoubtedly if there was some foreign shipping tied up there and we wanted to do a good job of destroying the docks, we would probably do some damage to foreign shipping.

Senator SYMINGTON. Mr. Chairman, these witnesses are under oath, are they not?

Senator STENNIS. That is correct. That is the general rule.

Senator SYMINGTON. I mention that because these two are men of highest caliber and I have always felt putting people under oath protects them.

Senator STENNIS. That is the main reason we do it.

ARTICLE ON CONGRESSIONAL STAFF BRIEFING ON VIETNAM POLICY

Senator SYMINGTON. I would read from an article from the Washington Star which distressed me. Mr. Chairman, I ask unanimous consent to put this article in the record at this point.

Senator STENNIS. Without objection.

(The article referred to is as follows:)

[From the Washington Star Mar. 11, 1966]

U.S. RULES OUT MINING, BOMBING OF HAIPHONG

Administration officials today ruled out the mining or bombing of the Communist port of Haiphong in North Viet Nam on grounds it would increase the risk of conflict with Red China.

Some 200 congressional staff aides attending a briefing at the State Department were told that the Defense Department would not recommend action against Haiphong now.

Some flexibility was retained, however, to change targets.

Officials addressing the congressional aides spoke under rules which did not permit them to be identified by name.

The meeting was part of an administration program led by Vice President Hubert H. Humphrey, Secretary of State Dean Rusk and Secretary of Defense Robert S. McNamara to keep congressmen and their aides fully informed on administration thinking.

Gen. Maxwell D. Taylor, former ambassador to Viet Nam has advocated that Haiphong harbor be mined.

Administration officials said that the three objectives of the United States in bombing North Viet Nam were to increase morale in the South, reduce the flow in supplies and increase the cost of delivery of weapons to Communists in South Viet Nam, and show that North Viet Nam must pay a price for its continued efforts to take over the South Viet Nam government.

Mining at Haiphong or even bombing of Hanoi would not contribute substantially to these objectives, the officials said.

Communist China, the officials continued, is supplying at least 80 percent of the weapons and supplies used by the main force of Viet Cong guerrillas and 100 percent of the weapons used by North Viet Nam regulars now in South Viet Nam, and the Soviet Union has provided aircraft and surface to air missiles.

SOURCE, ROUTE, AND QUANTITY OF VIETCONG SUPPLIES

Senator SYMINGTON. "Administration officials today ruled out the mining or bombing of the Communist port of Haiphong in North Vietnam on grounds it would increase the risk of conflict with Red China. Some 200 congressional staff aids attending a briefing at the State Department were told that the Defense Department would not recommend action against Haiphong now. Some flexibility was retained, however, to change targets. Officials addressing the congressional aids spoke under rules which did not permit them to be identified by name."

This was said to 200 administrative assistants. Then it goes on:

"Administration officials said that the three objectives of the United States in bombing North Vietnam were to increase morale in the South, reduce the flow in supplies, and increase the cost of delivery of weapons to Communists in South Vietnam."

Again, the second point was "reduce the flow in supplies." Then, they were told that the "Mining at Haiphong or even the bombing of Hanoi"—nobody is saying anything about Hanoi—"The mining at Haiphong would not contribute substantially to these objectives."

In other words, it would not reduce the amount of military supplies now going down the Ho Chi Minh trails. There is contrary testimony before this subcommittee.

The implication is an attack of that character would be ineffective because there was not much coming down the Ho Chi Minh trail. Will you comment Mr. Secretary?

Secretary BROWN. I think that you have hit on a critical question, Senator Symington. How much is coming down from North Vietnam into South Vietnam, and there are various intelligence estimates of this.

They range from as little as 8 or 10 tons a day to an estimate that during calendar 1966 the anticipated North Vietnamese and Vietcong military in South Vietnam will require in the order of 100 tons a day.

These estimates have been made on the basis of assessments of how much it takes to support a Vietcong or a North Vietnamese soldier, not on the basis of observations. So it remains very much a matter of opinion. Until recently I had been inclined to believe these numbers; and if you believe these numbers, they are sufficiently small, so that they are only a very small part of the total amount of material that is coming into North Vietnam.

Senator SYMINGTON. Where is it coming from?

Secretary BROWN. It is coming from China, most of it, we believe.

Senator SYMINGTON. How is it getting there if it is not coming through the Haiphong Harbor?

Secretary BROWN. I believe—and again I don't have good evidence on this; I just go on the basis of the intelligence reports that I read—I believe that a substantial fraction of it is coming down by road and railroad from China.

Some of it may be coming into Haiphong Harbor. I think again, on the basis of the intelligence reports that I have read, not a lot of the ammunition is coming through Haiphong Harbor on Soviet ships. Most of the POL is coming that way I believe. I believe most of the POL is coming through Haiphong Harbor, and, of course, the North Vietnamese are using trucks which require fuel to get through Laos and down into South Vietnam.

Senator SYMINGTON. Mr. Chairman, I don't want to take much time on this, but it worries me.

Senator STENNIS. I think it is important. I know it is of interest to all of us.

Senator SYMINGTON. Thank you, Mr. Chairman, because if by chance they did allow the Air Force to do the type and character of bombing all Air Force experts would like to do against more meaningful military targets, then we are going to need a lot more ammunition, as Senator Smith remembers so well, when I was on her committee in 1953. What percent would you say is coming down, what percent? You say a small fraction is coming through Haiphong. How much?

Secretary BROWN. I don't think more than a quarter of the ammunition is coming through Haiphong.

Senator SYMINGTON. It doesn't make any difference, whether ammunition or food. You can't fire guns unless you eat, and you can't fire guns unless you have ammunition; so what difference does it make? Each component shipment is essential to the whole.

Secretary BROWN. Most of the food that the Vietcong and North Vietnamese in South Vietnam are eating, again, according to the intelligence reports—and these I believe—come from South Vietnam, from areas under the Vietcong control.

Senator SYMINGTON. So is it fair to say you feel the harbor of Haiphong is relatively unimportant because of the small amount that comes from it down over the Ho Chi Minh Trail?

Secretary BROWN. If the amount is as small as the intelligence reports say.

Senator SYMINGTON. Senator Thurmond asked how much comes down through the Ho Chi Minh Trail. This is the answer of the Chairman of the Joint Chiefs. So my earnest request is to get your ducks in a row; if you don't, it is difficult for us to try to defend the policy of the administration. [Deleted.]

Other people have said [deleted] it wouldn't really matter whether we bomb the harbor or not, or take it out with mines. That is certainly what these 200 men were told off the record.

I think we ought to have administration agreement here, because many feel that airpower is being unfairly criticized because you all don't want to do anything, because in turn you are afraid of what Red China might do. I am one who does not think Red China should set the foreign policy of the United States. [Deleted.] We have had [deleted], we have had two [deleted], and one [deleted].

It might be [deleted] if we took out the meaningful military targets in North Vietnam.

I know you are doing exactly what you think is right, but I would hope we get some clarification on this issue. As a common citizen, it worries me in an executive session with us the Chairman of the Joint Chiefs of Staff says [deleted]. Then you have a meeting of high State Department and defense officials—not named—who say it wouldn't do any good to bomb the docks at Haiphong, because what goes through there is negligible.

If the American people are misled, this whole situation is going to take a radically different turn, in my opinion.

Now, Mr. Chairman, I would present to you and the committee, why this to me is such a ridiculous line of syllogistic reasoning. You have here on this map the 17th parallel. Here you have Vinh. Here is where [deleted]. But the point is here is the harbor at Haiphong. Secretary Brown thinks the main amount coming from China is not coming over the railroad to Manchuria where most industry of the Chinese is, but coming from west to east, which I just don't understand.

We haven't touched the railroad, which goes from the industrial part of China over to Hanoi; that is since the resumption of the air attacks on North Vietnam.

But in any case, look what an incredibly more simple problem it is to go from Red China to Haiphong by boat, just simply go from this border of China to the harbor of Haiphong. It is just over 100 miles. To me justifying not taking out the docks because little or nothing goes through them is getting really ridiculous.

I am glad the Chairman of the Joint Chiefs stood up and said [deleted] although I was told a figure out there of perhaps 80 percent. We don't bomb the harbor, or mine the harbor of Haiphong, take it out; I would hope we would tell the truth, that we were afraid of the Red Chinese, and not say it was because the Air Force was, by implication, inefficient or nothing was coming through on this easy route from Red China.

There is one other point here I would bring up. What kind of a weapon do you use for defoliation?

AIRCRAFT AND DEFOLIANT USED IN DEFOLIATION: EXTENT OF DEFOLIATION

Secretary BROWN. What is used for defoliation is the C-123, which carries weed killer, which is what defoliant is. It is the same kind of thing that is used to defoliate shrubbery along the railroad tracks.

Senator SYMINGTON. Is it a spray?

Secretary BROWN. It is a spray; yes, sir.

Senator SYMINGTON. It is to the point—

Secretary BROWN. Well, 2-4-D is what it is, and 2-4-5-T, which are the same things used to kill weeds in lawn.

Senator SYMINGTON. Senator Mundt said to the Secretary of Defense [deleted]. Is that still true?

Secretary BROWN. [Deleted.]

Senator SYMINGTON. Are you sure?

Secretary BROWN. I will check it for the record.

Senator SYMINGTON. Will you check it for the record?

Secretary BROWN. I am morally certain that that is so.

Senator SYMINGTON. The reason I ask is that this morning there was a lot of discussion of how much more we were bombing in South Vietnam than Korea; but target permission is rather misty. I watched some briefings, saw them take off [deleted] and I asked, "What did you hit?" Someone said: "A lot of leaves."

Wouldn't it be easier to know you were spending the taxpayers' money more efficiently if you defoliated some, rather than going in blind to these presumed targets?

Secretary BROWN. Yes; I think so, and that is why very extensive defoliation has been carried out.

Senator SYMINGTON. That is no longer——

General McCONNELL. [Deleted.]

Senator SYMINGTON. It is not?

General McCONNELL. No, sir.

Senator SYMINGTON. But it was at the start of these hearings.

General McCONNELL. I am not sure that it was. I don't know that it ever was.

Secretary BROWN. I think it may have been at one time.

Senator SYMINGTON. I quote the Secretary of Defense: [Deleted.]

Secretary McNamara said it was being done, and gave us the reason.

Do you believe that if we bombed the more meaningful targets, General, in North Vietnam, it would improve our position as to what is received in South Vietnam?

General McCONNELL. Yes, sir; I think it would.

SYMINGTON POSITION ON VIETNAM STRATEGY

Senator SYMINGTON. But the Secretary of Defense told us: [Deleted].

I have not met anyone expert in the application of air power but who feels it would be a tremendous contribution to the reduction of casualties in South Vietnam to knock out the more meaningful military targets in North Vietnam; therefore I take direct issue with my good friend, the Secretary of Defense.

Second, I would certainly try to use more defoliation. [Deleted.]

Third point, my final point, whether it is 2 pounds per hundred men squared by x minus 6, or whatever, if you would turn loose our pilots off the carriers [deleted] and let them hit targets that really meant something instead of barracks and buses and oxcarts, you would change the whole course and tenor of this war.

There have been statements about the fact our bombing has had a tremendous effect; tremendous effect on the morale of the North Vietnamese.

My opinion is we have had very little effect on the morale of the North Vietnamese because we haven't really utilized airpower. If we really want to get the North Vietnamese to the conference table, why don't we really use airpower, instead of first saying it wouldn't do any good, and then saying what we have done in this feeble way, has been tremendously successful?

Mr. Chairman, that is my position.

Senator STENNIS. Thank you, Senator.

Senator SYMINGTON. There is direct contradiction of thought in such testimony. I am mixed up, I have talked to Senator Cannon, who knows more about air power than I, based on his record, and to friends of mine who have retired.

But worse, the American people are mixed up as to what the Air Force and Naval Air really could do if they would take the restrictions off and let them go to work on more military targets. I believe you would save the need for at least 100,000 ground troops who otherwise must go to South Vietnam, and you would save a great deal of casualties.

You would need to draft a great many less people out of the colleges and law schools, men with families who didn't expect to be drafted.

Without the declaration of an emergency you cannot get at the pool of 600,000 in 6 months—young men who thereby obtain a free ride, you might say. We know the Reserve story; and, there are going to be a great many relatively older people forced into South Vietnam by law, who don't want to go, especially if this Far East development is not serious enough to declare an emergency. If there is a chance of preventing tens of thousands of people, who are now going to be drafted from being drafted, why don't we try it? No emergency and so forth, why don't they do it?

What has anyone to lose? If we are going to drop these bombs in these heavy quantities so expensive for the people of the United States, again, why don't we drop them on something meaningful instead of an empty barrack or a bus?

I appreciate the Chair letting me make these observations this afternoon, because they tie up closely with this whole question of shortages.

EFFECT OF BOMBING NORTH VIETNAM

Senator STENNIS. They certainly do. You have made a good statement and asked good questions. General McConnell you might have expressed yourself in part about the extent of this bombing.

Senator Symington said in his statement that it had not had any effect. He was quoting someone else. What is your opinion about that, General? You fellows know how to appraise these matters.

General McCONNELL. That it has not had any effect?

Senator STENNIS. Yes, Senator Symington disagreed with that, but he is quoting someone who said it had not had any effect, or no appreciable effect.

General McCONNELL. I think it undoubtedly has had some effect. It is very difficult to measure. I don't know, certainly as far as the bombings are concerned, it hasn't brought the North Vietnamese to the conference table. They haven't decided to come to the conference table.

I am certain though that you can't put that many bombs down, as we did on the lines of supplies and on the lines of communications prior to the lull in the bombing in December and January, without considerably disrupting the way people have to live and operate in any country. As a result of it we know that, when we did stop bombings for a while, they went to work again during daylight hours. People went back to their own businesses, their own jobs

that they were continuously doing, rather than having to be pulled off those jobs to fix bridges, repair things, work only night and move things only at night.

So it certainly disrupted them to some extent. I think that gives you my opinion of what the effect is. [Deleted.]

Secretary BROWN. The estimate is that on the order of 50,000 North Vietnamese have had to work on the roads in North Vietnam and in Laos to keep supplies coming. This, it seems to me, is a very substantial effect, and it shows that airpower can have, and has had, a big effect.

And there is also intelligence evidence to the effect that in the areas that have been bombed in southern North Vietnam, the morale has been hurt, the people are suffering privation, which obviously hurts their war effort.

With respect to whether past bombing or expanded bombing will reduce the flow into South Vietnam to some specific number, that is much harder to say. In my opinion if it really only takes [Deleted.] tons a day to support all the Vietcong and all the North Vietnamese in South Vietnam, I don't know of a way to do enough bombing to prevent [Deleted.] tons a day from coming in.

If 150 tons is the right number, and that is the estimate of what it would take to support the North Vietnamese and Vietcong at the anticipated rates for the numbers that are expected to be there in calendar 1966, then I think that at least the bombing, even as presently carried on, would make that much harder; and it might set a limit there.

If, as I am beginning to think, they may need very much more in the way of supplies than has been postulated, then I think that the present course is already having an effect, because I think that the present course of bombing does limit them to well under, say, a thousand tons a day, which is only a drop in the bucket, compared to what we would need to support that number of people in South Vietnam.

I think that further bombings of the north would impose further limitations and reduce the flow still further. But I can't conceive of any bombing that would reduce the flow below 10 tons a day.

However, the Vietcong may not have read these intelligence reports, and so they may not realize that they are supposed to be able to get along on 10 tons a day; and the large amounts of stocked supplies that the Army has been running into recently on its search-and-destroy missions raise a question in my mind as to whether the supply rate has not been much bigger than these intelligence reports say. But I can't be sure.

Senator STENNIS. All right, thank you again, Senator Symington.

Senator Smith, do you have any questions?

Senator SMITH. I have no questions.

Senator STENNIS. Senator Cannon.

EFFECT OF CLOSING OFF HAIPHONG

Senator CANNON. Yes. Mr. Chairman, I don't think we had an answer to the point that Senator Symington raised, and I would like to see if the Secretary has any answer to it, as to why we have these widely divergent views on the effect of closing off Haiphong. You indicated that you think 25 percent of the supplies are perhaps coming through there. Did you say 25 percent of munitions?

Secretary BROWN. Of munitions, and I think the number General Wheeler may have been referring to may have included fuel, total supplies, food and everything else.

Senator CANNON. Let me ask you this then. Do you agree with the statement that [deleted] of the munitions, in the sense of supplies necessary to carry on the war effort, are coming in through Haiphong?

Secretary BROWN. If you include fuel in that, I think that that is likely to be a correct estimate. But I should add that the amounts of material that are coming in either through Haiphong or through the railroads are much larger than what the current intelligence estimates say are needed to support the amount, the war that is going on in South Vietnam.

Senator CANNON. They would have to be, because if you had x at that point, you would certainly have x minus something at the point that it is to be used.

Secretary BROWN. That is true for fuel. I think it is less true for ammunition.

Senator CANNON. Well, it would be less true for ammunition, but for the necessary supply to carry on the total war effort, which they are required to bring in, obviously they would certainly get down to South Vietnam with much less than what they brought into Haiphong.

Secretary BROWN. That is right.

Senator CANNON. And so if Haiphong were isolated, this would at least put that much greater burden on them some place else.

Secretary BROWN. That is certainly true, and I think that the question then becomes, could they support that burden at the cost of the rest of the economy, and still support the war in the south?

That depends on the degree of intensity of the war in the south, and I believe that at the past intensity, the answer is they could still support the war in the south, but that could not go on indefinitely at a higher level.

Senator CANNON. And one of the reasons that you come out with that answer is because then you look at the end of the pipeline down there and say if they are needing only from 1 to 10 tons a day, they could support that from other sources. But obviously they are certainly getting more than 1 to 10 tons through Haiphong of the necessary supplies for the war effort every day, are they not?

Secretary BROWN. They are presumably getting much, in fact I know they are getting much larger quantities into Haiphong than are being used in South Vietnam.

INTERDICTION OF RAILROADS IN NORTH VIETNAM

Senator CANNON. I would like to get back to the rail situation for a moment. Senator Symington commented on the fact that you are not presently interdicting the rail up to the northeast? Is that being interdicted now?

Secretary BROWN. I believe not. I think General McConnell knows exactly what the answer is.

Senator SYMINGTON. So after the resumption of bombing, neither of the two railroad lines were interdicted for a period, and as of now only the rail line to and from the northwest has been interdicted.

Secretary BROWN. That was struck last week.

Senator CANNON. Is that correct?

General McCONNELL. That is right.

Senator CANNON. But the rail line to the northeast that goes into the productive area of China has not been interdicted since the resumption of bombing?

General McCONNELL. That is correct, sir.

Secretary BROWN. As a matter of geography I don't think that that is the productive area of China. Manchuria is about 1,000 miles from there.

Senator CANNON. But I think that it is recognized, and Secretary McNamara testified once before, if I remember correctly, that they had not worked a lot on the railroad line up to the northwest because that went into an area that was not a logical area from which they would be bringing a lot of supplies.

Senator SYMINGTON. That is right.

Secretary BROWN. I am not aware of that testimony, but both lines were interdicted before, and only one is interdicted now.

Senator CANNON. And only one is now.

Secretary BROWN. That is right.

Senator CANNON. And that is the one to the northwest, and I think, Mr. Chairman, that the record will show that Secretary McNamara stated before, that that line had not been given as high a priority as some of the other targets because it connected China from an area that was not productive in war materiel. Therefore it was not considered as high a priority target and now we have gone back since the resumption and only very recently begun to interdict that line, still leaving the line open to the northeast, on the absurd argument that they are only getting from 1 to 10 tons a day down there anyway, and that by doing this we could not hope to cut off 1 to 10 tons a day.

CANNON COMMENTS ON DEFOLIATION

I want to associate myself with Senator Symington on the point he has made. Now on this point of defoliation, [deleted] has that all been in South Vietnam?

Secretary BROWN. I don't know the answer. [Deleted.]

General McCONNELL. [Deleted.]

Senator CANNON. I might say when I was over there I was led to believe that the reason that no defoliation was being done over there was because of the difficult political problems.

General McCONNELL. That is right.

Senator CANNON. More than a decision solely for us to make as to whether we could go in and defoliate, and that our defoliation effort was actually in—

Secretary BROWN. In South Vietnam.

Senator SYMINGTON. [Deleted.]

EFFECT OF BOMBING NORTH VIETNAM

Senator CANNON. Mr. Chairman, I have only one other comment. The issue has come up as to whether or not we have really had a lot of effect on the morale, on what we have been doing. I talked personally, when I was there in October, with the representative of a friendly government who had just come back from a visit to Hanoi.

He told me personally that from the best he could observe, the best that he could find out, that the bombing activity we had conducted in the north at that time had had little or no effect on the morale of the people there.

One of the reasons that he expressed was perhaps they felt relatively secure in and around Hanoi; he was only at Hanoi, because we had made it clear that we would not attempt to attack either Hanoi or Haiphong at that time, and have carried that out. But he said he found very little evidence of any effect on the morale or disruption in activity.

Secretary BROWN. I think I have seen the same kind of reports, Senator Cannon, and they say that morale in Hanoi is not hurt because Hanoi hasn't been bombed. In the areas that have been bombed in North Vietnam, I believe there has been a fairly serious effect on morale.

Senator STENNIS. Thank you.

Senator SYMINGTON. This situation is getting sort of ridiculous. Nearly everybody is boasting about what a terrific effect bombing the North Vietnamese buses and barracks is having on the war in South Vietnam.

But as soon as you start to talk about bombing more meaningful North Vietnam targets, like petroleum and power, knocking the docks out, everybody says that wouldn't help at all because we really shouldn't be bombing up there seriously, anyhow.

This dichotomy of thought is creeping through to the American people, and in my opinion is largely responsible for reductions in the poll positions of the administration.

None of the so-called doves are satisfied. The people who want to see this thing over with are not satisfied. But we continue to boast about what you are doing.

As I said before, and want to repeat, we are bombing the least important targets most, the more important targets less, and the most important targets not at all. And the American people are getting wise to just what is going on. Thank you, Mr. Chairman.

Senator STENNIS. Thank you, Senator. Now let's see if we can finish up with the testimony of the Secretary and the general, so they may go.

Do you have some questions for these gentlemen, Mr. Kendall?

Mr. KENDALL. Just one or two questions, Mr. Chairman.

Senator STENNIS. Proceed.

Mr. KENDALL. General, [deleted]?

General McCONNELL. [Deleted.]

Mr. KENDALL. [Deleted.]

General McCONNELL. [Deleted.]

Secretary BROWN. [Deleted.]

Mr. KENDALL. [Deleted.]

General McCONNELL. [Deleted.]

Mr. KENDALL. [Deleted.]

General McCONNELL. [Deleted.]

Mr. KENDALL. [Deleted.]

General McCONNELL. [Deleted.]

Secretary BROWN. [Deleted.]

Mr. KENDALL. [Deleted.]

Secretary BROWN. [Deleted.]
General McCONNELL. [Deleted.]
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Senator STENNIS. [Deleted.]
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Secretary BROWN. [Deleted.]
Mr. KENDALL. [Deleted.]
Secretary BROWN. [Deleted.]
General McCONNELL. [Deleted.]
Secretary BROWN. [Deleted.]
General McCONNELL. [Deleted.]
Secretary BROWN. And I don't believe that General Westmoreland has asked for 800 a month before next August.

WHETHER LACK OF AMMUNITION HAS LIMITED AIR MISSIONS

Senator STENNIS. Let me observe right there that this illustrates the point that concerns us here. It comes up in various ways.

You made the flat statement here that no undertaking had suffered for the lack of ammunition, and I told the press out there that is what the testimony was. That is the way it looked. But that doesn't explain the proposition here [deleted].

General McCONNELL. [Deleted.]

Senator STENNIS. As I say, this illustrates the truth of the statement that no mission has suffered, but it doesn't fully explain the idea that maybe the mission was limited in the first place, that you would have had broader missions if you had more ammunition, so it is confusing to me at least, and I think it is to others also.

Secretary BROWN. [Deleted.]

Senator STENNIS. My point is though to limit the mission to fit within what you have available to carry it out.

Secretary BROWN. That has not been done in the case of the B-52's.

Senator STENNIS. You have to do that if you have got a limit of any kind. Then when you come out with your testimony and say, "We have been able to carry out every authorized mission and no one suffers," it leaves us in doubt a little. I don't mean we doubt your word, but the overall situation is in doubt.

Secretary BROWN. You will remember, Mr. Chairman, that a good many expressed doubt as to whether any of the B-52 sorties were worth doing at all.

Senator STENNIS. I am not talking about that kind of doubt. I was talking about the availability of weapons and ammunition. All

right, let's go ahead with the questions. You gentlemen have been here all day.

BASIS FOR AMMUNITION EXPENDITURE RATES AND SORTIE SUPPORT

Mr. KENDALL. Yes, sir. I just have one more, which is directed to the Secretary. Mr. Secretary, you brought up a point just a moment ago that I had in mind, and that is the programing for the future and the expenditure rates for the types of munitions that we use. As I understand it, those expenditure rates are not based on the present level of forces but on the presently approved program for level of forces.

Secretary BROWN. That is right. [Deleted.]

Mr. KENDALL. Could you give us the feeling for that, say as to how many tactical squadrons you are planning to support in comparison with those that are located there now?

Secretary BROWN. By the end of the year—perhaps the best way to do it is in terms of sorties.

Mr. KENDALL. That will be fine.

Secretary BROWN. If I remember correctly, by December we had how many tactical sorties [deleted] was it?

General GERRITY. Yes, sir.

Secretary BROWN. [Deleted] sorties during December. We would be prepared to support at least [deleted] a month by [deleted].

Mr. KENDALL. [Deleted] versus [deleted].

Secretary BROWN. Yes. Perhaps we could support more than that. We might go up to [deleted], but it is very hard to judge, since plans keep changing all the time, the difference between [deleted].

Mr. KENDALL. I think the important thing is to bring out is that your expenditure rates, which you have shown, are not based on the present level of activity but of program expansion.

Secretary BROWN. That is right [deleted].

Mr. KENDALL. Thank you very much, General.

Senator STENNIS. [Deleted.]?

Secretary BROWN. [Deleted.]

Senator STENNIS. [Deleted.]

Mr. KENDALL. [Deleted.]

Senator SYMINGTON. Mr. Chairman, may I make an observation before they leave?

Senator STENNIS. Yes. Before they leave that point though, you wanted to say something, Mr. Secretary?

Secretary BROWN. [Deleted.]

Senator STENNIS. [Deleted.]

Secretary BROWN. That is right [deleted].

Senator STENNIS. [Deleted.]

Secretary BROWN. [Deleted.]

Senator STENNIS. That completes that point. All right, Senator Symington.

EFFECT OF B-52 RAIDS: EFFECT OF BOMBING NORTH VIETNAM

Senator SYMINGTON. Thank you. On the B-52's, let's be frank with each other about it. I went out beyond Pleiku, around Duc Co and near Pleime, and down to the Iron Triangle, and saw what the B-52's did on those raids. It is where the B-52's went because where

they blast through the jungle it is brown, the rest of the jungle is green, and you wonder if they hit anything. Every now and then Saigon sends back: "Fine, we hit a bunker, we killed 20 people, we got some rice, a cache of 5,500 pounds of rice," et cetera. But we didn't build B-52's for any such operation.

Now you have the ideal targets ready to apply the concept that where air power really functions is in destroying stuff at the source before they start killing Americans. I am not talking about bombing civilians. You have these big airplanes [deleted] and what are they actually doing?

Let's be frank about it. They are bombing the bushes too. I know. I saw it. [Deleted.]

I saw pictures of a bridge. The Navy said they had hit it twice. The Air Force said they had tried three times. We lost two pilots and two planes, and the bridge looks about as good as the day it was built.

They explained about all these rules, but the point is those are the kinds of things the B-52's were designed for and built for, not to bomb the bushes in South Vietnam. [Deleted]. But on the other hand don't let's kid ourselves about what the B-52's were supposed to do that the Air Force is not now being allowed to do. This is giving the Air Force a bad name regardless of how many underground caves the B-52 uncorks.

Secretary BROWN. Senator Symington, as someone who has been in my position, you know better than anyone else that I am trying as hard as I can to analyze the situation and show the ways in which air power can be effective.

The air staff is working very hard at this. When one is dealing with a small rate of supply into South Vietnam, as compared to the total support of the North Vietnamese economy, it is very difficult, but not necessarily impossible, to show what the effect of a large attack on the North Vietnamese industrial or road or POL or harbor or power sources will be on that small amount of supplies that are coming down [deleted].

Senator SYMINGTON. If we plan to continue the bombing of North Vietnam only as we have in the past, then I believe we ought to quit up there entirely. We are losing too many lives and too many hundreds of millions of dollars. [Deleted.]

But we didn't design the B-52's to be close support in trying to find a lot of people in the jungle. Yet we first refuse to use them for political reasons, then defend the limited use for military reasons. We should use them on the basis of what they were originally designed for, namely against meaningful military targets in North Vietnam.

Senator STENNIS. All right, gentlemen, let's hear the General now, if you don't mind. Thank you very much, Secretary Brown and General McConnell. We would be glad to have you stay, but we know you have other matters. If you wish to retire, we will hear General Gerrity.

Secretary BROWN. Thank you.

SUBCOMMITTEE HEARING SCHEDULE

Senator STENNIS. I want to say this to the membership. We had asked the Navy to be here tomorrow, but they are testifying before the full committee. We will hear the Navy Thursday of this week

on ammunition. At that time I want the subcommittee to hear the staff report on visits they have made to four of our divisions in the United States within the last 10 days. They will give us a thumbnail sketch of what they had.

All right, gentlemen, those who wish to retire please do so. General, will you resume with your statement, please.

General GERRITY. Finally, a few comments are appropriate on the new capability we have developed for use by the B-52 to dispense a variety of fragmentation bomblets. [Deleted.] The larger number of bomblets dropped by our B-52 provides a high density coverage of a relatively large target area. Naturally, the target must be selected carefully before application of this capability. Excellent results have been reported on initial mission drops. [Deleted.]

Now, I would like to comment briefly on the development of some of our newer items which we plan to bring into the inventory as soon as possible.

CLARIFICATION ON USE OF FRAGMENTATION GRENADES

Senator STENNIS. If I may interrupt you briefly, were those fragmentation grenades developed for use over there especially?

General GERRITY. These are developed for worldwide contingency plans, and there are some of the little bomblets which you see at the end of the table. [Deleted.]

Senator STENNIS. Is it designed for Vietnam conditions particularly? Did you say they have a worldwide application?

General GERRITY. I think it would be useful in Vietnam in certain applications, particularly where you have some troop concentrations.

Senator STENNIS. All right, maybe you had better move on.

General GERRITY. We are continuously developing newer and more effective conventional munitions to improve the effectiveness of target coverage. [Deleted.]

Another new item is in the antipersonnel category to be employed with the 2.75-inch rocket. [Deleted.]

We are expediting production of new items as they are developed and will establish appropriate inventory levels for support of southeast Asia and other contingencies.

I am sure the committee realizes that it is difficult to predict, with complete accuracy, expenditures of the variety of munitions we are using in southeast Asia. As I stated earlier, changes in targets dictate changes in munitions mix and changes in sortie rates affect total munitions requirements. Accordingly, we will continue to review this important program as we gain further experience in southeast Asia.

Undoubtedly, quantitative requirements for specific munitions will change to some extent, either upward or downward. If the change is sufficient to warrant adjustment in our procurement programs, we will reprogram, as required, to maintain a proper balance.

This concludes my presentation. I am prepared to respond to your questions.

(The following materials should be duplicated and included in the record at this point:)

[Deleted.]

Senator STENNIS. All right, suppose we call on our staff to ask questions for the subcommittee. Mr. Kendall.

BOMB CONSUMPTION DURING BOMBING PAUSE

Mr. KENDALL. General, I thought until hearing the testimony this morning, that the 37-day pause in the bombing of North Vietnam would have a favorable effect on our munitions inventory situation. Apparently I was operating under an erroneous impression. Is that right?

General GERRITY. That is right, sir, because to the extent that we stopped the bombing in North Vietnam during that same period of time we increased the interdiction bombing.

TRADE OFF ON 500-POUND AND 750-POUND BOMBS

Mr. KENDALL. And was there a trade off there on 500 pounders and 750 pounders? [Deleted.]

General GERRITY. I don't recall the precise figures, Mr. Kendall, I think generally a trade off.

Mr. KENDALL. Could you furnish those figures for the record?

General GERRITY. Yes.

(The figures requested are as follows:)

[Deleted.]

WHETHER BOMBING PAUSE RELATED TO MUNITIONS SHORTAGE

Mr. KENDALL. General, we keep hearing reports that one of the reasons for the pause in the bombing is the shortage of munitions, either bombs themselves or components of them, such as fuzes or other things. Is there any basis to those reports as far as you know?

General GERRITY. No, sir.

BOMB CARRYING CAPACITY OF B-52

Mr. KENDALL. How many 750-pound bombs can an unmodified B-52 carry?

General GERRITY. It can carry 51.

Mr. KENDALL. That is 27—

General GERRITY. Twenty-seven internally and 24 externally.

Mr. KENDALL. And the same number of 500-pounders?

General GERRITY. Yes, the unmodified. Now in the modified airplane the internal load of 500-pounders goes to 84.

Mr. KENDALL. Eighty-four is the figure I have.

General GERRITY. Eighty-four, and then the 24 external, which could be either 500's or 750's. That is quite a load.

Mr. KENDALL. But the 84 internally are 500-pounders, and the 750-pounders, I believe, go up to 42 internally, is that correct?

General GERRITY. No sir. The external load would remain the same.

Mr. KENDALL. I am talking about internal.

General GERRITY. Yes, 42 for the 750's.

Mr. KENDALL. So with the modification, you can carry 108, 500-pounders, or 66, 750-pounders?

General GERRITY. Correct, or we could mix them between internal loads and external, and I think eventually as we get experience with the modified aircraft, we will probably use the 500-pounders as the preferred internal load, because we get such a large number of them.

Mr. KENDALL. What is the status of this modification program? Are any of the modified planes now being used operationally?

General GERRITY. They are due to move out in April, and we will expect to use them starting in April. This will give us the bigger bomb carrying capability per sortie.

Mr. KENDALL. Which model plane are you reconfiguring?

General GERRITY. The B-52-D.

Mr. KENDALL. The D model?

General GERRITY. We are reconfiguring some [deleted] of those for this purpose.

SUBSTITUTION OF 500-POUND BOMB FOR 750-POUND BOMB

Mr. KENDALL. The Secretary this morning made an exception as to the F-5, but I believe for some time there has been a freeze against the use of the 750-pound bomb by tactical forces in South Vietnam; is that correct?

General GERRITY. No sir, that isn't correct. We certainly have conserved the use of that bomb for appropriate targets, but we have allocated a substantial quantity to the tactical forces in South Vietnam, southeast Asia, and the commander out there makes the determination of which targets he should use this bomb on, and of course primarily he has used them as the preferred bomb for the targets in North Vietnam.

Mr. KENDALL. And so, generally speaking, they are not used in South Vietnam.

General GERRITY. To only a very limited extent. They have been used to some extent.

Mr. KENDALL. And the reason for that, of course, is the inventory situation, is that not right?

General GERRITY. Yes, sir. We are using the 500 pounder as a substitute.

Mr. KENDALL. But if you had the 750 pounders, they would be using them.

General GERRITY. Undoubtedly.

MUNITIONS EXPENDITURE RATES AND EFFECT OF ANOTHER CONTINGENCY

Mr. KENDALL. General, on page 4 of your statement you say that the subcommittee should not be unduly concerned by the fact that some munitions are being expended at a very high rate in comparison to our WRM objectives. A contingency in another area could very well show the reverse to be true.

Of course, you and I both recognize that that is speculative and it would appear to be equally probable or possible that another contingency could require the same or a higher rate of expenditure of the same items having a high usage in Vietnam. If that should occur, and it can't be ruled out, then both your projected expenditure rates are out of focus, and the subcommittee should be concerned, should it not?

General GERRITY. Well, sir, I think what you say is indeed possible. However, if we go against large troop concentrations and other military targets where you would expect large amounts of materiel to be a proper target, then our dispenser of munitions, the kind of little bomb-lets we have showed you, would have a higher priority for use than a 750-pound bomb [deleted], and would do substantial damage to aircraft or personnel in that case, so you can see where munitions of that type would be very attractive for troop concentrations or materiel concentrations.

Mr. KENDALL. But even in Europe, General, the major contingency there would certainly call for a high rate of expenditure of 500 pounders and 750 pounders to knock out roads and bridges and fortified positions, would they not? You are keeping these [deleted] 750 pounders in Europe.

General GERRITY. To a lesser extent, Mr. Kendall. Actually we have computed our overall requirements using both contingency plans in southeast Asia, or rather in the Pacific, as well as in Europe, to determine the mix in the quantity of the various munitions we want. That is how we reach our WRM objective you see.

So looking at both of these types of contingencies we would plan for, we call for a larger mix of these dispenser type munitions, and a lesser quantity of the iron bombs, because of the greater effectiveness of the dispenser type munitions against materiel and personnel targets.

Mr. KENDALL. I think the point, which is obvious, if another contingency occurs, all of your plans and program which you have laid out so completely for us today will go out of kilter, and you have got to start from then and find out where you are.

General GERRITY. [Deleted.] Now in the next contingency we might find that we are using more of some type of munition that we hadn't anticipated. So we have got to retain a flexibility to adjust as we go along. Now as I said in my statement, we are studying the WRM requirements again. Actually there is a study currently underway. We expect to get the product of that some time in May.

Mr. KENDALL. In May?

General GERRITY. And we may well adjust our requirements as a result of that study. And certainly we will use the further experience we gain in southeast Asia in determining whether or not we should indeed increase our production now for the current conflict in certain types of munitions as well as increase our WRM levels for the iron bombs or other things.

So I expect that from here on out we are going to keep very up to date on this thing. And certainly one of the things we are going to do, as the Secretary mentioned, is maintain a warm production base so that we will be in a position to respond more quickly to the needs that we couldn't have planned for, couldn't have foreseen in advance.

Mr. KENDALL. [Deleted.]

You are going to have to program around that by varying the mix somewhat, of putting in 500 pounders, 250 pounders possibly or something to overcome that shortage obviously.

General GERRITY. What we are going to do Mr. Kendall, as I stated earlier, we will probably find that the preferred load for the B-52 is 500, which we have indeed programed during that time period.

Mr. KENDALL. But applying a modification of the aircraft to make that more attractive than the 750 pounder.

General GERRITY. Yes, sir. Now if with the 500-pounder programmed for the B-52 we should be able to get back into fulfilling the tactical needs for the 750 at the earliest date. [Deleted.] During that time period we will be expending a great deal more 500-pounders.

Mr. KENDALL. On page 9 of your statement, again talking about 750-pound bombs, you say: "Although our inventory will be reduced to about [deleted] by [deleted]"—incidentally as I pointed out earlier [deleted] of those will be in Europe leaving only [deleted] in southeast Asia—resuming the quote: "We will be able to rapidly increase the availability thereafter to cover increasing expenditures."

The fact is, if I understand it correctly, that you are scheduled to acquire only [deleted] in the quarter ending September 30, 1966 [deleted] in the succeeding quarter, and reach a maximum production of [deleted] per month in [deleted]. I just want to make sure I understand your statement. Are you saying that these schedule acquisition rates can be increased, and if so, when could they be increased? Could they be increased, say, prior to January 1 of 1967?

General GERRITY. Actually I have visited all three of these plants. It appears that there is a good potential of improving on the schedules that are currently in effect, and it is on these schedules that your projection is based. I see a capability of going beyond the [deleted] per line, there being three lines, and I see a capability of getting up to the rate sooner. So we have modified the contracts, working with the Army, and we think now that we may well get the peak rate at least some 2 months sooner.

Mr. KENDALL. [Deleted.]

General GERRITY. Yes.

Mr. KENDALL. Your [deleted] a month, of course, General, doesn't even cover your expenditures programmed for the quarter ending June 30 of this year [deleted]. You still have a [deleted] shortfall, per month. We have been advised that two of your three producers are having rather significant problems, and some difficulties in setting up a production capability, which have been and will continue to be a problem. In view of those problems, isn't a slippage in the production and delivery schedules a very real possibility?

General GERRITY. In my judgment, no. Of course, before a line starts to actually produce anything, why you are in the judgment area. The proof isn't there until they have actually rolled the production off the line.

But, I visited A. O. Smith, who are getting into production down at Waco, Tex., and they produced these bombs back in the Korean time period, so they have a lot of know-how in that line. They have practically all their tools in, they are putting them in place, and they have an excellent plant to get into production. They are due to produce their first bomb, as are the other production sources, in June of this year. I think they will meet that, and they might even do a little better.

Mr. KENDALL. But two of the three are having problems.

General GERRITY. I think they have overcome the one problem I knew of. They were having a little foundation problem in putting one of their heavy presses there. But I think they have gotten through that. Now the second facility, Letourneau, at Long View, Tex., were having some problems expediting machine tools to get

their plant going. The Army was working with them, and I think that they are going to be able to make their date there. They are perhaps the closest to touch and go of any of the facilities. Now, AMF up in Long Island have an excellent production plan, and I don't think there is any question about their making schedule.

Once they start up in June, they all show a capability, a potential of accelerating up to peak at a faster rate than the original schedule called for. So we are modifying the contracts to give them incentives, and to put additional shifts on and overtime to get up the rate faster.

Mr. KENDALL. From January of 1965 to January 1966, General, about [deleted] 750-pound M-17 bombs were shipped from Conus to southeast Asia. As a result of this the Conus inventory of this item will be a [deleted] balance on June 30, 1966. I ask this question specifically with reference to the 750-pounder, but I would like you to consider it in its overall context with reference to other weapons. What effect does a drawdown like that have on either SAC or TAC contingency planning for areas other than southeast Asia? Does it not have a rather substantial impact?

General GERRITY. [Deleted.]

Mr. KENDALL. You don't have very many 750-pounders to divert by that time.

General GERRITY. [Deleted.]

Mr. KENDALL. Let me put it a little more plainly. The fact is that without an adequate strategic reserve for your contingency planning, your contingency planning is either impaired or invalid, is that not right? You don't have to relate it to any particular situation, but that is a fair statement, is it not?

General GERRITY. [Deleted.] So we do have a capability there to support a pretty high level contingency, and, of course, we are doing exactly what we had planned for all along in developing WRM. The WRM was for the purpose of sustaining us through a contingency until we could get back into production and get back up to speed on production lines and make the weapons available through that source for the furtherance of the contingency. So, actually, I think what has happened here is that we have, with this [deleted] tons of munitions, had sufficient munitions for a type of effort like southeast Asia to sustain us through until we could get production going.

As you noticed in the Secretary's statement this morning and the charts he showed, we bottom out in July, where we reach the level of about [deleted] tons, and we move back up the line on our inventory from that point forward.

Mr. KENDALL. [Deleted], or as the chairman said, if we had not had approximately a year of grace to tool up and get into the business of acquiring new munitions.

AIR FORCE MUNITIONS BUDGETS

I have two further questions, General. One of them you may want to answer later for the record. I would like information starting with fiscal year 1964 budget including fiscal year 1965, fiscal year 1966, and fiscal year 1967, the basic budget, not the add-on; what was the Air Force's original submission to the Secretary of Defense for munitions,

and what amount appeared in the President's budget. I think you probably will want to supply that for the record.

General GERRITY. All right.

(The information referred to is as follows:)

Munitions and associated equipment—P8100

[In millions]

	Fiscal year 1964	Fiscal year 1965	Fiscal year 1966	Fiscal year 1967
Basic.....	163.1	209.5	147.8	1,212.5
Addendum.....	129.5	61.2	105.7	1.0
Total.....	292.6	207.7	253.5	1,213.5
President's budget.....	240.2	165.0	284.7	1,474.8

EFFECTIVENESS OF ROCKET SUBSTITUTES

Mr. KENDALL. The final question is with reference to your statement on page 12, that during [deleted] production limitations will not permit an allocation of rocket motors to meet the quantities of rockets desired by our southeast Asia units. And then you refer to general-purpose bombs, napalm, how adequate are general-purpose bombs, napalm, and other type weapons as a substitute for the rocket? Would you consider them a true substitute, either one singly or all of them in combination?

General GERRITY. [Deleted.] On other targets actually a munition which is not mentioned here, the 20 millimeter, would be a good suppression-type weapon to use as a substitute for the rockets. It would vary depending on the type of target.

Mr. KENDALL. Do you think—I would like a categorical answer to the question—any single weapon or any combination of weapons in your judgment is an adequate substitute for the rocket in the great majority of cases?

General GERRITY. I would say that the 20 millimeter, in particular, would be a good substitute for targets where you wanted suppression fire to keep their heads down. [Deleted.]

Mr. KENDALL. Thank you very much, General. That is all I have. We are delighted to have you here.

Senator STENNIS. Senator Cannon, do you have anything further?

Senator CANNON. I have nothing further.

Senator STENNIS. General, are there any other points you wish to make? Have you anything else you want to say? General Shaw has some questions for you. He really burned the midnight oil on this thing and has done a fine job.

General GERRITY. All right, Mr. Chairman.

Senator STENNIS. All right, General Shaw.

CALCULATION OF MUNITIONS REQUIREMENTS IN CONTINGENCY
PLANNING

General SHAW. I would like to go ahead with the contingency plan theory some. Is it true that say, USAFE or the theater area commander, calculates his war reserve material inventory objective based upon a set of ground rules given to him in his contingency plans?

General GERRITY. That is correct.

General SHAW. I believe Mr. Kendall's point was then that for the particular contingency plan for which he has set his inventory objective, when it begins to be drawn down by an unplanned contingency, the more it is drawn down upon, the less his ability to carry out his own plan is valid. He has been told to accumulate ammunition for a certain plan under certain ground rules. That stockage begins to drift down, and at some point it becomes relatively invalid, because of the drawdown by a previously unplanned contingency.

General GERRITY. Of course, I guess all contingencies are unplanned, but it is the very planning we do to build up the WRM for that kind of contingency that might develop. If, indeed, his assets were drawn down to the point where he didn't have sufficient supplies to allow for a pipeline to take over continuing to support him, why his situation would be bad and he wouldn't be able to support it. But, of course, that is not the case in Europe today.

General SHAW. They are generally holding steady.

General GERRITY. Yes, sir.

General SHAW. It is accurate to say, I believe from the figures that were shown here, that where they had not met their objective, they were holding steady at that point, and in some cases gradually improving them, but generally holding steady, particularly with the pipeline to Vietnam. They are not improving, but they are not losing ground.

General GERRITY. Correct.

General SHAW. Their method of calculation, could you briefly describe the factors involved by which they set their requirements?

General GERRITY. Perhaps you know, General Shaw, you plan and establish your factors for contingency of this type by establishing some targeting system and a level of effort. We did that for our latest contingency planning using in Europe a force of [deleted] aircraft and we targeted a system which we are likely to be up against, and we specifically targeted each individual military target in the area. We established a probability of kill, the number of sorties that were required to get that probability, which I think is about [deleted] percent probability, and we did the same thing for [deleted] aircraft force in the Pacific area.

We did the individual targeting. We weaponeered each target, selected the individual types of munitions, and out of this we established our total WRM requirements.

General SHAW. We just wanted that for the record to have a clear explanation of how it is calculated. Then it is true in each area that what the commander has calculated, then becomes his war reserve materiel stockpile objective, or inventory objective.

General GERRITY. Yes, sir, only that part which we plan to have in the theater. We plan to have balancing reserves in the Zone of Interior.

General SHAW. Is there any particular level which you maintain in the theater [deleted]?

General GERRITY. General, about [deleted].

General SHAW. [Deleted] stockpile.

General GERRITY. Yes, and we may not have that precisely at each base. We have some depots over there which are more central and

have some of the munitions, because let's face it, some of the bases are limited.

General SHAW. In their space to spread out.

General GERRITY. In their storage capability. The same is true in southeast Asia. One of the reasons we are, for example, using the special express ships for storage out there, floating storage, is because we are limited in the amount of munitions we can put on a base.

General SHAW. I think you should continue that because it is a real economical method of storing a lot of ammunition.

General GERRITY. It certainly is. Then, another one of the things that led us to the special express ships earlier, last spring, when we went to them, is we recognized that the munitions themselves, if we put them on the bases in large numbers, would become an attractive target for the Vietcong.

General SHAW. It would require a large number of troops to give a reasonable degree of security.

General GERRITY. That is right.

General SHAW. On the matter of the leadtime, you had a war reserve materiel inventory objective which, as I understand it, is to support [deleted] of combat.

General GERRITY. Right.

General SHAW. Is that calculated on the basis—you have already told us—in the case of Europe [deleted] aircraft, or an alternative of a lesser number?

General GERRITY. [Deleted.]

General SHAW. Where I was headed was in the direction of your pipeline and leadtime factors for getting into production. Of course, in the Army plan they have the D to P day concept, with which I guess you are probably familiar. Do you have a scheme similar to the D to P day concept?

General GERRITY. No, sir; indeed we do not. As a matter of fact our reserves are expressed in the terms that I mentioned. But you might say that by establishing these levels and by maintaining a warm production base in effect we are sort of backing into a D to P day position because if we maintain a warm production base most of these lines will be able to accelerate rapidly. So in a contingency of the type in southeast Asia, we never would run out.

MUNITIONS ALLOCATION

General SHAW. The word "allocation" has been used here frequently. We need to get a clear understanding of that. Would it be true to say that this is the amount of ammunition allotted to a commander from the available supply for a given period of time?

General GERRITY. Yes.

General SHAW. And then when that allocation is made, the commander must control his use of that ammunition within the limits set by the allocation. In other words, he is given so many thousands of bombs for a given period of time, and he should not exceed that use of bombs within that time period.

General GERRITY. Knowing exactly, precisely about it. It is a planning figure. We watch the expenditure of munitions very closely, as I stated earlier, a weekly and monthly basis, and we have

these quarterly meetings with the major commanders involved, with their representatives actually, and we do this for several reasons. One is that you need to control movement of munitions out there, because they don't have a great deal of storage capacity on the bases. And you need to put out there the kind of munitions that they want to use.

So we plan with them based on their experience, and their desires, what munitions we are going to ship for the next quarterly period. Indeed, we extrapolate it on for the full period of time. This also permits us quarterly to update our position with respect to our plans for production for the future, and decide to make adjustments that we may appropriately make. So it is a very useful exercise, and it is not considered indeed to be completely limiting on the commander, but actually if he plans ahead for his consumption, based on the sortie rates he plans to fly, he is going to stick pretty close to that, because otherwise he is going to run into distribution imbalance.

CORRESPONDENCE ON SHORTAGE OF AIR MUNITIONS

General SHAW. That is what I was getting at. We watched the process in Vietnam. They had their allocation of the various types. Then they start juggling bomb loads around for the number of sorties they expected to make within that given time. The arithmetic always came out not more than the allocation, so they were keeping their planned number of sorties, and their planned number of bombs on the sorties within the limit for that time period that had been set. As a matter of fact, we got a copy of a letter, a dispatch I guess it is, from PACAF to the Secretary, Air Division, discussing this problem, and the shortage. I think this documents it.

One is a letter of August 21 from PACAF to the 2d Air Division. The other was the 2d Air Division Flag Pole No. 4 message of August enclosing a second listing of materials which he was short. The third was a recapitulation of the munitions status at the conference at which Secretary Zukert attended where they set how they would go about allocating the supply of the 750-pound bombs.

(The documents referred to are as follows:)

[Deleted.]

General SHAW. [Deleted.]

Senator STENNIS. General, before you leave that, would you yield to me just a minute.

General SHAW. Yes, sir.

Senator STENNIS. I want to be sure I understand this. General and members of the subcommittee, I have here a communication from 2 AD, Flag Pole No. 4. It is undated, but the subject is "Shortage of Air Munitions," and it is bound to be prior to August 21, 1965. I am directing my thought at this problem to your statement that there has been no shortage to affect any mission. But this is an illustration, it seems to me, where they cut the mission to fit what they had. I do not criticize that. You have to do that, but then you will agree it is misleading to say later we have not had any shortage. [Deleted.]

Here is the response, as I understand it, dated August 21, 1965.

"During recent meeting with Secretary Zukert and members of the Air Staff" and so forth, this matter was discussed, and then this quote: [Deleted.]

It seems to me that is a concrete illustration where they cut the mission down, the planning down, to meet the stockpile, which they had to do. That is not critical. But still we turn right around and say there has not been any shortage, and they have not been curtailed or anything like that. What do you have to say about that, General? I know you can explain it.

General GERRITY. Sir, what is literally true is that we did not have sufficient 750-pound bombs to give them all they wanted to fill all the holes on their aircraft and support all the sorties. But we did have substitutes available in terms of 500-pounders, and this is what we have provided for that. In the case of the 20-millimeter ammunition, indeed from the charts Mr. Kendall showed earlier this morning, we do have sufficient assets. They had a distribution problem at that point.

Senator STENNIS. I read that because it was tied in.

General GERRITY. Yes, sir.

Senator STENNIS. Your commander out there was not saying, "I need enough to fill every hole," or anything like that. He said, [deleted]. It sounds to me like he is short of the ammunition to shoot. That is what he complained about. The Air Force was not to blame for that perhaps, but I do not think it is altogether the full story just to say now that we have not had any shortages and no mission has suffered. That is the substance of what the Defense Department tells us.

General GERRITY. That is literally true, Mr. Chairman, that while we could not give them all the 750-pound bombs they wanted, we could give them sufficient to support the sortie rates they were flying of other weapons.

Senator STENNIS. I am mighty glad you did that. All right, will you resume, General Shaw?

BOMB ALLOCATION IN SOUTHEAST ASIA

General SHAW. I would like to pursue just that. If you will notice that munitions status, that is a copy of a chart which they told us they were using to support the briefing that they gave with the Secretary of the Air Force as they discussed this problem. I note they show the worldwide assets of the two 500-pound type of bomb and the 750. Then they state the southeast Asia requirements. [Deleted.]

So it seems apparent that southeast Asia had a calculated requirement under the ground rules we have discussed. Those requirements came to [deleted]. Out of all available, an allocation was made. In effect he was given what they felt was available from the total supply, which was less than his requirements. [Deleted.] And in those calculations as to availability of the 500- and 750-pound bombs as well as the 250-pound bomb, they had to plan on production, which even as of today is having some difficulty meeting the planned rates of production. So the shortages resulted in southeast Asia having in effect a limitation placed upon it both in numbers and in

quality of bombs that they would be handling. Would you argue with that?

General GERRITY. I would have to take exception in terms of numbers.

General SHAW. Yes; they come very close to that.

General GERRITY. Quality cannot take exception to. We of course are using the 250-pound bombs for the A-1E's and the A-1H's.

General SHAW. Excuse me for interrupting. [Deleted.]

General GERRITY. Yes. As a matter of fact, we did not do that. You see, we adjusted the allocations based on our discussions with them. [Deleted.]

CHEMICAL BOMBS DEMILLED

General SHAW. But as a matter of curiosity you said you got additional resources. What were they?

General GERRITY. Well, we had some chemical bombs, and we demilled them from the chemical capability and we filled them with TNT. We did that both with some 500-pound bombs and some 1,000-pound bombs, so that they would have more bombs to meet their requirements. In other words, we took action as a result of the meeting out there, and subsequent meetings which we have had in both November and January, to secure the resources necessary to do the job. We got some bombs from the Navy to help us out, too.

General SHAW. The new low drag?

General GERRITY. We only got those in the main from production as we had funded the Navy to get for us. But we got some of the older bombs—

General SHAW. I expect the Navy cleaned their shelves.

General GERRITY (continuing). From the Navy for this purpose.

AMMUNITION PRODUCTION PRIORITIES

General SHAW. Before we get away from this production problem, in June I was at Joliet on an Army ammunition matter. Just incidentally, the business of the Air Force production of the 20-millimeter came up, and you just recalled to me this business of them demilling these bombs and reloading. At that time they both said this effort and the 20-millimeter had their highest priority of production. Are there any of your ammunition items which are not on the highest priority?

General GERRITY. I think that we afford them all high priority. If we are putting any special emphasis further on anything, I would say on the 750-pound bombs and the 2.75-millimeter rockets. We are also pushing very hard for the flares, the MK-24 flares. We thought we were all right last summer, but they became quite popular in their use out there, and PACAF's projections of their requirements have just kept elevating as we have gone along.

General SHAW. That is one of the odd ways these things ricochet against each other. The flare became so popular because there were not enough illuminating shells on the shelf for the mortars and artillery so they did the best they could and called for the airplane flare. But what I was speaking of was the 0-1 priority which entitles the contracting firm to have certain market or production freedom to get materials, tools, and machines.

General GERRITY. The DOD rating; yes.

General SHAW. Does all your production have the 0-1 priority?

General GERRITY. I am not sure whether every single item has that, but I think the preponderance has.

General SHAW. The preponderance.

AMMUNITION SHORTAGES

Senator SYMINGTON. Mr. Chairman, may I make an observation here?

Senator STENNIS. Yes, sir.

Senator SYMINGTON. General Gerrity, you and I have been talking logistics and supply for some 25 years; and I am amazed to see how young you still look.

It seems to me all of you are making a basic error, as I listen. You jump from some 20,000 people to over 200,000. As soon as you do, you need more cigarettes, more belts, more hats, and more ammunition. It is just like wiggling through water the way the Defense Department continues to affirm they can get the people needed, that they do not have to have the Reserves, they do not have to have the Guard, do not have to bother with the 600,000-man pool of the now released pool of 6-month boys.

You cannot say, "I want 10,000 instead of 5,000," and not have some shortages. Yet it seems the law of the Medes and the Persians, down from the top, is that under no circumstances should anyone admit that there are any shortages, of anything, at any time, on any basis. How could you have this tremendous increase in numbers of people, and not have shortages in what they use?

There was no remote knowledge a year ago that you were going to run the B-52's the way you are running them today.

So there was no way for you to know that you would be using a tremendous number of bombs. You would have had to be a genius, because you have to give the plants enough time to produce. And yet when you and the rest of the people from the Pentagon come up with these figures, it seems there is a rigidity, instead of your just saying, for example, "Well, we did not know we were going to use this number of flares because of special forces; we did not know we were going to use these numbers of bombs because we did not know the B-52's were going to be used in this way."

I wonder if we would not get on with it and have a more sympathetic position toward the Defense Department if, despite these tremendous increases in people in South Vietnam, which logically means heavily increased materials, you all would roll with it a bit, and accept the problem instead of constantly saying, "In spite of all of this we have been able to manipulate materials and supplies so we have everything we need, right on time, all the time." Now that is my comment.

General GERRITY. Senator Symington, let me first observe, if I may, that I appreciate the compliment you have paid me. After fighting this business of production and support for 25 years, in and out of the tactical units but mostly on the materiel side of the house, why I appreciate being called young at this stage of the game. But certainly we did not contemplate at this time last year that we would have the B-52 planned sorties that we have today. For-

tunately we had some WRM in the inventory. We had [deleted] 750-pound bombs. We had a lot of other types of munitions, which have helped tide us through. And then we got into production. And, Senator, as an old production man yourself, you know that we are doing some expediting of that production, because we want to get through this low point and uphill as fast as we can. I am not sparing any steam in that regard.

Senator SYMINGTON. I know that, but it seems to me the staff has made some pretty good cases here, that there have been some shortages; and, as the chairman pointed out, some missions have been adjusted to those shortages. There is no sin about that. If it is true, why not just say, "Yes, we did not know the B-52's were going to have this number of missions," or "We did not know we were going to have this number of people doing these numbers of jobs in South Vietnam." But there is a rigidity here incident to the presentation of facts by the staff which is disturbing.

In that connection, Mr. Chairman, I would read two short paragraphs here of General Wheeler's testimony on what we were talking about earlier today, this is for the record.

[Deleted.]

Therefore to one there is no reason in the world to justify anybody saying that wheat is going through Haiphong and bullets are not. The fact they do not know what is in a barrel or a box; do you see my point?

General GERRITY. Yes, sir.

Senator SYMINGTON. I think we are getting ourselves into a serious situation from the standpoint of what are the facts incident to the Haiphong Harbor. The more I try to analyze, the more I am convinced we think it would annoy the Chinese, perhaps the Russians, too; so that's why we pretend so little comes through the harbor.

Back on ammunition, I again make the observation that you could not possibly have had this tremendous escalation of effort in South Vietnam and North Vietnam [deleted] and not had some very serious shortages along with it.

Senator STENNIS. That is right. The marvel is they did not have more.

Senator SYMINGTON. That is right. But the effort seems to be to show the committee that you all just went up and smote the rock, and every time things came out just the way you wanted them.

General GERRITY. Yes, sir. Well, Senator Symington, certainly we have shortages in meeting projected requirements for 750. There is not any question about it. We have had to use substitutes. We have had a distribution problem.

Senator SYMINGTON. Now that is more logical testimony right there.

General GERRITY. We have had distribution problems, and we fight that one daily. You know if you are in the supplying business you have got to fight it daily. But we have met the sortie rates, and we have put the weapons on the aircraft. You know you always have what we used to call the AOC rate on aircraft and we still do out there today, but we are flying the sortie rates.

I will tell you, Senator Symington, I know you have been out there and you have seen these fellows in action. I am very proud of that professional force we have out there today. We would not have been

able to do it without them. We have got some very dedicated, capable professional people who are doing a fantastic job, in spite of difficulties, in spite of lack of the kind of facilities you would like to have to get the job done. They are doing a terrific job.

Senator SYMINGTON. I am sure every member of this committee feels the same way about the people out there. The thrust of these hearings is to profit by experience. It is as clear as light there have been some shortages. You yourself have been big enough to say there were shortages in 750-pound bombs. If we do not get the facts, we do not get the stimulation which should come out of these hearings and make it much easier, in my opinion, for you all to do your job and get the money you need.

Thank you, Mr. Chairman.

Senator STENNIS. All right, Thank you, Senator. I understand we may have a vote at any time, certainly within the next 30 minutes. Let us see if we can finish up in that time. All right, General Shaw, you may resume.

REDUCTION IN PROCUREMENT OF 20-MILLIMETER HE-1

General SHAW. Do you have the book available that you all very kindly furnished to us?

General GERRITY. Yes, sir, I do.

General SHAW. Page 63 is the one on which I had a question. It is on the 20-millimeter cartridge for the M-39/61 gun. Incidentally, I believe the cartridge fits either gun; does it not?

General GERRITY. Yes.

The 20-millimeter. Page 63, I have it. It is basically a difference in linkage, the difference between the two guns. It is the same basic munition.

General SHAW. The same cartridge.

General GERRITY. Yes.

General RAMME. We have samples over here, sir.

General SHAW. The problem of manufacture is not the cartridge being different for the gun. It is the link which feeds through the gun.

General GERRITY. That is right.

General SHAW. The thing that struck our attention first, you will notice up at the top there, on April 13, 1964, there was over 1 million rounds of procurement on the authorization, and then it was reduced by 300,000. What was the basis of the reduction? Do you recall, or is it too far back?

General RAMME. Are you talking about the 2 top figures, the 1,637,000 and the 1,337,000?

General SHAW. That is correct.

General RAMME. Those are two separate contracts, one in 1963 and one in 1964.

General SHAW. I understand that that 1,337,000 was reduced by somebody by 300,000.

General RAMME. I see what you mean.

General SHAW. I was wondering what was the occasion for the reduction.

General RAMME. I cannot answer that.

General GERRITY. May I furnish that for the record?

General SHAW. Please.

(The information referred to is as follows:)

Procurement Authorization 64-8100-LC-20 13 April 1964 reduced by 300,000 rounds the procurement of 20 m/m HE-1, M14 link for the M61 gun. Currently it increased by 300,000 rounds the procurement of 20 m/m HE-1, M17 link for the M61 gun. The ammunition involved is identical. The M14 link is used with the M61 gun on the F104, F105 and F-4C. The M17 link is used with the M61 gun in the B52H and B58. The total quantity of 20 m/m ammunition for the M61 gun was not changed by this action.

REPROGRAMING ACTION IN AMMUNITION PROCUREMENT

General SHAW. If you come on down the column on the right-hand side, in the procurement authorization for August 5 it shows a figure of ten million two hundred odd thousand, and it has a note, "Procurement authorization issued with specific OSD approval." Now, that same note appears several times elsewhere in these figures. What is the significance of having or not having that note? If it was true for one, why is it not for all? Or why did it have to be true on this particular item?

General GERRITY. This is a reprogramming action that we took to increase the quantity, and that is the reason we got specific approval of OSD for that purpose.

General SHAW. I see. You had to submit a request to the Secretary of Defense to reprogram money from elsewhere?

General GERRITY. Correct.

General RAMME. Beyond Air Force authority. It had to go back to DOD.

EXPENDITURE AND PRODUCTION RATES

General SHAW. Here again is the question of the ability to reach the objective of getting into maximum production on this ammunition. For instance, on 63A, as you turn the page. They are having difficulty there, and in order to reach the second maximum production, they have to actually construct another plant or expand their facility by construction, which will finally let them meet the expected maximum capacity by [deleted]. This refers back to the leadtime involved to reach the expenditures during the time you are expending ammunition. You are running down the stockpiles created under the contingency plan. So in order to get your maximum production of the 20 millimeter—which we will not reach until [deleted] or more after we began to expand production of the 20 millimeter—in other words, to get maximum production it took [deleted].

General GERRITY. Of course you will recall, General Shaw, we are actually, however, exceeding our expenditures starting in the [deleted].

General SHAW. I see your point. You are not meeting your planned schedule but your production is ahead of actual expenditures in Vietnam.

General GERRITY. Correct.

ADEQUACY OF CONTINGENCY PLAN STOCKS

General SHAW. Of course, the 750-pound bomb is not the only one which has had problems. I notice the 250-pound bomb, which the Navy is making for you, had problems, too. On page 16a you will find the comment that was furnished.

General GERRITY. You are talking about the 250?

General SHAW. Yes. My only point is that in the problem of planning to make up that which is expended during an unplanned contingency, action for which there exists no contingency plan stockpile; the production difficulties help to deteriorate the validity of the contingency plan stock which then has to be drawn upon.

General GERRITY. And there have been some production difficulties.

General SHAW. But is there any validity to the suggestion that this experience would indicate that we should give consideration to some type reserve, over and above the contingency plan stock, which I think everybody agrees should be calculated according to the identified threat? Sure you make a plan to meet the known threat, but somebody else always jumps out of the closet, so you have to meet him. Then to meet that previously unidentified threat and its action, it might be well to have a central reserve of ammunition not committed to any plan. This gives us a pool to draw upon without drawing down upon those stocks which maintain the validity of a contingency plan.

General GERRITY. I think we are getting into a somewhat philosophical discussion here. The very purpose of our buying and stocking WRM is for contingencies that are unplanned. You can plan for contingency, but the contingency that develops is something you did not actually plan to have happen, so you use your WRM to meet this sort of contingency. If you plan for sufficient WRM, and if you can keep a warm production base, you ought to be able to sustain yourself through the contingency involved. Now certainly in developing production programs and accelerating them in a situation like this, we are bound to have some problems. That is one of the reasons management is around. If we did not have any problems, as Senator Symington stated, why I guess we would not need good management in the Air Force, in the Army, and the Navy to work at it. But I think we have got good professional management that can cope with these things.

You note that the problem at Norris-Thermidor has been overcome, and I think our project now or our objective now is to get ahead of expenditure rates so that we can start building up as fast as feasible our WRM again to be prepared to meet another contingency beyond southeast Asia, and this is indeed our objective.

General SHAW. In other words, the idea is a curve shown in one way or another, by calculating your contingency plan stocks on a large enough basis that they can be drawn down. If you began to worry about carrying it out, you would still be able to get new production and bring it in—if your leadtime estimates are correct—in time to meet the drawdown on stocks.

SAFETY RESTRICTIONS PLACED ON M-117

There is one item here that attracted our attention very much. If you will turn to page 88, the safety restrictions which were placed on the M-117.

General GERRITY. Oh, yes. Do you want me to amplify on that?

General SHAW. The real thing is down in the second paragraph, "During the interim bombs not expended on jet missions will have their fins removed." We did not quite follow the meaning of that paragraph.

General GERRITY. [Deleted.] We prohibited the use of such bombs from high speed external carriers.

General SHAW. You thought they would be safe to use by a low-speed plane or through internal loading.

General GERRITY. Yes.

DIFFERENCES BETWEEN 500- AND 750-POUND BOMBS

General SHAW. Then one other point, on page 51, is the question of the amount of TNT carried comparatively between the 500-pound and the 750-pound bomb loadings. As we understand it, when you complete modifying the B-52 so it can carry the large number of 500-pound bombs internally, it actually increases the total load dropped on the enemy, even for the same new configuration carrying the 750-pound bombs. So it is a better shotgun charge with more explosive reaching the enemy.

General GERRITY. It is.

General SHAW. You have more pellets in a pack. But up until that time, and this is my point, the statement says there is no measurable difference in the 7,640 pounds of TNT with the twenty-seven 500-pound bombs versus the 10,000, with 27. Well, it is 25 percent.

General GERRITY. In the weight of the TNT.

General SHAW. Yes.

General GERRITY. Yes; but when you get to the individual crater of the bomb that is dropped, there really is not any really significant difference. The 500 pounder will make about a 30-foot-diameter crater, and 750 will be about 35.

General SHAW. You would have to dig out a piece of tail fin to find out what kind of bomb was in there I guess.

General GERRITY. That is right, for the kind of targets we are going after; as the Chief of Staff stated this morning, I do not think there is a real substantive difference between the two.

Senator STENNIS. If you will yield there, why did the commander ask for 750 pounders? If it does not make any difference, why did he ask for 750 pounders?

General GERRITY. If you are going after a specific target, you want the best possible munition, even though it might be just a little bit better, so it is the preferred type by the troops that are flying the missions.

General SHAW. Is it not generally true that most of your Air Force pilots had trained more with 750-pound bombs than they had with 500 pounders?

General GERRITY. That is indeed true.

General SHAW. So they have a greater confidence in their ability to handle them and aim them straight.

SNAKEYE FIN ON NEW 500-POUND BOMB

General GERRITY. Right. Incidentally, one of the things that we have failed to mention so far in this testimony today is one of the very attractive features that are coming out with the new 500-pound bomb, and that is what we described as the Snakeye fin [deleted].

You see the Snakeye-type devices pictured in one of these charts.

Would you show that to the chairman and General Shaw? [Deleted.]

General SHAW. The pilot gets away free.

General GERRITY. Right. It is a very excellent bomb to do the kind of tactics that we used to call skip-bombing tactics, which were often in the past quite dangerous, because there was danger of the bomb going off while the aircraft was still in the vicinity, or danger of the bomb hitting a hard surface and skipping up into the aircraft.

General SHAW. And exploding.

General GERRITY. And we had some losses in World War II because of that reason. So that is indeed a significant improvement to our bombs.

General SHAW. We have covered the points.

ACCURACY OF SUBCOMMITTEE STAFF CHARTS

Senator STENNIS. General, I have understood you were going to examine what I believe we call the inventory charts this morning. They are these four pages the staff worked on. As I understood it, you were going to examine them during the noon hour. Did you get a chance to look them over?

General GERRITY. Yes, sir, Mr. Chairman, I did.

Senator STENNIS. Do you have any further comment to make about them, one way or the other?

General GERRITY. They were prepared, of course, as you said, by the committee staff, and they are an accurate portrayal of our situation for the times and the areas indicated on the charts.

Senator STENNIS. Thank you, General.

PIPELINE AMMUNITION INCLUDED IN STAFF CHARTS

General SHAW. The point was raised that one of these perhaps did not include the sea express. We were under the opinion that it did because that is what we had asked.

General GERRITY. Yes, this was the first impression we gained in looking at it, but on examining it more closely, we found that the pipeline in the southeast Asia express was indeed included in the CONUS inventory page, so it is quite accurate.

Senator STENNIS. All right. Then it does include this pipeline that we questioned you about this morning.

General GERRITY. Yes, sir.

Senator STENNIS. All right, Mr. Kendall, do you have anything further?

EFFECT OF MUNITIONS CONSUMPTION ON TRAINING OPERATIONS

Mr. KENDALL. Just one question, Mr. Chairman. Have any of your problems with the inventory had any impact on your training operations? Have you had to make do for ammunition in some way in your training operations?

General GERRITY. We are allowing what we consider the minimum essential training munitions. As you know, as a result of our southeast Asia experience earlier last year, we did change our training programs to make sure that the troops before they left the United States for

southeast Asia were being trained in the kinds of munitions they would use out there. So we do have an allowance for that, and the crews are qualified in the munitions that they are using in southeast Asia.

General SHAW. I suppose for a good bit you can use the subcaliber type.

General GERRITY. In their routine training, for example bombdrop routine, we use 25-pound bombs with the spotting charge, which is good enough to give them their training accuracy for targeting in their dive bombing approaches. But before they go to southeast Asia, we let them drop full loads of 750-pound inert bombs, so they get the feel of the weight of the munitions on the aircraft.

Mr. KENDALL. Are those recoverable and reusable, or do they get too banged up in the process?

General GERRITY. They get pretty well banged up, but there is some recovery on some of that.

Mr. KENDALL. Thank you again very much, General.

CONVERSION OF CHEMICAL BOMBS

Senator STENNIS. What was that you said? You took some of your old bombs and took the chemicals out of them, put in the TNT preparation and used them?

General GERRITY. Yes, sir, we had an inventory, I think it was something on the order of [deleted] bombs, 500 and 1,000 pounds of the old variety. They were loaded with chemicals which we have no use for. They were actually excess to our needs. And since we had a need for bombs, we did the prudent thing. We took the chemicals out, refurbished the bombs, and loaded them with TNT, and they are now on their way out to southeast Asia for use on our missions out there.

CHAIRMAN'S COMMENTS OF TESTIMONY

Senator STENNIS. I have been impressed with your testimony today along this line, too, gentlemen. You took what you had and you did a job with it. I do some quoting here at times to bring the rest of the country up to the average in military history, because there is a lot of history in the Confederacy that has been missed by the rest of the country. General Lee was asked, after the war was over, who did he think was the greatest soldier produced during that war by either side, and he very promptly replied, "The man that I have never met, Nathan Bedford Forrest. He did the most with what he had."

I will not get off now into what he did. But you have done a lot with what you had, it seems to me, since this thing really got hot over there. I do not think it is any sin to say, "Yes, we had shortages, we are short this and short that, and we have improvised and met the situation the best we could."

General GERRITY. Yes, sir. I do not think we would have been prudent managers if we had not made the most of the resources we did have.

Senator STENNIS. Yes, you have done a good job of it, and I think you are well on your way now as far as you can see. But this thing could open up and take off in another direction, and you would have to scramble again, mighty fast, would you not?

MUNITIONS PRODUCTION SCHEDULES

General GERRITY. Yes, sir. Could I bring up a somewhat optimistic note at this stage?

Senator STENNIS. Yes, certainly, we always want to hear those.

General GERRITY. Mr. Chairman, all of the projections of our inventory that you have seen in our presentation today are based on schedules that are in existence. But as prudent managers, we are doing the reasonable expediting that we should to get out of this bottoming out position as fast as possible, and to build up our Reserves as fast as feasible, and I can say to you, sir, right now, based on our most recent appraisals of production, that I think we can do better than our schedules now indicate overall.

Senator STENNIS. That is good. So if you should be called on for an added increase, you think with the position you are in now and the potential, the momentum that it has, you could go right on to even greater levels rather easily and rapidly, is that right?

General GERRITY. I would think so, certainly as the year goes on, from this summer on through December of this year, why we should be improving our position, I would hope significantly.

SUCCESS OF DEFOLIATION

Senator STENNIS. Is this defoliation a major matter? You have had several questions about it. I had not noticed much about it. Is it a major point out there, and was it successful?

General GERRITY. Sir, I do not have a precise evaluation of how successful it has been. We have, as you know, been using it in South Vietnam to clear out particularly the edges of roads, highways there, so as to give some protection, and it has been reasonably successful, to my knowledge, for that purpose. But I do not have a very precise evaluation of its overall value.

Mr. KENDALL. We had been informed, Mr. Chairman, it has been very successful on [deleted] vegetation but much less successful on heavy jungle, undergrowth, trees and things of that nature.

Senator STENNIS. I was just thinking about it. I do not see how it could be strong enough to kill the heavy overgrowth I understand you have there.

General SHAW. Perhaps I could add something to that.

Senator STENNIS. All right, General, yes.

General SHAW. On my first trip to Vietnam my escort was the staff officer who had been planning all that, and who flew something like 50 percent of the missions. Just as Mr. Kendall said, against jungle growth, many times they had to get at it two or three times because the mist did not drift down deep enough; there are three layers of vegetation, you kill off the top tree and it dies, but the tree 50 feet down has not died yet so they have to repeat their efforts. [Deleted.]

Because of that, those aircraft, the Air Force's, I believe, C-123's were the most-shot-at aircraft in Vietnam.

General GERRITY. No question. They sustained a lot of battle damage and have come back.

Mr. KENDALL. This is another shortage we could go into, Mr. Chairman. At the time we were out there they had only four of them engaged in this work, which was clearly inadequate for the demands made on them.

Senator STENNIS. All right, gentlemen. Thank you very much for your attention today. We will take a recess now, subject to the call of the Chair.

(Whereupon, at 4:55 p.m., the subcommittee recessed, subject to the call of the Chair.)

Mr. Kenyon. This is another chapter we could not find. At the time we were out there they had only one of them engaged in the work which was nearly impossible for the female mind to learn. For your success all right, gentlemen. I think you will find it for your attention today. We will have some more subject to the call of the future. Thompson at 4:55 p.m. the subject is to be subject to the call of the future.

STATUS OF AMMUNITION AND AIR MUNITIONS

THURSDAY, MARCH 17, 1966

U.S. SENATE,
PREPAREDNESS INVESTIGATING SUBCOMMITTEE
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee (composed of Senators Stennis (chairman), Symington, Jackson, Cannon, Byrd of West Virginia, Saltonstall, Smith, and Thurmond) met, pursuant to recess, at 10:05 a.m., in room 224, Old Senate Office Building, Senator John Stennis presiding.

Present: Senators Stennis, Symington, Jackson, Cannon, Byrd of West Virginia, and Smith.

Also present: Lt. Gen. L. F. Chapman, Jr., U.S. Marine Corps; Col. E. W. Roane, U.S. Marine Corps; Col. H. W. Hise, U.S. Marine Corps; Lt. Col. J. C. Thomas, U.S. Marine Corps; Brig. Gen. William G. Thrash, U.S. Marine Corps; Vice Adm. Lot Ensey, U.S. Navy; Rear Adm. K. L. Veth, U.S. Navy; Capt. W. R. Bascom, U.S. Navy; Capt. W. L. Savidge, U.S. Navy; Lt. Comdr. H. O. Brickson, U.S. Navy; Wells Thomsen; J. W. Connelly; and Comdr. Michael Durkin, USN.

Also present: James T. Kendall, chief counsel; Samuel R. Shaw; Glenn A. Smith; and Robert M. Neal, of the staff of the subcommittee. Senator STENNIS. The subcommittee will please come to order.

We are delighted to have this morning as witnesses the Honorable Paul Nitze, Secretary of the Navy, and further as witnesses Capt. K. V. Lindstrom of the U.S. Navy, and Maj. Gen. William J. Van Ryzin, of the Marine Corps.

In keeping with our unbroken custom here, this being primarily an investigative committee, I am going to ask you three gentlemen to stand, please, and take the oath.

Do you and each of you solemnly swear that your testimony here will be the truth, the whole truth, and nothing but the truth, so help you God?

Secretary NITZE. I do.

Captain LINDSTROM. I do.

General VAN RYZIN. I do.

Senator STENNIS. Thank you, gentlemen. Have a seat.

Secretary Nitze, we are delighted to have you here this morning. We understand you have other pressing matters, and even though you are willing to stay as long as need be, you feel that you should go on to other duties when you can. That is entirely agreeable. We appreciate the fact that you could be here. We are not looking for something bad, and we are always encouraged when we find something good. As usual, our impression is that the Navy has been meet-

ing its problems mightly well in this war. You have met the unusual situation with your usual skill and resourcefulness.

We are looking today primarily to the ammunition situation. But, I want to say that I certainly have been impressed, along with other members of the Senate who keep up with the military, considering the fine operations you have conducted from your carriers, all of these sorties you have made. You do not do these things to get credit in the press, but I do not believe you have gotten your share of the general credit that way from day to day in the press. I do not know that the press is to blame for that or the Navy either. But there are those who know what you are doing and appreciate it.

I say that to you gentlemen here, but more particularly to those youngsters out there on those carrier tops and those flying the planes and doing all the other hazardous things that go with it. The more I work with your problem, the more I realize how much morale means to you and to the men on the deck. I want the record here to show how much this is appreciated.

Mr. Secretary, I believe you have a prepared statement. Without any further preliminaries, we want you to proceed sir.

**TESTIMONY OF HON. PAUL H. NITZE, SECRETARY OF THE NAVY;
MAJ. GEN. WILLIAM J. VAN RYZIN, U.S. MARINE CORPS, AND
CAPT. K. V. LINDSTROM, U.S. NAVY**

NITZE STATEMENT

Secretary NITZE. Thank you, Mr. Chairman.

I welcome this opportunity to appear before you to discuss the current and projected status of Navy and Marine Corps ammunition with particular reference to the operations in southeast Asia. Before you hear detailed statements about the principal items involved, I would like to make some specific observations about our ammunition situation:

To date we have had a sufficient quantity of ammunition to meet operations. We project that we shall continue to have sufficient ammunition to meet our operational needs in the future. With the ammunition production we already have underway, together with the ammunition requested in the President's fiscal year 1966 supplemental and the fiscal year 1967 budget, there will continue to be not only enough ammunition to sustain operations but to extensively modernize most of our ammunition items in inventory.

Our ammunition consumption in southeast Asia falls into two basic categories; ammunition for support of the Marine Corps ground forces and air-to-ground ammunition for both the attack carrier and the Marine Corps wings.

There is some ship gun ammunition consumption, but relatively speaking it has been modest and there are adequate stocks on hand and programed for such consumption at present and predicated rates. Generally, consumption of ground ammunition by the Marine Corps forces has been at a lower rate than estimated last summer. Adequate stocks are on hand and programed to sustain combat consumption at the higher rates projected for the future.

In terms of tonnage, our heaviest use of ammunition by far has been air-to-ground ammunition. At the start of hostilities, we had ap-

proximately [deleted] tons of air-to-ground ammunition in inventory of which about one-third was modern. This inventory is being gradually consumed and will be replaced by modern items from the expanding production base. Current consumption is about [deleted] tons a month and we are planning on the basis that this rate will increase appreciably in coming months.

Up to the present, as you know from your trips, we have been employing a mixture of older and modern items, pending the receipt of modern items from the enlarged production base we have created and when missions are relatively short range, older weapons are used. Modern items are planned for all North Vietnam strikes.

Contractual action to create an enlarged base was first commenced last February. Early last summer existing munitions contract deliveries were accelerated. During the late summer and early fall a further substantial enlargement of the munitions complex and attendant ammunition supply contracts were negotiated. By these actions we have achieved a position—by judicious use of older ammunition with the more modern—from which we shall be able to support a considerably expanded sortie rate. We assayed our situation in this regard last summer. We planned the mix of expenditures to carry us past the time when production of modern ammunition would match southeast Asia requirements and with extension of expanding production capability we can foresee the attainment of that goal.

One last consideration about air-to-ground ammunition: in the detailed presentations to follow you will see all our heavy usage items expressed in terms of the modern items. You will also see inventories of the older, but effective, items that are currently in use. I request that in looking at our assets and asset projections you continuously keep both kinds of ammunition in mind. The combination of the two constitutes our assets. As an illustration, the modern Snakeye 250-pound and 500-pound low drag retarded free-fall bombs soon will be entering inventory in increasing quantities from our enlarged base. Pending this development, the older munitions are being used to supplement modern munitions in southeast Asia.

In practice, it is virtually impossible to predict which items will be used in lieu of a modern item because of the wide range of operating conditions and targets in the theater and because most of the items are general purpose in character. The mixture of weapons carried on the aircraft sorties varies from day to day. It is for these reasons that it is quite pertinent to consider our total inventory in assessing our supply capability.

In closing, I do not mean to imply that we have had no difficulties, but we have taken prompt measures to resolve problems. I feel we have made substantial progress. For example, delivery rates from the huge production complex we have been creating for such items as the MK-81 and MK-82 Snakeye bombs and the 2.75-inch folding fin air rocket are scheduled to increase rapidly during the coming months. The magnitude of this production program is exemplified by the MK-82 bomb. Last September one production line was in operation. Five lines are now in production. Six more lines, for a total of 11, will be in production by next August. By next November on a multiple-shift basis, a monthly rate of [deleted] bombs for the Navy

and the Air Force is scheduled to be attained. This rate may be compared with acceptances of [deleted] last September.

Gentlemen, this concludes my introductory statement on the Department of the Navy ammunition status. I will be pleased to try to answer any questions you may have at this time as will Lieutenant General Chapman and Vice Admiral Ensey.

It is now my pleasure to introduce Capt. K. V. Lindstrom who will present the Navy ammunition picture.

DIVERSIFICATION IN AMMUNITION PRODUCTION

Senator STENNIS. All right. Captain, if you will wait, we will ask the Secretary some questions, so that he may go on to other matters.

Mr. Secretary, I will ask you a few questions for the subcommittee, and then call on the other members and the staff.

On page 4, you say, "Last September one production line was in operation. Five lines are now in operation." Does that represent a diversified production line of several companies?

Secretary NITZE. Yes; it does, Mr. Chairman.

Senator STENNIS. Corporations, companies, anything else? Explain what that means, you or someone with you.

Secretary NITZE. It is several companies. I think we could list the companies.

Senator STENNIS. That would be agreeable.

Secretary NITZE. Captain Savage?

Captain SAVAGE. Actually, it includes several companies and in the ultimate context it may be 2 or 3 lines in any given company. The principal companies are the United States Steel Corp. in Pittsburgh, Norris-Thermidor in Los Angeles, two companies in Dallas, the American Manufacturing Co. and the Inter-Continental are the principal ones, Senator.

Senator STENNIS. It is just inconceivable to me that we would have any situation where a strike is tolerated, I would not tolerate it myself, but they cannot all be stopped immediately, even where the Government's strong hand is employed. But it is inconceivable to me that we would leave ourselves liable to have a production line interrupted, putting all the faith in one production company and in one group of workmen.

I am glad to know that you do have this diversification. Do you consider that, Mr. Secretary, to be sufficient diversification?

Secretary NITZE. Yes, we do consider that to be sufficient diversification.

COMPARISON OF LOW-DRAW AND HIGH-DRAW MUNITIONS

Senator STENNIS. That is encouraging. Now, turning back to page 3 of your statement, you have given some illustrations, and you say, "Pending this development, the older munitions are being used to supplement modern munitions in southeast Asia." These older munitions are not so old as to be ineffective, nor are they not so backward as to be out of keeping? They are older, but they are still subject to effective use. Expand on that a little.

Secretary NITZE. They are very good munitions.

Senator STENNIS. Yes.

Secretary NITZE. They are, however, by and large, high-drag munitions rather than low-drag munitions.

Senator STENNIS. Maybe you had better explain that a little. I think I heard the other day what it means.

Secretary NITZE. Well, the low-drag munitions are so configured, aerodynamically, that they produce less drag on the plane and, therefore, are more appropriate for the high-speed jet aircraft, while the high-drag munitions are rounder, fatter, and therefore create more drag on the plane, and the higher drag reduces the range that the plane would be capable of.

We are using up much of our high-drag munitions in South Vietnam, where speed is not of the essence, and where the range is not very great, and therefore it is appropriate, I believe, to use the high-drag munitions in South Vietnam, pending the production of these low-drag munitions, which are involved in this increased production base which I have described.

Senator STENNIS. With the more modern ammunition, you use your plane more effectively, the sortie, the pilot and everything else?

Secretary NITZE. That is correct.

Senator STENNIS. It is more effective and more efficient.

Secretary NITZE. There is one additional point, and that is that, by and large, one can increase the effective bomb loading per plane with the low-drag modern munitions as opposed to the high-drag old munitions. A given plane can carry somewhat expanded tonnage per sortie on the average.

WHETHER OPERATIONS CURTAILED FOR LACK OF AMMUNITION

Senator STENNIS. I will ask you this question. It is intended to be rather searching, if I word it correctly. Have you had to curtail any of your planning operations or reduce them in any way because of the lack of ammunition?

Secretary NITZE. No, I believe not, Mr. Chairman.

Senator STENNIS. We have run into cases where there was curtailment of planning on the land because of the lack of ammunition, but still it can be truthfully said that no mission has failed to be carried out for the lack of ammunition. But the truth is that the mission just was not planned as large as it otherwise would have been. You have had no problem along that line?

Secretary NITZE. We have had no problem along that line.

PERFORMANCE OF PROPELLER AND JET PLANES IN VIETNAM

Senator STENNIS. I will tell you something that has impressed us here: That is your jet plane being shot down by what I call old-fashioned antiaircraft weapons. As I understand it, this World War II plane could come back shot full of holes, but when they hit one of your fast ones, even with one bullet hole sometimes, it will throw it so much out of proportion that it will come apart. Will you or the gentlemen on your staff comment on this as to what has been your experience with the problem?

Secretary NITZE. Our A-1 planes, which are very old propeller-driven planes, but which are very effective because they carry a high load for a long distance, have been extremely effective in South Vietnam where the antiaircraft density has been nonexistent or at least low. But they are too slow for the environment in North Vietnam, and so we are using few A-1's in North Vietnam, and are using primarily the jets instead. I think the A-4, which is a jet plane, has proven to be less vulnerable than some other types of planes in an antiaircraft environment, due to the small vulnerable area exposed by the A-4. It varies, plane by plane, as to its vulnerability to antiaircraft fire.

The Bureau of Weapons has for years given intense consideration to the vulnerability of the planes as one of the performance characteristics, and frankly, it is my view, and I would like to ask Admiral Ensey's opinion, that the Navy has done a very good job on the question of the vulnerability of its aircraft.

Admiral ENSEY. That is correct, sir. In addition, because the A-4 is a smaller plane, and this we may thank perhaps to having it designed for carrier use, it is not really such a big target as some of the other land-based fighters—fighter-bombers. This is another side benefit of a small plane, and it has shown up with a lower attrition rate.

Senator STENNIS. That is fine. I got the idea when we were coming into the jets, that they antiquated and made obsolete all of the then current antiaircraft fire. But it has proved the other way, has it not? They are able to hit your—

Admiral ENSEY. You get one bullet into a hydraulic line that serves your control surfaces and you are done.

AIRCRAFT LOSSES IN VIETNAM

Senator STENNIS. How many planes have you lost? How many Navy planes have been shot down? Do you have that?

Secretary NITZE. I think it is 121, but I would like to supply it accurately.

(The information supplied is as follows:)

Q. How many planes have you had shot down?

A. Aircraft: Navy, 130; USMC, 14 plus 14 helicopters. Pilots lost: Navy, 86; USMC, 9. Crewmen lost: Navy 23; USMC, 8. (Note: These data current as of 25 March 1966.)

SNAKEYE PRODUCTION

Senator STENNIS. Senator Smith, do you have some questions for the Secretary?

Senator SMITH. I have one. Mr. Secretary, glancing through the statements that came to us yesterday, I gather there has not been any curtailment in meeting our requirements, as far as the Navy is concerned, but that if a big emergency came on, we would find ourselves in trouble.

On page 3 you state:

As an illustration, the modern Snakeye 250-pound and 500-pound low-drag, retarded free-fall bombs will soon be entering inventory.

What does that "will soon" mean?

Secretary NITZE. Right now they are entering the inventory in increasing quantities. Already our production rate has expanded greatly from the [deleted] in September which I mentioned to you, and I think I have some figures here by months in tonnages of the MK-81's. In March it will be [deleted] bombs for a tonnage of close to [deleted] tons of MK-81's. In April it will be [deleted] bombs with a tonnage of [deleted]. In May it will be [deleted] bombs with a tonnage of [deleted]. In June, close to [deleted] bombs, with a tonnage of close to [deleted]. In July, it goes up again. It is [deleted] bombs with a tonnage of [deleted], and so forth, until we get to December, for instance, when it is projected to be [deleted] bombs with a tonnage of [deleted]. That it is a continuing projection of the increases up through the end of the year. It is even more impressive with the MK-82, which is the 500-pound bomb. There we propose to go up to [deleted] tons of these bombs in December.

WHETHER CONSIDERATION IS GIVEN TO USE OF TACTICAL NUCLEAR WEAPONS

Senator SMITH. But if Red China suddenly entered the war between now and September or December, there would be escalation, and we would not have enough conventional ammunition. What consideration is being given to the use of small tactical nuclear weapons?

Secretary NITZE. [Deleted.]

Senator SMITH. Is any consideration being given to the possible use of tactical nuclear weapons?

Secretary NITZE. [Deleted.]

Senator SMITH. But sufficient consideration is being given so that you will be ready in case of a great need?

Secretary NITZE. That is correct, Senator Smith.

Senator SMITH. Thank you, Mr. Chairman.

ADEQUACY OF AIRCRAFT

Senator STENNIS. Thank you, Senator Smith. I think those are good questions. [Deleted] you could be caught where you would not have enough planes, even though you had enough ammunition, that you would not have enough planes to make the sorties that you need with conventional ammunition, and therefore would be [deleted].

Secretary NITZE. We try to keep our forces in balance, so that our platforms, that is the carriers, are related to the number of planes, and that the pilot production is related to the planes and platforms, and the ordnance is related to the sorties which you could fly with the platforms, planes, and pilots. So that these things are all in balance.

Senator STENNIS. I know, but going back to your proposition, and not trying to dispute what you say, I think this question should be raised. Senator Smith, talking about the prospect of war with Red China, I said it was a risk, and we just had to take it along with the rest. But for my part, if we did get into a contest with hordes of their manpower, I would not want our boys to be denied the use of any weapon we had, if necessary. The newspapers said, "Stennis

advocates use of nuclear weapons." I did not advocate anything of the kind. But I think it is well that our adversaries know that we will use them if necessary. I think that is one of the great deterrents. Now, Senator Smith, you raised the question about being driven to using them, because of the lack of other bombs. Now, the further question is, are we going to use them just because we do not have enough planes? We are not going to be driven to that, are we?

Secretary NITZE. No. As I say, we are trying to keep our forces in balance so we have the right number of planes for our Marine air wings and our Navy carrier air wings.

Senator STENNIS. But you say you would run out of planes before you would conventional weapons, in massing your forces; is that right?

Secretary NITZE. [Deleted.]

Senator STENNIS. Well, as Secretary of the Navy, do you feel that you have enough planes now to meet the uncertain future we are looking into?

Secretary NITZE. We have felt that we needed more planes, and we have gotten authorization for an increase in production rates of planes to be financed both in the 1966 supplemental budget and also in the 1967 budget. Now there are certain types of planes which we would have liked to have gotten which are not in the budget, but these are support aircraft, not combat aircraft.

Senator STENNIS. Confining the question then to combat aircraft, as Secretary of the Navy, do you feel that those that you have in being plus those in the budget are sufficient? We are entitled to your opinion on this.

Secretary Nitze. I think they are sufficient for the contingencies we foresee at the time we prepared the budget.

Senator STENNIS. What about those that you see now?

Secretary NITZE. I do not think that the situation has changed since the time that the budget was prepared.

I don't think that our loss rates, for instance, in southeast Asia, have been higher than what we planned at the time the budget was prepared. I could envisage a change in the situation in North Vietnam which would increase our attrition rates beyond what we have today or what was planned for. This is a possibility. On the other hand, we have the production lines of combat aircraft. The F-4 production line has been expanded up to a very high rate. The A-4 line has been continued and is being expanded in its output. The A-6 type of plane is being expanded as rapidly as we believe we can absorb A-6 planes, and the A-7 production is coming into being rapidly and will greatly increase our production capability for a light attack plane as this comes into production.

I think the limiting factor on the A-7 line is really the engine production rather than the airframe production. Does this correspond with your understanding, Admiral Ensey?

Admiral ENSEY. Yes, sir.

Senator STENNIS. That is very encouraging, but going back to this question, you remember the Constitution says that the Congress shall provide for the national defense. We are the only ones that can appropriate the money. You are one of the ones we have to look to for counsel on this. I was asking you for your opinion, and I am sure

you are going to give it truthfully. If I understand you correctly, you said that with those combat planes in being and those in the budget you thought, when the budget was adopted, that would be enough. Do you still think it is enough?

Secretary NITZE. That is correct.

Senator STENNIS. All right. You are making another budget now though, and you have it virtually complete for 1968. Of course, it is not finalized, but you are representing the Navy in that category too.

Secretary NITZE. That is still in its early stages of consideration.

Senator STENNIS. Yes. We want to encourage you though. This idea that any war we have is going to be a nuclear war certainly has been thrown into the ashcan, and any idea that our superior conventional weapons could just mop up a little country almost overnight is in the ashcan. I think we are going to have many more challenges of this kind, myself. I don't believe I have ever been for the idea of going overboard for the sake of waving the flag, but I certainly think we have to furnish our arsenal. It is the only hope.

USE OF NUCLEAR WEAPONS IN CASE OF NEED

Senator SMITH. Mr. Chairman.

Senator STENNIS. Yes, Senator Smith.

Senator SMITH. Like yourself, I have supported the nuclear program and the appropriations for it, and I hope we never will have to use them, of course. On the other hand, I hope that sufficient consideration is being given in case of need. The Secretary has assured us that this is being done, and I appreciate it, Mr. Secretary.

Secretary NITZE. Thank you.

Senator SMITH. If I understood correctly.

Secretary NITZE. That is correct. I personally have looked into the matter in the last month, to be sure that we were not neglecting our training, or readiness, or inventories in the tactical nuclear field. Obviously in the strategic field this is a matter right on the top of the Navy's continuing priority to see to it that the Polaris system is wholly reliable and wholly effective.

Senator SMITH. Thank you.

Senator STENNIS. Again it is reassuring to get this testimony, and I am certainly glad you brought it out. Senator Byrd?

Senator BYRD of West Virginia. Mr. Chairman, I share your sentiments. A strong man armed keepth his city.

NAVY PROCUREMENT OF COMBAT AIRCRAFT

Senator STENNIS. Thank you very much, Senator. Mr. Kendall, do you and General Shaw have some questions for Secretary Nitze?

Mr. KENDALL. Yes, I have a few, Mr. Chairman. Mr. Secretary, in order to clarify a point I did not quite understand, what was the Navy's request for procurement of combat aircraft for the fiscal year 1966 supplemental and the fiscal year 1967 budget, and what was approved?

Secretary NITZE. Let me just look at the figure. For the 1966 supplemental, we asked for 486 planes at a cost of \$555 million, and the approval was 363 planes at a cost of \$499 million. I think the reason for the differential in numbers is to be found primarily in the UH-1-E

helicopters, in which the requirement for the Army was really greater than our requirement, and the production capability being limited, they were given a larger share of the UH-1-E production; isn't that correct, General Van Ryzin?

General VAN RYZIN. That is correct.

Secretary NITZE. Another item which affected the numbers was in the A-6-B, where we had at one time asked for [deleted] A-6-B's, but then when our attrition rate turned out to be less than had been projected originally, and the question was whether or not to buy only [deleted], the determination was made that it was better not to do that and we got an increase in the number of A-4-E's instead, as I remember it, and an increase in the A-6-A's.

Mr. KENDALL. What were the figures for the fiscal year 1967 budget, sir?

Secretary NITZE. The figures for the 1967 budget were that we asked for 608 at a total cost of \$1,384 million, and the President's budget includes 486 at a cost of \$797 million.

SNAKEYE PROCUREMENT

Mr. KENDALL. Thank you very much. On the Mark 81 Snakeye. As I recall, this is a rather good example of how production is now catching up and taking care of some problems. Wasn't this 250-pound Snakeye bomb one of those that were on the verge of being critical, say last fall, October, in that neighborhood?

Secretary NITZE. We did have high-drag 250-pound bombs, and so during the course of the fall, and up through January, I think, we have used a much higher percentage of high-drag 250-pound bombs than would be the preferred optimum mix.

Mr. KENDALL. But because of your production, because of the fact this was a new item coming into production, you would naturally have had some problems, or deficiencies, or shortages, in supplying that particular area with the Snakeye version.

Secretary NITZE. It was necessary to use the older munitions, rather than the more modern, because this was a new item just coming into production.

NAVY PROCUREMENT OF 1,000- AND 2,000-POUND BOMBS

Mr. KENDALL. Mr. Secretary, is any procurement under way or planned of the thousand pound or the 2,000-pound bomb, or is this considered—

Secretary NITZE. I believe it is considered we are in an adequate position.

Captain LINDSTROM. We are in an adequate position right now, sir. We have about [deleted], thousand-pound low-drag bombs, but we have recently added a fuze, a VT fuze that has been added for flak suppression, and this has enhanced its usefulness in southeast Asia. We have a capability that Captain Savidge can speak to, to build more thousand-pound bombs, [deleted], when we anticipate perhaps we will have to bring it back into production. We have adequate bombs right at the present time.

NAVY'S ALLOCATION OF RECONNAISSANCE FLIGHTS OVER
NORTH VIETNAM

Mr. KENDALL. We can go into that later, Mr. Secretary. Since the resumption of the bombing of North Vietnam, is the Navy still allocating—I believe the figure was [deleted]—armed reconnaissance sorties a month against North Vietnam?

Captain BASCOM. I don't know what the current sortie allocation is.

Captain LINDSTROM. Approximately [deleted] attack sorties are envisioned as the requirement at the present time.

Mr. KENDALL. For what period?

Captain LINDSTROM. A period of a month, [deleted] attack sorties in North Vietnam.

Mr. KENDALL. Does that include both Rolling Thunder, and the armed reconnaissance sorties?

Captain LINDSTROM. Yes, sir.

Mr. KENDALL. Do you have the breakout?

Captain LINDSTROM. I don't have the breakout.

Captain BASCOM. We could get that information for you.

(The information furnished is as follows:)

Q. What is Navy's allocation of Armed Reconnaissance flights in NVN?

A. Specific allocations of numbers of armed reconnaissance flights in NVN are not made to either Navy or Air Force. For the month of March the JCS authorized CINCPAC to fly a certain number of *attack* sorties in NVN. Armed reconnaissance is included in the definition of attack sorties. CINCPAC, in his authorization to CINCPACFLT and CINCPACAF to conduct attack sorties in NVN, stated he would not allocate specific number of sorties to be flown by either service. He did say that he would monitor the efforts of each service and make any adjustments that might be necessary as the month progressed.

PROBLEM OF PREEXPLOSION OF LOW-DRAW BOMBS

Mr. KENDALL. We were told last year there had been some problem of preexplosion of bombs of the low-drag types, and in several instances this has resulted in either loss or damage to aircraft. Has that problem been overcome?

Captain LINDSTROM. Yes, sir; that problem has been overcome. There were some instances, about six aircraft that were lost in this regard and one pilot was lost on this problem. One of the problems was one aircraft was lost because of a napalm leak in a bomb.

And it caught fire. This has been rectified.

BUDGET FOR NAVY'S FLYING HOURS RATE

Mr. KENDALL. One other question, Mr. Secretary. We were also told last year of one of the problems which the Navy was having but which did not limit or affect its actual operations. It was a financial problem because the budgeting for the Navy at that time was based on the peacetime operational rate of aircraft flying hours, which I believe is 23 hours a month or something in that neighborhood. Is that still a problem, or has that been taken care of?

Secretary NITZE. No, I think our flying hours that we requested were fully approved.

Mr. KENDALL. But, in other words, your request was based on your actual flying hours' rate, rather than a peacetime rate; that was true in fiscal year 1965?

Secretary NITZE. That is correct. I am sure that our computation was based upon our actual requirements today, including the higher tempo of operations in southeast Asia, and our full request, as I remember it, is 2,400,000 flying hours which was approved.

Admiral ENSEY. We came out with a total this year of 4 million, where last year we were funded for—in 1966 we were funded for 3.7, and we are funded now in 1967 for 4 million. This is based on current requirements.

Mr. KENDALL. This is in line with a comment I would like to make, Mr. Secretary. I was very much impressed last year with your ammunition supply problem with respect to the sea loading of your carriers and so forth, and with what the Navy was doing to handle the situation. I would hope that some time today somebody would address themselves to that question a little bit, because I think it is a very interesting exercise. Thank you very much, sir.

Secretary NITZE. Thank you.

Senator STENNIS. All right, are there any other questions?

Mr. Secretary, we want to thank you very much for coming. Is there anything else you wish to say? Has this prompted any other points in your mind?

Secretary NITZE. No, I think not, Mr. Chairman.

Senator STENNIS. Thank you very much for coming. We will resume our hearing now, of course, but if you wish to retire you may do so.

Secretary NITZE. Thank you, Mr. Chairman.

STAFF REPORT ON ARMY DIVISIONS

Senator STENNIS. I want to say to the membership that we have had Mr. French and Mr. Gilleas out with four of the Army divisions in the last 2 weeks and they will be ready to give the subcommittee a report on just what they saw and learned, from the notes they took. We cannot have these intolerable delays, waiting and waiting for them to send information on over here. We will just take it direct from our men, as to what they saw. I hope we can arrange for them to appear Monday, and I think they can, and just give you a direct report. We may then convert it into a subcommittee report. So if you can save about an hour Monday afternoon, we can have that meeting.

All right, thank you very much, Mr. Secretary.

Secretary NITZE. Thank you, Mr. Chairman.

Senator STENNIS. All right, gentlemen, we will proceed with our hearings. Captain, we come to you next, sir. You have your statement. It is in the book.

Mr. KENDALL. Mr. Chairman, I believe the Captain would like to sit up here, if it is permissible.

Senator STENNIS. All right. Members of the subcommittee, this is Capt. K. V. Lindstrom. He is the head of Materiel Requirement Branch in the Materiel Division, Office of Deputy Chief of Staff, Logistics. He is accompanied by Maj. Gen. William J. Van Ryzin, Assistant Chief of Staff, G-4, of the U.S. Marine Corps. Captain, proceed in your own way.

STATEMENT OF CAPT. K. V. LINDSTROM

Captain LINDSTROM. Mr. Chairman and members of the committee, in supporting the Secretary's statement, we propose to present to you the detailed situation with respect to those ammunition items presently holding our greatest interest. There are nine such items which we watch most closely because their consumption rates have, at times, exceeded production rates.

Before going into these details, however, some explanation of terms which we will use today may be in order.

The first is inventory objective. This is the inventory level set to support, generally, [deleted] of combat consumption on a world-wide scale. It is a critical yardstick when production is low, but this criticality decreases proportionately as a hot production base is developed and expanded.

Specifically, our inventory objectives provide our consumption of modern types of air-to-ground ammunition for active and selected reserve aviation forces to support [deleted] Navy and [deleted] Marine Corps attack sorties, an average of approximately [deleted] a month for [deleted]. By using a mix of modern and old weapons, we have had and project availability of sufficient ammunition. Our production base will exceed planned consumption by about [deleted] of this year. The weapon mix to support these sorties has been and continues under constant review which is reflected in the changing inventory objectives of individual items on the charts to be shown.

Our most recent ammunition analysis shows a capability to support over [deleted] Navy and Marine Corps sorties per month in southeast Asia using existing stocks of old and new items, plus planned production of new items through the period until increased production, which is underway takes full effect. This is in addition to our CINCLANTFLT reserves.

In actual practice in southeast Asia, with three carriers on the line and with seven Marine Corps squadrons in-country we have been averaging about [deleted] ordnance-expending sorties per month. In January we flew [deleted] attack sorties. We have planned for [deleted] per month this year. We forecast that by the end of the year, production deliveries to SEA will be at a rate which would support [deleted] sorties per month, using only modern items. Some older items will still be available to augment this level.

At these usage and production rates the net result is twofold: first, during this year we will begin to gain on our inventory position, and hence on our inventory objective; and, second, we are modernizing the inventory. In almost every case our inventory trend in individual items is projected to improve this year in spite of the anticipated increasing consumption rates. This is the combined result of increased production and the continued use of an acceptable mix of older weapons with the new.

It is the policy of the Navy to pre-position for the Atlantic and Pacific Fleets usage for the largest contingency plan for each area. These munitions form part of our pre-positioned war reserve stocks and are protected to the maximum extent possible. Our pre-positioned war reserve stocks are located aboard ship, overseas, and in our CONUS bases. The Atlantic Fleet Commander has not been

authorized any drawdown of these assets. However, for the Pacific, authority has been given to the Commander in Chief, Pacific Fleet to use his reserves in southeast Asia to give him greater flexibility in management of his assets. Since a sizable portion of his total assets is normally in transit from CONUS to southeast Asia, this, in itself, provides an appreciable base which could be diverted for other contingencies.

(Slide A on.)

Captain LINDSTROM. This chart shows the decreasing gross tonnage trend which results from the use of older weapons from inventory plus modern weapons. This trend is anticipated to continue until the stepped-up production of modern items exceeds consumption. It indicates how the method of developing inventory objectives in the past, of increasing budgetary support, and the resultant buildup of production deliveries is improving our inventory of modern weapons and that a reversal of the declining overall inventory should occur [deleted]. This chart assumes a usage rate of [deleted] tons per sortie at [deleted] sorties per month, or [deleted] tons per month. This is nearly twice the monthly usage rate actually experienced during calendar year 1965. In addition to the expenditures by Navy and Marine aircraft, during the past 13 months [deleted] tons of older air munitions were transferred to the Air Force primarily for use in the military assistance program. Conversely, we have received approximately [deleted] tons of the modern MK 81 250-pound low-drag bomb from the Air Force.

CLARIFICATION OF ORDNANCE CHART

Senator BYRD of West Virginia. Mr. Chairman, at that point may I ask a question? I am not sure that I am properly reading what you have stated. The increase in older ordnance, begins with about [deleted] of this year and reaches its peak in about [deleted].

Captain LINDSTROM. The modern ordnance shows that increase at the bottom. It is separated out. The modern ordnance in the inventory is increasing. Actually the top slice, the older ordnance, is decreasing.

Senator BYRD of West Virginia. What causes this rise back to the peak around [deleted]?

Captain LINDSTROM. [Deleted] we have a buy of munitions, but as we constantly reviewed our requirements for munitions, and we have our production base going, Mr. McNamara has said before we have held off a buy of weapons in that time period, because we want to evaluate our inventory, and also we want to be in a position to phase out some of the production, to lengthen it out to keep a hot production line in case hostilities would end. This is a matter of management technique that doesn't affect our capabilities.

Mr. KENDALL. Captain, I think the point is that top line, that is the total ordnance which shows the hump at that period.

Captain LINDSTROM. Yes, sir.

Mr. KENDALL. And the hump is actually caused by the modern ordnance coming into the inventory. Is that accurate?

Senator STENNIS. Senator, do you see the words "total ordnance" and the little arrow to the left? That peak of [deleted], that is total ordnance.

Senator BYRD of West Virginia. I see. Thank you.
Senator STENNIS. It is misleading just looking at it.

LINDSTROM STATEMENT RESUMED

Captain LINDSTROM. In addition we have given [deleted] to the Air Force and received [deleted] tons of MK 81's in exchange. You will note on this chart that the gross tonnage decreases in calendar year 1967. As was previously mentioned by Secretary McNamara, for some of our short leadtime items, funds were not requested for the second half of fiscal year 1967. Two of our highest usage items, the MK 81 and MK 82 bombs, are in this category. As additional experience is gained in southeast Asia, we will be able to make increasingly accurate estimates of usage and can then better state our requirements for the balance of the fiscal year—and state them in adequate time to preclude any lowering of production unless such is desired. Conversely, should the war end, we should be prepared to spread out our acquisitions in order to maintain a hot production base and minimize disruptions of industry and continue to build up to a desirable inventory.

(Slide A off.)

Captain LINDSTROM. The fact remains that, while everyone from the Secretary of Defense to ship captains and plane pilots themselves have been watching our ordnance situation with great interest, we have heard of very few instances where planned sorties were canceled or delayed because of ammunition. Where such instances have occurred, they have been caused by distribution difficulties rather than by actual lack of ammunition in the area. Weather, off-loading restrictions, and limited port throughput capabilities have been responsible for delays in distribution to the ultimate users, the aircraft. The latter two conditions are being rectified.

And at this point in time have they been rectified. We will now present two series of slides: A graphic presentation of the data given in the handout and secondly dollar value analysis charts.

In the first series of slides, we review the nine items that have the greatest application in southeast Asia operations. Primarily these are aviation strike warfare weapons. Of these, the smaller low-drag bombs (250 and 500 pounds) are in the most demand since they are good general purpose weapons and can be delivered from multiple carriage bomb racks. Rockets are close behind since they afford the pilots a forward firing capability against a variety of targets. Other weapons utilized in varying degrees are aircraft gun ammunition, fire-bombs, the Bullpup guided missile, and our larger bombs.

(Slide 1 on.)

Captain LINDSTROM. The first item to be considered is the 250-pound low-drag, MK 81 bomb. This bomb is normally delivered in a stick of [deleted] but the pilot has the option of delivering singly. This weapon affords the pilot tactical flexibility since it can be delivered in a dive or in a low-level attack. For the latter delivery, a retarding device called the Snakeye tail is actuated which provides the necessary safe separation distance between aircraft and bomb burst. The Snakeye configuration just entered fleet usage in 1965. This slide shows the Snakeye tail in the open position.

EXPLANATION OF SNAKEYE DELIVERY METHOD

Senator STENNIS. Pardon me just a minute now. I saw this the other day, I don't know whether the others have or not. That is the device that lets the pilot and plane get out of the way before there is any explosion.

Captain LINDSTROM. Yes, sir; he can come in at a low level, release the bombs. The Snakeye tail actuates. It slows the bomb down at a low level. He can pull out and clear himself from the bomb blast.

Captain BASCOM. If I may, sir.

Senator STENNIS. Give your name please, sir.

Captain BASCOM. Captain Bascom. This is a high-drag device, which enables the pilot to escape the bomb blast. But more importantly, it also gives him more tactical flexibility in the delivery method.

Senator STENNIS. In what? In the delivery method?

Captain BASCOM. Delivery method. He comes in low at high speed, which reduces vulnerability to conventional AA, I am not talking about small arms fire, and releases the bomb in this fashion, or he can drop it in the closed position or what we call the free fall mode and deliver it like a normal bomb out of a dive or horizontal delivery.

Senator STENNIS. Very good. Thank you, sir.

LINDSTROM STATEMENT RESUMED

Captain LINDSTROM. (Slide 2 on.) The terminology used in the MK-81 charts is common to this series of charts.

The current inventory objective directed by the SECDEF is for [deleted] Navy and Marine attack sorties for a 6-month period, and is an increase over the 1965 objective which was stated to be [deleted] attack sorties for a 6-month period. The combination of the introduction of the Snakeye tail and multiple bomb racks with the new logistics guidance accounts for the large increase in inventory objective in July of 1965. In determining the inventory objective for a specific item, its relative effectiveness and availability are considered in conjunction with those of other weapons and forces available to use it. This rationale is reflected by the increase of inventory objective in fiscal 1967. The inventory represents our reported assets. After January 1, 1966, the chart shows a projection based on acquisition from production and expected consumption. Consumption includes both combat and training usage.

You will note the expanding production trend.

A decline is indicated in acquisitions in the last half of fiscal year 1967. Since this bomb is a relatively short leadtime item (6 months), it is planned to review our position this spring in the light of past expenditures and planned operations to determine the level of production required.

(Slides 1 and 2 off.)

Captain LINDSTROM. We currently have three bomb-body producers with a fourth coming in about July of this year. Our loading is done in house, by our Naval Ammunition Depots at Crane, Ind.; McAlester, Okla.; Hawthorne, Nev.; and the Naval Weapons Station, Yorktown, Va. Each of the bomb-body producers is operating one

production line. The production and loading outputs are shared with the Air Force. Our slides show Navy production only.

We have had to make liberal use of older bombs, as the Secretary has mentioned, to meet our weapon requirements in southeast Asia and as reserves for other contingencies. I'll show a separate chart later which displays the inventory data for the substitute weapons. We keep our weapon inventory under constant scrutiny and review in order to learn as much as possible from combat experience and to reflect this in our inventory management.

As production deliveries permit, we will modernize our stockpile as rapidly as possible by replacing older weapons with modern weapons, releasing the remaining older weapons for training expenditures. Again, as the state of hostilities permits, we will be distributing any assets not required for combat to modernize our stocks in other theaters.

(Slides 3 and 4 on.)

Captain LINDSTROM. The MK 82 is the 500-pound version of the MK 81.

Production and loading of the MK 82 are also shared with the Air Force. There are five bomb-body producers now, each operating one production line.

CORRECTION OF NUMBER OF MK-82 PRODUCERS

Mr. KENDALL. Five, Captain? This says two.

Captain LINDSTROM. That says two, and I have changed it, because the other three have come on this month and they are already on the line. Two on the line and three coming on this month which I was informed yesterday that they are all on the line now.

Mr. KENDALL. Fine, sir.

LINDSTROM STATEMENT RESUMED

Captain LINDSTROM. By the end of the year there will be 11 production lines.

Consideration is being given to the allocation of [deleted] bombs to the Air Force from Navy production during May through September with a later payback.

(Slides 3 and 4 off; slides 5 and 6 on.)

Captain LINDSTROM. The first rocket we will review is the 2.75-inch folding fin aircraft rocket. It is carried on attack aircraft or helicopters in 19-round pods or 7-round pods.

This rocket is in use by all services. There are numerous component producers. Presently we have one assembly unit at the Naval Ammunition Depot, McAlester, Okla. A second assembly facility is being set up and will be operating by the end of the year.

As an item of interest, the rocket production requirement for all services in May 1965 was projected at [deleted] per month. It is now projected to be [deleted] per month.

(Slides 5 and 6 off; slides 7 and 8 on.)

Captain LINDSTROM. 5-inch Zuni is a high-performance, air-to-ground rocket. It can be fired from a 4-round pod or a 2-round pod. [Deleted.]

Zuni production is expanding and will overtake consumption in [deleted]. As with the 2.75-inch rocket there are numerous component producers. Zuni assembly is done at NAD, McAlester, Okla.

CLARIFICATION OF ZUNI CONSUMPTION AND PRODUCTION FIGURES

Senator BYRD of West Virginia. When did you say the production would overcome consumption?

Captain LINDSTROM. [Deleted.]

Senator BYRD of West Virginia. Wasn't there another bar there showing consumption outrunning production? What was the explanation of that?

Captain LINDSTROM. That is through [deleted].

Senator BYRD of West Virginia. Acquisitions overcome consumption for a brief period.

Captain LINDSTROM. For a brief period.

Senator BYRD of West Virginia. Why does consumption then zoom upward beyond the acquisition rate?

Captain LINDSTROM. That is a predicted consumption, and this is a trade-off weapon in combat with the [deleted]. I don't have the answer for that consumption figure that is projected at that time.

Senator BYRD of West Virginia. Your acquisitions actually drop within a 6-month period there while your consumption rates go up.

Captain LINDSTROM. I don't have the answer for that, Senator. Do you have that, Bob?

Senator BYRD of West Virginia. I think we ought to have the answer.

Captain LINDSTROM. I will get the answer for you, sir.

(The information referred to is as follows:)

Q. Why, on the ZUNI chart, does the projected consumption at [deleted] exceed the projected production?

A. The usage projected at that point in time is a prediction based on weapons delivery capability, which is higher than the usage predictions for the near time frame which are based on experience. The production is programmed to achieve inventory objective by the end of the [deleted] funding period, assuming that combat operations terminate by end [deleted]. If this is not the case, additional production will be programmed as necessary to insure meeting combat needs, and gain incrementally on the inventory objective. Under these conditions, the production now scheduled in FY 67 and FY 68 will be compressed, instead of being stretched out through reorder lead time as is now the case.

Captain LINDSTROM. Continuing on page 9.

(Slides 7 and 8 off, slides 9 and 10 on.)

Firebombs are containers which are filled with a gasoline and napalm powder which form a gasoline gel. We have two firebomb models in use: The MK 79, a [deleted] pound model, which is being phased out in favor of the MK 77, a [deleted] pound model. The MK 77 is the preferred firebomb at this time because it lends itself to multiple carriage: [deleted] can be carried on the multiple ejection rack and the target coverage by [deleted] MK 77's is appreciably greater than that from one MK 79, the [deleted] pound bomb. Our future firebomb, and the one that is addressed in the fiscal year 1967 budget, is the [deleted] Fireye, which is even more versatile and effective. All information on this slide is in terms of Fireye equivalents as a matter of convenience.

You see on the left-hand side the Fireye. It is assembled and filled aboard ship. The lower package is the dixie-cup concept where the ends are fitted together for transportation and stowage, and once it is at the airbase or on the carrier, they assemble them and fill them there with a mixture of the powder and gasoline.

There are two producers for the firebomb.

(Slides 9 and 10 off; slides 11 and 12 on.)

Bullpup B (AGM-12C) is a supersonic air-to-surface missile with a [deleted]-pound warhead.

In previous years Bullpup inventory objectives were high, but decreased with the advent of the surface-to-air missile defense. However, as a result of southeast Asia experience and improved delivery accuracy the inventory objective is being reexamined and is tentatively set at [deleted].

There is one producer, the Maxson Electronics Co. of Pennsylvania. Loading and assembly are done by the Navy. The reason no acquisition is indicated in 1967 is that evaluation is now progressing rapidly on the follow-on missile Walleye and either procurement of the Walleye or additional procurement of the Bullpup may be in order when this is completed.

(Slides 11 and 12 off; slides 13 and 14 on.)

Twenty-millimeter cartridges are used in the MK 11 and 12 aircraft guns which are high velocity, automatic guns, designed for both air-to-ground and air-to-air use.

This ammunition is used in the new MK 4 gun pod with the MK 11 guns which is capable of firing [deleted] rounds per minute, you see that in the left-hand picture, and has just been introduced in the fleet. The increasing inventory objective for this ammunition reflects this additional application.

The inventory line for 20-millimeter projectiles reflects a drawdown on the existing inventory while production is increasing. This has been funded in the fiscal year 1965 and 1966 supplementals.

There are one cartridge case producer, two projectile producers, and one fuze producer. NAD, McAlester, Okla., loads and assembles the cartridges.

(Slides 13 and 14 off; slides 15 and 16 on.)

The last air-to-ground item for review is the MK 24 parachute flare.

This is an aircraft launched flare which produces an illumination of approximately 2 million candle power, for 3 minutes.

It is a relatively new item in the inventory and future inventory objectives will be established based on the Navy's increasing night attack capability and our usage experience in southeast Asia.

The current service model of the MK 24 has been in production since June 1965.

Originally the Navy facility at NAD, Crane, Ind., was the only producer of this flare. There are now three commercial producers. This flare is used by all services.

The commercial producers are Amsel in North Carolina, Kilgore in Tennessee, and Burmite in California. The producers are distributed throughout the country.

We have one surface-to-surface item to discuss, the 5-inch, 38-caliber, high-velocity round. The "AAC" in the title refers to its alter-

nate use as an antiaircraft round. Primarily, however, it is used for shore bombardment and gunfire support.

The decreasing inventory objective for this item reflects the displacement of 5-inch 38 guns in the fleet by antiair missiles and newer guns.

For antiair common projectiles there are one projectile body manufacturer and two fuze producers. The projectile is loaded and assembled at NAD, St. Juliens Creek, Va.

(Slide 17 off; slide 18 on.)

On this slide we have listed items which are substitutes of the various air to ground items previously discussed. The five items with an HD, high drag, in parentheses, meaning high drag, are World War II munitions. They were produced during World War II or during the Korean action. Our low-drag bomb family was developed in the mid 1950's for use on jet aircraft.

Navy stocks of the HD bombs were the source of the [deleted] tons of bombs mentioned earlier as having been transferred to the Air Force. Much of this was in support of the Air Force MAP programs in southeast Asia. The parenthetical entry opposite the December 31, 1965, figure for the 1,000-pound HD bomb represents a potential total reduction of Navy stocks by transfer of [deleted] of these bombs to the Air Force during this period. Already [deleted] bombs have been transferred.

Bullpup A, with a 250-pound warhead, was the first of the Bullpup family, and is no longer in production.

CBU-2 is a dispenser loaded with [deleted] antimateriel bomblets. It is not necessarily a substitute item as such, but has effective application against certain targets. Its inclusion in this list is only to indicate its availability in our weaponry.

(Slide 18 off; financial charts.)

The second series of charts indicate the dollar value of all strike warfare ordnance. These charts are based on dollar values for an entire category of ordnance. The first category we consider is bombs.

(Slide 19 on.)

Captain LINDSTROM. In these charts you'll see the dollar value of the beginning inventory, production, consumption, and inventory and inventory objective for fiscal years 1965, 1966, and 1967.

In fiscal year 1965, the significant thing is that at the end of fiscal year 1965 the value of our inventory exceeded the value of the inventory objective. This occurred because the inventory included large quantities of older substitute munitions for which there was little if any inventory objective, whereas the inventory objective is in terms of the modern types of ordnance. In fiscal year 1966 and 1967, because of the shift to [deleted] sorties as Navy logistics guidance, the value of the inventory objective climbs markedly. Also affecting these inventory objectives are new types of ordnance such as Walleye, Rockeye—high-unit-cost items—which begin to appear in inventory in 1966 and 1967. Another significant aspect of this slide is that there is an increasing trend in the end-of-year inventory value, as well as in tonnage previously shown, showing that planned production gains on consumption. Sufficient funds are provided in the fiscal year 1967 budget to attain the inventory objective by the end of procurement leadtime for the fiscal year 1967 procurement.

(Slide 19 off; slide 20 on.)

Captain LINDSTROM. The next category we consider is rockets. In this slide the dollar value applicable to the two rockets we reviewed individually depict the same situation, that in fiscal years 1965 and 1966 there is a reduction in inventories because high intensity usage is experienced for many months before the production can begin to match the usage. In 1967, the production value exceeds consumption value. The changes in value of inventory objectives are attributable to two things: the change in the fiscal year 1967 objectives and the changing emphasis on Zuni. By the end of the fiscal year 1967 lead-time the inventory objective will be met.

(Slide 20 off; slide 21 on.)

Captain LINDSTROM. Air-to-ground missiles constitute the next category. In this group we have included the two versions of Bullpup and the [deleted] missile. The beginning inventory (1965) is primarily the Bullpup A, which is no longer in production. Bullpup B was produced during this period. Quantity production [deleted] commenced in fiscal year 1966. [Deleted.]

Consumption in fiscal year 1965 was almost completely the relatively low-cost Bullpup A. Later years shows increasing consumption of the more expensive Bullpup B and [deleted].

(Slide 21 off; slide 22 on.)

Captain LINDSTROM. The 20-millimeter ammunition involved here is that for the M3 gun which is mounted in the A-1 aircraft, the MK 12 gun which is mounted in A-4 and F-8 aircraft, and the MK 11 gun in the MK 4 gunpod shown earlier. At the outset of hostilities we had very large quantities of the M3 ammunition on hand. However, this ammunition has been heavily used by the Vietnamese Air Force and we have transferred over 23 million rounds to the Air Force in support of their military aid programs. The ammunition for the newer guns is in production, as mentioned earlier.

In summary, our management of our ammunition resources has been effective and has enabled us to support all requirements and still maintain our strategic reserves.

I would be pleased to try to answer any questions at this time.

Senator JACKSON (presiding). Senator Symington?

Senator SYMINGTON. No questions, Mr. Chairman.

Senator JACKSON. Senator Cannon? Senator Byrd? Well, it looks like you are doing very well, Captain. The worst is yet to come, however. I will call on counsel now to ask some questions.

SUBCOMMITTEE STAFF CHARTS ON NAVY AMMUNITION INVENTORY AND OBJECTIVES

Mr. KENDALL. Thank you, Senator. Before asking questions, I have three charts with respect to the Navy ordnance situation which I would like to put in the record. The purpose of these charts—

Senator JACKSON. Without objection, they will be included in the record at this point.

(The information referred to is as follows:)

[Deleted.]

Mr. KENDALL. The purpose of these charts, Mr. Chairman, is merely to pull together information furnished by the Navy and to present it

in more or less of a bird's eye view for the subcommittee. The first chart shows the Navy's worldwide inventory objectives versus inventories on the dates of June 30, 1965, June 30, 1966, and June 30, 1967. I emphasize again that this chart was prepared from the information submitted to the subcommittee by the Navy in response to our questions.

It should also be emphasized, as the Navy already has, that the inventory in these items includes only modern weapons, and does not include any substitute items.

I think the trend is apparent there. They are short of inventory objectives in all of these items. They will continue to be so through June 30, 1967, although of course inventory objectives will have increased substantially at that time as compared to June 30, 1965.

The second chart shows the same information with respect to the stockage objective and the stocks for Atlantic Fleet in Europe and Pacific theater less southeast Asia. We were not able to show a stockage objective for southeast Asia because, as I understand it, there was no specific stockage objective. It is being established at this time.

Captain LINDSTROM. In southeast Asia per se, there was no stockage objective until we started setting one down there. It was all part of PAC fleets assets, and then as we defined the problem in southeast Asia, Subic, Da Nang, and so forth—we established a stockage objective for that area.

Senator JACKSON. You had a contingent objective though, didn't you?

Captain LINDSTROM. Yes, sir.

Senator JACKSON. I mean to take care of contingencies out there.

Captain LINDSTROM. Yes, sir. The total PAC fleet stockage objective was set to take care of the largest contingency in his area. This is turning out to be the largest contingency, and his assets were used there.

Mr. KENDALL. I was just explaining why the stockage objective column in southeast Asia was a blank, Captain.

The third chart, Mr. Chairman, merely shows the inventories of substitute ordnance, and it is identical with the chart which has already been produced and introduced by the Navy itself. We thought it should be included here to give the entire picture.

COMPARISON OF CONSUMPTION OF OLD AND NEW AMMUNITION

Now Captain, I have only one question at this time. As to your consumption figures you have shown with respect to the various items of ammunition, how are they determined? I have particularly in mind as to whether or not the factor of the availability of supply of the modern weapons, which are shown on the charts, in any way affects or lowers the consumption.

In other words, is that weighted into the proposition of your consumption, at all.

Captain LINDSTROM. The consumption up to the present time is based on actual consumption in the relative use of weapons mix in southeast Asia.

Mr. KENDALL. I am talking about your projections.

Captain LINDSTROM. In the future it is dependent upon the availability of the bomb that comes off the production line, and phasing the older ordnance out of the system.

Mr. KENDALL. Let me be sure I understand you, because I think this is a rather important point. Take your 250-pound MK 81 bomb, for example, if you will, which is shown on slide 2, I believe. In the consumption column—say for the period ending June 30, 1966—the point is that are you showing that amount of consumption, which of course refers only to the modern weapon, based upon your required or estimated sortie rate, and what you would require as an optimum to be expended of this type weapon, if you had them on those sortie rates. Or does this reflect the fact that you have a relatively low inventory of the MK 81, and therefore you are not programing them for consumption because you do not have them? This is the thrust of my question.

Captain LINDSTROM. Yes, sir. The substitutes for the MK 81 are practically as effective as the MK 81 itself, the 220-260-pound frag as you know, and the regular 250-pound high-drag bomb. The commanders in the area are going to conserve their optimum weapons, and we anticipate that, until they use up their older weapons, because they want to modernize their inventory, and also at the same time increase their capability to strike North Vietnam. They are using this judiciously. They are managing their resources in the area under these guidances that they have established for themselves, and where you have a hot production line coming through, this will in addition increase their reserves, which will help solve this particular problem.

Mr. KENDALL. Do I understand correctly then that the consumption figures you show here are in fact limited by the availability of the item? Or to put it another way, if your entire inventory, and it was completely adequate, consisted of the MK 81 bomb for the 250-pounder, would it not be true that this consumption rate that you show here would be substantially greater?

Captain LINDSTROM. It would be substantially greater, yes, sir; because they would be using the most modern weapon that they had in their inventory.

Mr. KENDALL. And that holds true for all of these charts?

Captain LINDSTROM. Yes, sir.

Mr. KENDALL. Did you want to say something, Captain?

Captain BASCOM. That is what I was going to say, sir.

Mr. KENDALL. So when you are talking about your consumption rate, this is not the entire picture, but the consumption of your older weapons would also be a part of it.

Captain LINDSTROM. Yes, sir.

Mr. KENDALL. Thank you, sir. That is all I have. General Shaw has some questions.

UTILIZATION OF LOW-DRAG AND HIGH-DRAG BOMBS

Senator JACKSON. General Shaw, go right ahead.

General SHAW. Continuing on that same point, when Admiral McDonald was before the House Appropriations Committee, he did say there was a shortage of the low-drag bombs, in this vein, as I

understand it. On occasion they were not there when they wanted them, so on your multiple rack, which could carry 12 of the low-drag bombs but could carry only 8 of the high-drag, the plane did not have a real load-carrying capacity.

Captain LINDSTROM. Yes, sir, there is a tradeoff. There is no tradeoff on the bomb-carrying capability as far as the MK-81 is concerned because it is equivalent with the lugs that are being installed on the old high-drag bombs. But it limits the range of the aircraft because they drag on the aircraft when you have the high-drag bomb. But it is substantially the same. On the A-4 aircraft, for instance, the MK-82, the 500-pound low-drag, we can carry [deleted] bombs for a total of [deleted] pounds, and [deleted] bombs of the 500-pound high-drag bomb, which cuts it in half, or less than half, and this is equivalent across the board.

Captain BASCOM. I might add here this is only true in the case of the 500-pound bomb and the thousand-pound bomb.

General SHAW. The rack capability does not affect the 250?

Captain LINDSTROM. No sir.

Captain BASCOM. In the case of 250 and smaller and the 2,000-pound bomb, aircraft loads are the same for both high- and low-drag. The only difference is in the air resistance.

General SHAW. Then, as I understand it, the way they are planning to clear the shelves of the old ordnance is that, say, the mission is in South Vietnam where they are short legged and there is no violent maneuver of the airplane involved, or prospectively involved, they load them up as far as they can with the old ordnance.

Captain LINDSTROM. Yes, sir, they are short hops and they are on call-fire in-country, so that the old ordnance is used practically all in South Vietnam.

General SHAW. The higher performance low-drag has a greater availability for the attacks in North Vietnam, where they have a lot longer leg and they have more prospects of violent evasive movements.

Captain LINDSTROM. Right. At the present time they are using them almost exclusively in North Vietnam.

USE OF CONNOLLY STUDY IN COMPUTATION OF AMMUNITION OBJECTIVES

General SHAW. The thing I would like to turn our attention to at the moment is the method of calculating your inventory objectives and requirements. We were given a copy of the Connolly report which, I must say, certainly appears to be a marvelous compendium of how to get at it. Is that the fundamental basis of the calculations?

Captain LINDSTROM. Yes, sir; that is the fundamental document. We have an office now that is devoting its time exclusively to keeping it updated and putting the experience in South Vietnam into it, the mix of aircraft, the availability of the weapons—the whole understanding is being evaluated on a day-to-day basis.

General SHAW. And from these factors—which include a very close and detailed analysis of the types of sorties, the numbers of sorties in a given typical situation—you get the load factors for your aircraft. Out of that then grows your computations of the types and number of bombs that would be needed in a typical situation which, as I understand it, is the most demanding situation.

Captain LINDSTROM. Yes, sir.

General SHAW. And that is what you then base your stockage objectives upon? Is that correct?

Captain LINDSTROM. That is correct, and this is based on the [deleted] sortie guidance that we have had. This is in order to provide ordnance for that amount of aircraft in the entire weapons system.

General SHAW. Now this Connolly report originally, as I understood it, came about in 1962 when the Secretary of Defense directed the Secretary of the Navy to reevaluate his ammunition requirements and how he calculated them. There is one report in 1963 which updated, and the one we have here in 1964. In effect, has the Secretary of Defense approved it, the factors in that report as your factors to use in computing not only your stockage objectives, but your budgetary submission?

Captain LINDSTROM. That was signed out in the spring of last year, I think in March of 1965, the latest addition of the Connolly study.

Captain BASCOM. That was the basis for the 1966 and 1967 budget.

General SHAW. 1966 and 1967 budget?

Captain BASCOM. Yes, sir.

General SHAW. Did you use the factors without restriction, or did you have to justify again the sortie rates.

Captain BASCOM. May I speak to that? I am the one who does these computations. The Connolly study is the basis of our computations, both on predicting combat usage in southeast Asia, and for budgetary purposes. Now there are certain corrections that have to be made. For example, that study uses certain weapons in quantities which are simply not available. Therefore, we have to make substitutions to get the total ordnance required. We closely checked the tabulations in the Connolly study for a fiscal year; for example, in fiscal 1967, you will note that our inventory objectives may be off from those figures, and this is because of the substitution effect. During this time frame, we can't get CBU-3's in the quantity desired. Therefore we are buying rockets and bombs to make up for that deficiency. In other words, we buy the ordnance that is available from the production base in the time period that we are addressing.

General SHAW. And if I am not mistaken in the discussion in the report, at least of this thing, they did provide some of these tradeoffs, or substitutions, of items?

Captain BASCOM. Yes, sir.

NAVY FLOATING CONUS AMMUNITION STOCK

General SHAW. I would like to make sure we understand the information submitted on your charts. Take, for example, the MK 82 bomb. You will notice you have the inventory as of January 1, 1965, the inventory objective is set at [deleted]. Then your stockage objectives for Europe and for PAC add up to [deleted]. What becomes of the difference between those two figures?

Captain Lindstrom. We keep them in CONUS, sir.

General Shaw. I beg your pardon?

Captain LINDSTROM. They are in the bases here in CONUS.

General SHAW. They are not tagged. Is this in any sense a munitions float which the Navy Department can use?

Captain LINDSTROM. They are in support of either theater, depending on where you hit. It is a floating CONUS stock that would be moved to either side, just like we moved the stocks we have had to the west coast and then to the Pacific theater.

General SHAW. So you don't set a—

Captain LINDSTROM. A stockage objective in CONUS.

General SHAW (continuing). Stockage objective for the continental United States. You calculate the [deleted] for each of the two ocean forces?

Captain LINDSTROM. Right.

General SHAW. And then the difference between that and the total stockage objective is based on sortie and plane load factors, which then becomes your continental U.S. cushion stock?

Captain LINDSTROM. Yes, sir.

FACTOR OF SORTIE RATE IN COMPUTING AMMUNITION OBJECTIVES

General SHAW. Now then, again on the same type of thing, when the Secretary of Defense approved this change in inventory objective, he must have approved some change in factors. What was the difference in factors involved in that? I might get at it in a different way.

Captain BASCOM. There was no change in the factors, only a change in the number of sorties to be supported.

General SHAW. You still have the same number of airplanes and the same plane load factors.

Captain BASCOM. As I recall, the [deleted] sortie was log guidance, as we call it, was of quite long standing duration.

Captain LINDSTROM. The problem there was when it was foreseen that we had to shorten our acquisition time in order to take care of the contingent in southeast Asia, and modernize our weapons system, then the guidance went up from [deleted] sorties.

General SHAW. An increase of [deleted].

Captain LINDSTROM. Yes, sir. This is in order to provide a production base in order to modernize the weapons inventory as fast as possible.

General SHAW. Then, in effect, that was done by manipulating your factors in your computation, which allowed you to have more sorties than you had previously been allowed; is that correct?

Captain BASCOM. Another way of looking at it, it covered a larger period of time.

General SHAW. For the same period, 6 months?

Captain BASCOM. They said 6 months, but we said we had the capability of flying more than [deleted] attack sorties in 6 months.

General SHAW. When DOD said [deleted], your figures showed you had a larger capability than [deleted].

Captain BASCOM. Yes, sir.

General SHAW. And [deleted] is all he would approve.

Captain BASCOM. And the [deleted] guidance is in line with the Connolly study.

Captain LINDSTROM. This was modernizing our inventory to jet attack sorties over a shorter period of time. We still had our capability in the older ordnance items in the inventory, which we didn't consider at this particular time. This was a matter of modernizing our inventory faster.

Mr. THOMSEN. I was present when this shift was made. This involves in part the tactical concept of the use of carrier aviation. You will recall during the war the carrier operations were intermittent. When the war came on, in which we are now involved, all of a sudden we find carrier aviation continuously "on the line," as we call it. This is sort of, philosophically speaking, behind the increase.

General SHAW. In effect it reflected the changed tactical situation in the Far East now as from World War II, perhaps.

Mr. THOMSEN. That is correct.

General SHAW. Again a question relative to the stockage objectives, and we may use the same chart for example. Take December 31, 1965 figures. You have now increased your inventory objectives to [deleted]. There has been no change in the stockage objectives for the two major oceans, the Atlantic and Pacific. Wouldn't it be reasonable to suppose that since the stockage objectives based on sortie totals have gone up, that there would be an increase in stockage objectives for those two forces?

Captain LINDSTROM. Not necessarily. Part of this stockage objectives problem, is storage facilities in the area. We can't move it all out there at one time, so it has to be in the pipeline and also in CONUS assets. This is based on a [deleted] consumption rate.

General SHAW. Then he is limited not only by his consumption, which presupposes it is going to be at the sortie rate on which the inventory objective was based, you limit merely the fleet stockage objective in keeping with the ability to keep it in the theater, and keep part of each fleet's stockage in the continental United States, but not give it to him to control.

Captain LINDSTROM. A detailed analysis of stockage objectives takes into consideration the working stock. For instance, in Da Nang, a working stock in Subic, we separate this from the in-transit time from CONUS, from the producer, the whole round, to the theater, let's say from McAlester, Okla., to Subic. We say that that in-transit time is [deleted]. Then the stockage objectives in the theater is based on about [deleted], which is based on the amount of working stocks at Subic, the amount of working stocks that are required in the theater in South Vietnam at Da Nang, the ship fills, the ammunition in transit time between Subic and the aircraft carrier. All these factors add up to a stockage objective here which is [deleted].

General SHAW. It seems that if the increase in sorties justifies going up to [deleted] versus the old, which is almost double, that the sorties of, say, the Atlantic Fleet would also be presumed to have doubled.

Captain BASCOM. I think what the trouble is here is these two items are computed in entirely different fashions. The inventory objective is to meet a required level of sorties number with the given forces. The stockage objective as Captain Lindstrom just pointed out, are more what it takes to fill up the ships.

General SHAW. More a capacity that the system will hold under the command of either fleet.

Captain LINDSTROM. Yes, sir.

General SHAW. That is what it really amounts to.

Captain LINDSTROM. But that capacity is based on his ability to use that ammunition considering the pipeline to him, the in-transit time that would be required to fill them up again.

PRODUCTION BASE REQUIREMENTS FOR CONTINGENCY OPERATIONS

General SHAW. I won't belabor it. We took one of the charts from the Connolly report to demonstrate this, and I would like to enter it in the record.

Senator CANNON. Without objection.

(The document referred to is as follows:)

[Deleted.]

General SHAW. This is a chart prepared to show the requirements for expenditure of ammunition worldwide on D-day beginning July 1, 1966. Now, of course, we must recognize that this was not exactly the same type of war we are now engaged in in Vietnam, since it was much closer to a general war. But it shows, for instance in the MK 82 bomb, that there would be an expenditure in the first 6 months of [deleted]. Then, granted that at the moment this occurs we are going to be pretty close to, or we had not quite run out of our older ordnance which is the backup for the required inventory of new ordnance. If we had started on a D-day, where we stood when we began in January of 1965, does the record indicate that our production capabilities would have produced this amount of bombs in 6 months?

Captain LINDSTROM. I would say the record indicates that we would not be able to produce that amount of bombs in that period of time.

General SHAW. The experience to date then, assuming the validity of these figures to be generally correct, then we have to recalculate the delay time involved in getting major production into effect, and perhaps to come closer to meeting the stockage inventory objectives, which have been set to last in the case of the fleets only [deleted], whereas this is a 6-month projection.

Captain LINDSTROM. We have been discussing this and studying this particular problem, sir, of maintaining a hot production base, and this is one of the considerations why we don't like to go up to such a high production level and why we like to spread out the production over a period of 5 years, to maintain that hot production base. That itself is the biggest assurance you have in order to fill this combat requirement. We did not have that full production base at the beginning of this particular contingency operation.

General SHAW. And turning to the experience reference, again to the charts which you have provided us, suppose we take the MK 82 bomb from the contract information in the enclosure, tab 3, that you gave us. Do you have it?

Captain LINDSTROM. Yes, sir. Captain Savidge can talk to this. He is from the Bureau of Naval Weapons.

General SHAW. The MK 82 we had on January 1, 1965, there was one contract in existence then?

Captain SAVIDGE. Yes, sir.

General SHAW. And at what rate was it producing?

Captain SAVIDGE. [Deleted] per month.

General SHAW. That was the [deleted] you mentioned previously.

Captain SAVIDGE. Yes, sir.

General SHAW. We let the next contract on June 1965, is that correct? The Norris-Thermidor?

Captain SAVIDGE. Yes, sir.

General SHAW. Or was that the one in effect then?

Captain SAVIDGE. No, sir; the one in effect then was American Manufacturing Co.

General SHAW. Then to go to the United States Steel contract, November 1965, and they are yet to get into production as I understand it.

Captain SAVIDGE. They will be done this month.

General SHAW. They are the ones that began this month.

Captain SAVIDGE. That is correct.

General SHAW. That is about the 6-month period before they begin.

Captain SAVIDGE. That is correct.

General SHAW. Then the AMCOT contract is June 1965. They have met their requirements; is that correct?

Captain SAVIDGE. They are very good as far as meeting production schedules, yes sir.

General SHAW. But the AMCOT, which was July 1965, they are one of those that have just come in?

Captain SAVIDGE. They have been in for several months but they are a small producer. Their contracts are for quite small amounts.

General SHAW. The point of my question was to get some feel for the problems of getting expansion of existing contracts, and the new contractors into production. It looks like it is longer than 6 months as a general practice; is that a fair assumption?

Captain SAVIDGE. If you start from a bare piece of ground, that is correct, sir.

General SHAW. United States Steel and these others, were they bare-piece-of-ground producers?

Captain SAVIDGE. They frequently would have a building which was either in a dormant status, or perhaps even being used for other purposes.

General SHAW. We can assume that is probably the way things are when D-day comes on.

Captain SAVIDGE. Yes, sir.

General SHAW. And so then again it makes it a larger requirement to stockpile ammunition to last until you can create the production which will pick up from past consumption.

Captain LINDSTROM. Either that or maintain a production base. If you can maintain a production base of that weapon, that is a better assurance than having a stock of the weapon itself. You can vary yourself the amount of bombs you would have available and it would cause a tremendous increase in our stockage capabilities. Once they are produced, you have a problem of having them maintained. You know that they go out of service, they have to be reinspected and brought back on the line continuously. The production base itself is the most important factor.

General SHAW. The hot base, I can see that. In effect, right now you don't really need to worry about the inventory objective. That is peacetime talk.

Captain LINDSTROM. Yes, sir.

General SHAW. You are in production and whether or not you meet the inventory objective does not concern you, because as long as you stay well ahead of consumption, you have it made. Is that the philosophy involved?

Captain LINDSTROM. That is the philosophy involved. Also is the fact that your weapon mix changes from year to year, and it is difficult to foresee what weapon you are going to use 5 years from now. Maybe the MK 81 and the 82 will be replaced by a better weapon, in which case it is difficult to have—you have to have some relative degree of safety there, both in the production line and in the inventory, and this is our best judgment for that safety development.

PRIORITIES ASSIGNED TO PRODUCTION CONTRACTS

General SHAW. One final question. What priorities are assigned to these different contracts that you have now? One?

Captain SAVIDGE. We have been using the DX priority for buying machine tools for these production lines with the assistance of the Department of Commerce.

General SHAW. What does that mean?

Captain SAVIDGE. That requires the manufacturer of equipment to put this purchase ahead of someone else's order, unless, as we also find, it is also a DX.

General SHAW. That was going to be my next question. The Army told us that they were using emergency procurement procedures for their ammunition. That means you must run head on into a good bit of difficulty since for a good number of them you are dealing with the same people; is that correct?

Captain SAVIDGE. We find ourselves going sometimes to the same machine-tool producer for the same machine for perhaps three or four production lines, yes.

General SHAW. And how have you handled that so far?

Captain SAVIDGE. Of course, we have added the DX priority, but we have also taken measures with interim equipment to insure the start of production on schedule, in spite of the delay of the exotic machine.

General SHAW. That is all I have, Mr. Chairman.

AMMUNITION PRODUCTION EXPANSION CAPABILITY

Mr. KENDALL. Captain, Senator Jackson had to leave, and he expressed his apology and asked me to explore one particular avenue with you, which again relates to your production capabilities. He was interested in information about the extent to which your production lines are operating with respect to their capacity. In other words, how quickly could we step up production, and to what extent, without added capital improvements from the existing lines?

Captain SAVIDGE. I think we have lines both in production and scheduled to come into production; in other words, we are erecting and ordering the machinery, and we have also taken these insurance measures of buying alternative, less efficient, equipment to insure that production deliveries are on time. But we have, we think, explored the potential capabilities of all of these 11 lines to which we have previously referred, so that from this point on, we are forced to start with the open field, so to speak.

Mr. KENDALL. You mean your lines that are in place now. How many shifts are they operating a day, one shift?

Captain SAVIDGE. One or two shifts at the current time. Of course, we are in the buildup cases. United States Steel has just begun, and you just can't go snap from zero to 10,000 a month or something like that. So we are in buildup phases, which limits your capability to go to multiple shifts. But we are actively prosecuting this, and intending to multiply shifts just as quickly as we can, as they can.

Mr. KENDALL. What cushion would we have in the event the balloon went up somewhere else and suddenly added a greatly increased requirement for munitions.

Captain SAVIDGE. I would estimate that we could from the [deleted] MK 82 bomb bodies, which has been mentioned as a capacity, that we could go up probably 30 to 50 percent by extreme multiple shift basis.

Mr. KENDALL. Either from existing or programed lines?

Captain SAVIDGE. From currently programed and existing lines; yes, sir.

NAVY BUDGET SUBMISSIONS FOR AMMUNITION

Mr. KENDALL. Captain, I will ask you to submit this for the record. Would you submit information for the record on the Navy budget submissions for ammunitions and the amounts approved for submission to Congress for fiscal year 1964, fiscal year 1965, fiscal year 1966, the fiscal year 1966 supplemental of \$12.3 billion, and fiscal year 1967?

Captain LINDSTROM. Yes, sir.

(The information referred to is as follows:)

Navy budget submissions air-to-ground expendable ordnance

FISCAL YEAR 1964 PROGRAM

	Basic	SEA transfer	Supplemental	Total
Navy request.....				282.6
OSD approved.....				178.8
Congress approved.....				178.8

FISCAL YEAR 1965 PROGRAM

	Basic	SEA	Supplemental	Total
Navy request.....	196.2	102.0		298.2
OSD approved.....	142.4	102.0		244.4
Congress approved.....	142.4	102.0		244.4

FISCAL YEAR 1966 PROGRAM

	Basic	August 1965 amendment	Supplemental	Total
Navy request.....	121.8	93.5	406.0	621.3
OSD approved.....	107.6	93.5	342.6	543.7
Congress approved.....	108.4	93.5	342.6	544.5

FISCAL YEAR 1967 PROGRAM

	Basic	SEA	Supplemental	Total
Navy request.....	406.2	517.9		924.1
OSD approved.....	341.0	353.6		694.6
Congress approved.....	0	0		0

REPLACEMENT OF OLD 1,000-POUND HIGH-DRAG BOMB

Mr. KENDALL. Going back to a question which I asked earlier, I notice on the chart relating to your substitute ammunitions, your inventory of thousand-pound bombs goes out to zero in, when was it, July 1967?

Captain LINDSTROM. That is the old high-drag bomb?

Mr. KENDALL. Yes, sir.

Captain LINDSTROM. Yes. We are giving a lot of those [deleted] of them, to the Air Force. Our modern one is the low-drag MK 83 bomb, of which we have [deleted], and we have a VT fuze on it which has been very effective in flak suppression recently.

Mr. KENDALL. Is that a thousand pounder too?

Captain LINDSTROM. Yes, sir; that is a thousand pounder, too. We have [deleted] of those, and our consumption of that bomb had been relatively light, I think less than [deleted] a month is the figure.

Mr. KENDALL. But the point is that you think you have adequate stocks of a more modern version of this bomb that will be available when the older bomb goes out of inventory?

Captain LINDSTROM. Yes, sir; and we also at the present time are evaluating the new requirement for the MK 83 bomb, because of operational experience in southeast Asia, in view of the VT fuze and in view of its success [deleted] in North Vietnam. It is a low-drag bomb that can be carried up there very effectively.

Mr. KENDALL. That is all I have, Mr. Chairman.

Senator STENNIS. Senator Cannon, do you have something else to ask the Captain?

Senator CANNON. No.

Senator STENNIS. All right, Captain, we thank you very much. Just stay with us. Something else may come up. General, are you ready now?

General VAN RYZIN. Yes, sir.

Senator STENNIS. We are glad to have you with us General Van Ryzin. You proceed with your statement.

VAN RYZIN STATEMENT

General VAN RYZIN. Mr. Chairman and members of the committee, the programs for the procurement and provision of air-to-ground munitions have been thoroughly covered; however, I do have a general comment to add.

Thus far, the 1st Marine Aircraft Wing has not experienced any significant problems with air munitions in South Vietnam. Some substitutions have been required where modern munitions have not been available. Prudent conservation techniques have been applied to conserve available assets. Such problems have not impeded the ability of the 1st Marine Aircraft Wing to carry out its assigned missions. With the expected improvement in ordnance availability that was described by Captain Lindstrom, we look forward to increased capability within the wing.

For the remainder of my time, I would like to describe for you the Marine Corps ground ammunition picture with respect to our operations in Vietnam. As background, I will first describe briefly the worldwide Marine Corps ground ammunition program.

Ground ammunition is stockpiled in accordance with logistics guidance which authorizes the maintenance of mobilization reserve stocks for [deleted] division-months and [deleted] wing-months of combat. This total quantity is expressed as an inventory objective.

The inventory objective is derived by applying predicted ammunition expenditure rates to the weapons densities of Marine Corps organizations.

The expenditure rates used in the computation of present Marine Corps inventory objectives were established by a study conducted by the Marine Corps Landing Force Development Center which considered possible commitments of Marine forces in several areas of the world, probable targets, area to be covered, effectiveness or lethality of ammunition, and mix of weapons. This study, completed late in the spring of 1965, was the third in a series of reviews aimed at refining Marine Corps combat ammunition requirements. The first such study was made in 1953. A second review was completed in 1960 which revised expenditure rates to reflect organizational changes that had occurred since 1953. The 1965 study utilized computerized war gaming and other modern analytical techniques, and resulted in a detailed and comprehensive statement of Marine Corps ground ammunition requirements for the present and the near future. This last study also incorporated provisions for an annual review of expenditure rates to permit timely revision as required by the introduction of new weapons or ammunition or other influencing factors.

The present Marine Corps inventory objective for all items of ground ammunition is the amount required to support four Marine divisions in [deleted] months of combat and four Marine aircraft wings in [deleted] months of combat. For the sake of simplicity, and because the ground ammunition required for the support of Marine aircraft wings is relatively insignificant, we refer to our authorized logistics guidance as [deleted] months of ammunition of [deleted] months for each of four division-wing teams.

Under existing guidance, ammunition is not being programed to establish a similar [deleted] months reserve for the newly activated 5th Marine Division. The establishment of such a reserve is not considered essential at the present time inasmuch as the buildup of production output for the support of Vietnam operations should also provide the capability of supporting whatever increased consumption accrues from the activation of the 5th Division.

CONFIDENCE OF CAPABILITY TO SUPPORT INCREASED CONSUMPTION

Senator STENNIS. Pardon me just a minute if I may intervene there. You say it should provide the capability. Do you feel confident it will?

General VAN RYZIN. It will, sir.

VAN RYZIN STATEMENT—RESUMED

At the commencement of operations in Vietnam we had, with only two exceptions, all of the ground ammunition in general use in Vietnam that was authorized under the existing logistics guidance using

expenditure rates in effect at that time. This is a total of [deleted] months of ammunition either in our hands or shortly due in from production. The two exceptions were the [deleted] which had just been reintroduced into the Marine Corps for use in Vietnam. Acquisition of these rounds required new production and first deliveries will be received in April of this year.

We have since revised our inventory objectives to incorporate the expenditure rates from the 1965 development center study. As you will see when we review individual ammunition items a little later, this had the effect of causing assets to fall below new higher objectives on some items. This does not reduce our ability to support combat requirements in these items, but, as you will see, requires larger procurements to bring us up to higher reserve levels.

Utilizing the available assets I have described, we established a pipeline system of supply to the Western Pacific designed to assure a steady flow of ammunition to our combat forces. This system calls for the maintenance of specified stock levels in Vietnam as well as three off-shore holding facilities. Stock levels in Vietnam total [deleted] days of ammunition in our primary munition dumps, [deleted] days in forward ammunition supply points, and [deleted] days in the hands of troops for a total of [deleted] days in Vietnam.

A [deleted] day level is held at [deleted], which is the facility from which Vietnam assets are normally replenished. One [deleted] day block is held at [deleted], and another [deleted] days [deleted] as emergency reserve stocks to back up the assets at [deleted]. In all we have [deleted] days of ammunition for our Marines in the Western Pacific.

We believe that this system will permit us to continue to provide the ammunition support required by Marine forces in Vietnam.

[Deleted.] With a few exceptions, which I will discuss later, the [deleted] months of protected ammunition for these units will be adequate to support their combat needs pending the receipt of new production items. Our procurement planning is aimed at avoiding, if possible, any drawdown of protected ammunition assets for the two Marine division/wing teams, one Regular and one Reserve, not now committed in Vietnam.

The [deleted] are two rounds, which, if they are consumed at predicted rates, will require us to dip into the mobilization reserve stocks of the 2d and 4th Divisions before we begin to get well from new production. However, we are not yet experiencing our predicted rates and the dip, if it occurs, should not be of such magnitude as to require the imposition of an available supply rate on their use in Vietnam.

We have been working very closely with the U.S. Army in the allocation of production quantities of all ground ammunition in order to satisfy our mutual requirements. With only few exceptions, such as the [deleted], scheduled production deliveries should permit us to protect our minimum level requirements unless a serious production slippage occurs or there is a significant increase over our projected consumption.

Our actual consumption in Vietnam to date has, in general, been lower than predicted. We have already made some changes in our

procurement plans and with additional experience we may identify other required adjustments. The funds that have been requested for the Marine Corps are adequate to replace combat consumption as well as to restore total assets to the authorized [deleted] months, assuming consumption as predicted.

In summary, the Marine Corps does not foresee any particular problems in the support of our forces in Vietnam, and barring requirements beyond our best predictions our ammunition needs for Vietnam can and will be met.

Like the Navy, we have a series of 10 charts covering the information you have requested on key items of ammunition in use in Vietnam, which should assist in illustrating my previous remarks. In addition, we have four charts which display the monetary impact of Vietnam operations on Marine Corps ammunition assets. Copies of the charts are in the folders that have been provided for you. For my presentation I have reduced these charts to graphical displays which I would like to discuss now.

(Chart No. 1 is as follows:)

[Deleted.]

MARINE CORPS INVENTORY AND CONSUMPTION, 7.62-MILLIMETER

General VAN RYZIN. This graph displays the data you requested for all types of 7.62-millimeter ammunition used in the M-14 rifle, the M-14 automatic rifle, and the M-60 machinegun. Our inventory objective for the Marine Corps, the green line, is [deleted] rounds. The assets for our uncommitted forces, two division/wing teams plus, represented by the dotted red line, is roughly one-half this amount or [deleted] months of ammunition. The black inventory line, based on present commitments and predicted expenditures, touches its low point about June 30 this year when acquisitions begin to exceed consumption. Acquisitions are represented by the blue bar and consumption by the red bar.

Our assets on [deleted] as presently planned will slightly exceed our inventory objective. We may require some reprogramming in our 1967 buys. However, this excess will be utilized to meet training requirements in fiscal year 1968.

I should point out here that predicted consumption is [deleted] rounds per weapon per day. Actual consumption to date has been [deleted] rounds per day.

INVENTORY AND CONSUMPTION, 40-MILLIMETER HIGH EXPLOSIVE

The next graph examines the 40-millimeter high explosive, M-406 round used in the M-79 grenade launcher.

(Chart No. 2 is as follows:)

[Deleted.]

General VAN RYZIN. This is a new item in our inventory for which we had no sound predictable expenditure rate until the landing force development study I mentioned before. Although initially in a satisfactory position, the higher inventory objective resulting from the study placed our assets in a deficit position.

Our predicted consumption on which this chart is based is [deleted] rounds per weapon per day and our actual consumption to date is [deleted] rounds per weapon per day.

We do not expect any particular problems in meeting our needs for this round.

INVENTORY AND CONSUMPTION, 60-MILLIMETER MORTAR

Moving into the mortar area, the next round is the 60-millimeter, high explosive M-49A2E.

(Chart No. 3 is as follows:)

[Deleted.]

General VAN RYZIN. As I mentioned earlier, the 60-millimeter mortar, a company level weapon, was reintroduced in the Marine Corps to meet the requirements of the 3d Marine Division in Vietnam.

The inventory objective on June 30, 1965, shows the [deleted] months of ammunition needed for the 3d Division. The increase on October 31, 1965, represents the additional equipping of the 1st Marine Division.

Our beginning inventory and initial buildup of assets is in a substitute round. This is an old high explosive M-49A2 round the Army had in stock which is suitable for combat use only because of its sensitive fuze. The new production round, which will become available beginning in [deleted], is a pearlitic malleable cast iron round that will include a safer fuze. We intend to discontinue the use of the old round as soon as assets of the new safer round are adequate to satisfy southeast Asia consumption requirements and stockage objectives, about fall of this year.

We will declare the rounds above our inventory objective, the old rounds, as surplus.

Our projected requirements were [deleted] rounds per gun per day. Our actual are [deleted] rounds per tube per day.

INVENTORY AND CONSUMPTION OF 81-MILLIMETER MORTAR

The next item, the 81-millimeter mortar, high explosive, M-374 round may present us with the greatest difficulties in the support of combat needs.

(Chart No. 4 is as follows:)

[Deleted.]

General VAN RYZIN. We had an excess on June 30, 1965, which continues through April 1966. Our assets at this point are in two older rounds, the M-43 of Korean vintage and the M-362A1 round with increased lethality. The M-374 round, our latest addition, provides further improvement by adding increased range to the increased lethality of the M-362A1 and will ultimately replace all of the older rounds in our stocks.

Production of the new M-374 is not scheduled to commence until [deleted], and will not build up to a balance point until [deleted]. Based on our usage in the next few months, it may be necessary for us to acquire additional assets of the old M-43 round from stocks available in the Army, in order to avoid drawing down on our 2d and 4th Division assets. Our actual use to date has been about a

sixth of the predicted rate, and we do not want to buy the old round unless we absolutely have to. Our projection is [deleted] rounds per gun per day, our actual is [deleted] rounds per gun per day.

INVENTORY AND CONSUMPTION, 81-MILLIMETER ILLUMINATION

The next round is the 81-millimeter illumination.

(Chart No. 5 is as follows.)

[Deleted.]

General VAN RYZIN. As indicated on the asset line, our position on this round initially was good. Based on our predicted consumption of [deleted] rounds per weapon per day, the inventory is projected to drop close to our minimum reserve level before we begin to build up stocks from new production.

Actual usage to date has averaged about [deleted] rounds per weapon per day, about half of what we predicted.

INVENTORY AND CONSUMPTION, 105 HOWITZER

Another illuminating item is the 105-millimeter round used in the towed 105 howitzer.

(Chart No. 6 is as follows.)

[Deleted.]

General VAN RYZIN. The inventory objective on June 30, 1965, reflected a planned usage rate of [deleted] rounds per weapon per day, which was increased to [deleted] rounds per day by the Landing Force Development Center analysis I mentioned earlier. A much higher inventory objective results.

In relation to this higher objective, our assets are projected to fall well below our minimum level before stocks begin to build back up. Our actual usage to date has been about one-seventh of our predicted rate of [deleted] rounds per weapon per day. This, we believe, has been primarily due to the fact that stockage levels in southeast Asia based on our old inventory objective were initially low and were not available to the using units. A special shipment of [deleted] rounds, directed in late November, arrived in the Far East during the last week in January. These stocks, plus another special shipment of [deleted] rounds directed in the first week of February, should permit our combat forces greater latitude in the use of this round, and we should see an increase in the actual usage rate in coming months.

Whatever that increased rate happens to be, we do not anticipate that the resulting draw down of assets will necessitate the imposition of an available supply rate on Vietnam usage.

INVENTORY AND CONSUMPTION, 105-MILLIMETER HIGH EXPLOSIVE

The next chart, picturing the 105-millimeter high explosive round, also shows an increase of the inventory objective which resulted from the Landing Force Development Center study.

(Chart No. 7 is as follows:)

[Deleted.]

General VAN RYZIN. The resultant low inventory position has dropped slightly below our minimum level on 31 December 1965.

However, the large quantities of this round that are available in Army stocks for procurement by the Marine Corps are considered adequate insurance against the round becoming short in supply and we plan to reprogram our funds in 1967 to bring us back up to our inventory objective.

Our predicted rate of consumption for the 105-mm. high explosive round is [deleted] rounds per weapon per day. Our actual consumption to date has been [deleted] rounds per day.

INVENTORY AND CONSUMPTION, 4.2-INCH HIGH EXPLOSIVE

The next item, the 4.2-inch high explosive round presents a very satisfactory position.

(Chart No. 8 is as follows:)

[Deleted.]

General VAN RYZIN. The inventory of this round, used in the 4.2-inch howtar, is in long supply at the start of the period and remains so until the end of 1966. This ample inventory permits us to meet our stockage objectives without difficulty. New production, scheduled for delivery after June 30, 1967, will bring our assets back up to the inventory objective. Actual usage to date is about one-fourth of the [deleted] round per weapon per day that we have predicted for Vietnam.

INVENTORY AND CONSUMPTION, 106-MILLIMETER HIGH EXPLOSIVE

The inventory of the next round we have charted starts out slightly below the inventory objective. This is the 106-millimeter high explosive antitank round used in the recoilless rifle and in the ONTOS vehicle.

(Chart No. 9 is as follows:)

[Deleted.]

General VAN RYZIN. Note that the drawdown in the inventory is small. This is due to the low requirement for antitank munitions in Vietnam. We have reduced our predicted consumption rate for this round based on actual usage and on the limited possibility of an armored threat against our forces. Our initial projection of requirements was based on an expenditure rate of [deleted] rounds per weapon per day. Our present predicted rate of [deleted] rounds per day is still about four times as high as actual usage has been in Vietnam and should be adequate to assure no support difficulties.

INVENTORY AND CONSUMPTION, M18A1

The last item we have charted is the antipersonnel mine, M18A1, commonly referred to as the Claymore mine.

(Chart No. 10 is as follows:)

[Deleted.]

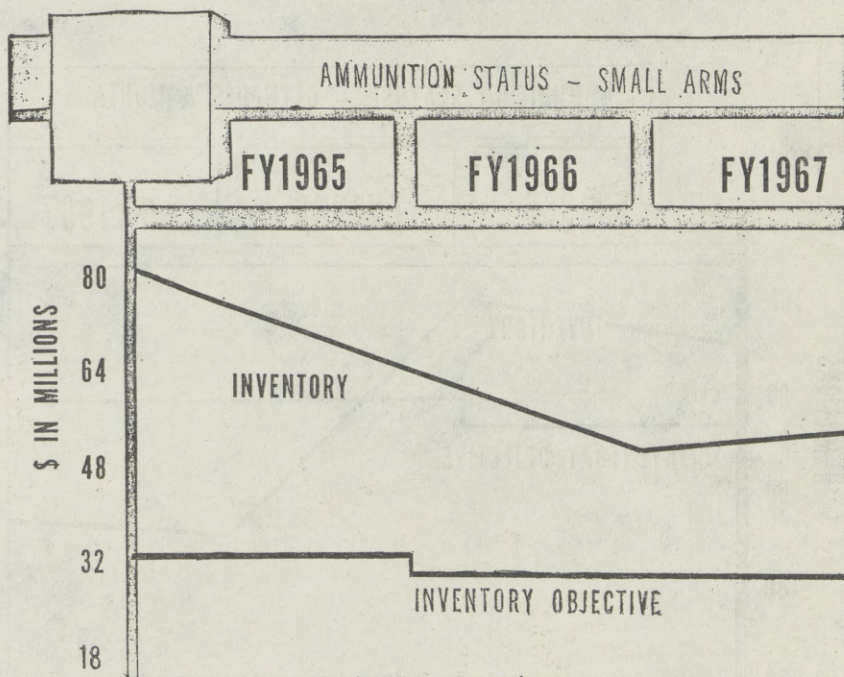
General VAN RYZIN. Notice that although the inventory starts out below the inventory objective, the drawdown of assets is not projected to drop below our minimum reserve level. Our actual usage through December of [deleted] mines per division per day was much higher than our predicted [deleted] mines per day. We have revised

our procurement plans upward due to this experience and we do not foresee any problems in meeting combat needs or in maintaining our stockage objectives.

DOLLAR VALUE OF SMALL ARMS PROCUREMENT

This completes the examination of individual ammunition items. We have four more graphs which have been prepared to illustrate the charts you have been provided showing the impact of operations in Vietnam in terms of dollars. Each chart depicts the dollar value of ammunition in the same manner as shown on the first chart, small arms.

(Chart No. 11 is as follows:)



General VAN RYZIN. The black line shows dollar value of the begin inventory and end inventory for all types of small arms ammunition for the fiscal years 1965, and 1966, and 1967. The green line shows the dollar value of the inventory objective during each fiscal year.

Notice that the begin inventory for small arms in fiscal year 1965 was very high in relation to the inventory objective for that year. This overage was caused by long supplies of .30 caliber linked and .50 caliber linked ammunition, as well as .45 caliber ball ammunition. Taking those excesses away, our inventory, our actual dollar value of usable inventory is shown by the dotted line. The large decrease between the begin and end inventories reflects transfers of the above items that were made to other services during the fiscal year.

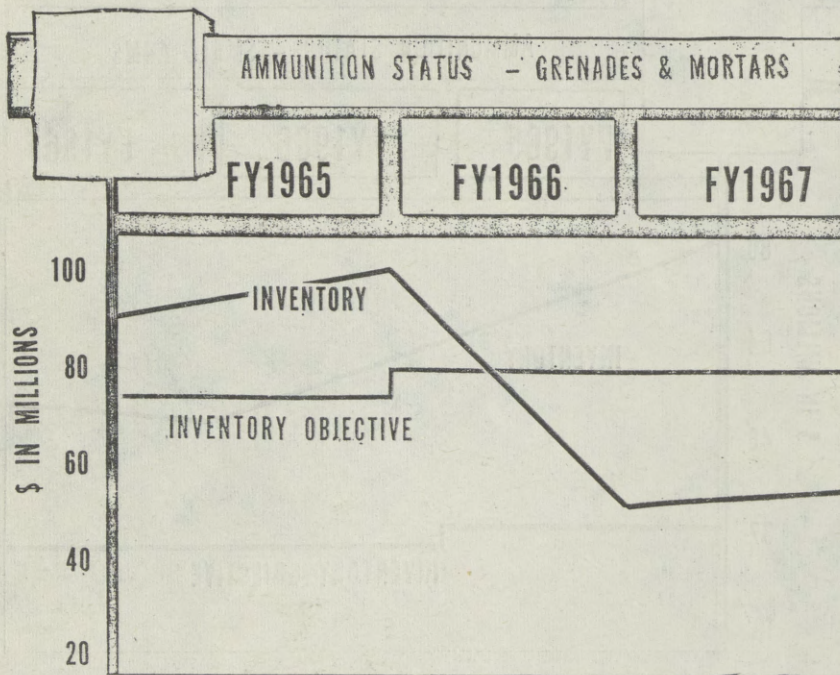
The upturn of the inventory line in fiscal year 1967 indicates that production has overcome consumption for those items required for the support of combat operations in Vietnam.

There is a slight error in that line. Our inventory objective line, the green line, should show an increase because we are getting 5.56-millimeter ammunition for the M-16 rifle at that time, and I did not have time to change this chart.

DOLLAR VALUE OF GRENADES AND MORTARS

The next chart depicts dollar values of ammunition in the category grenades and mortars, which includes all hand grenades and mortar ammunition through 81-millimeter.

(Chart No. 12 is as follows:)

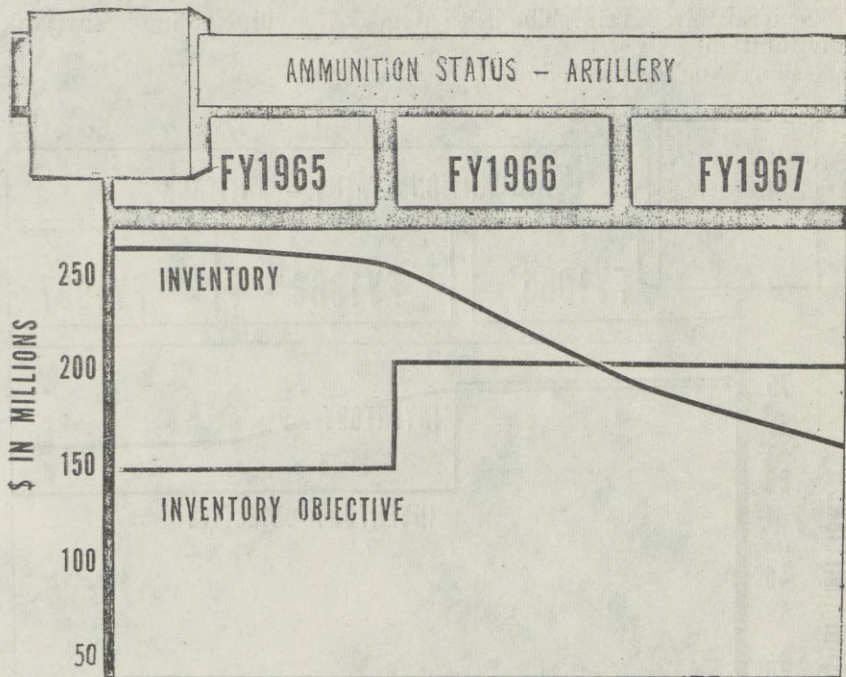


General VAN RYZIN. You will notice that the fiscal year 1965 begin and end inventories are considerably larger than the inventory objective. This long supply, however, is reduced appreciably as a result of projected Vietnam consumption in the 2 subsequent years.

The end fiscal year 1967 inventory reflects deliveries from production that are expected to be received during the fiscal year. Deliveries from fiscal year 1967 procurements will be received subsequent to June 30, 1967, to bring assets back up to the inventory objective, long leadtime. The increase of inventory objective between fiscal year 1965 and fiscal year 1966 results from the addition of 60-millimeter mortar ammunition requirements.

DOLLAR VALUE OF ARTILLERY AMMUNITION

Artillery is the next category for which we illustrated dollar values. (Chart No. 13 is as follows:)



General VAN RYZIN. Notice the long supply of artillery ammunition in fiscal year 1965. This overage is overcome by the significant increase in inventory objective in fiscal year 1966 that resulted from the Landing Force Development Center analysis that I have mentioned several times before. This graph effectively illustrates the magnitude of that increase. We have increased every one of our artillery rounds.

As was the case on the previous chart, assets on hand at the end of fiscal year 1967 will not be equal to the inventory objective. Deliveries scheduled to be received shortly after June 30, 1967, will bring us back up.

Senator STENNIS. Why does it take so long, General? At the end of 1967 you still will not be up to your objective.

General VAN RYZIN. We will in the next 6 months. This is worked out with the Army in the allocations of ammunition, and this meets our requirements, sir.

Senator STENNIS. I must misunderstand it in some way. You say, "It meets our requirements." Still it does not equal your objective.

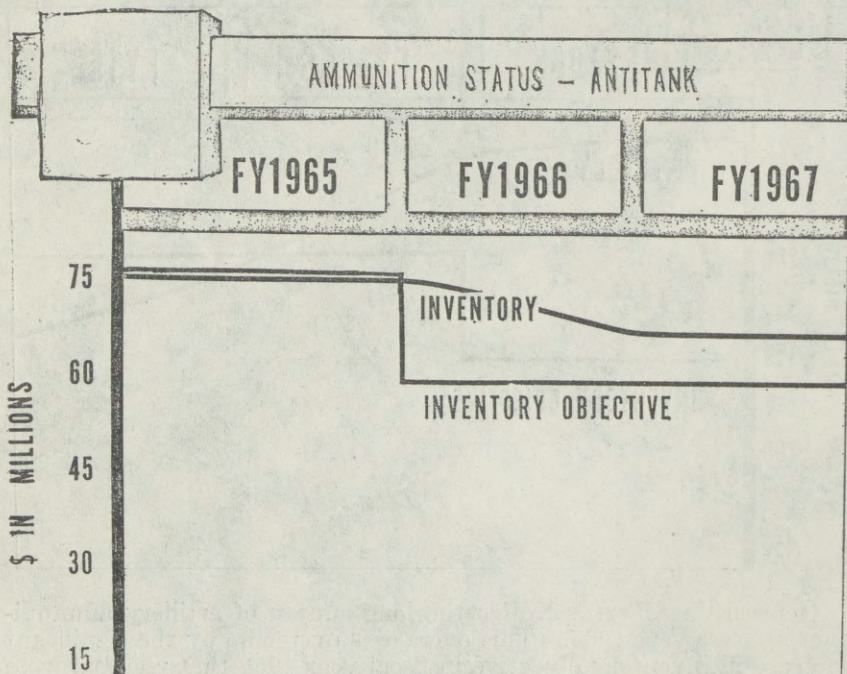
General VAN RYZIN. The funds for the ammunition that we are getting in the 1966 supplemental will bring us back up to our inventory objective. Those funds are in the supplemental, and they will be placed on contract as soon as we get the funds.

Senator STENNIS. All right, proceed. We will let the staff question you about it.

DOLLAR VALUE OF ANTITANK AMMUNITION

General VAN RYZIN. The last category we will examine is antitank ammunition.

(Chart No. 14 is as follows:)



Please notice that the fiscal year 1965 inventories and inventory objectives are well balanced. The decrease of inventory objective in fiscal year 1966 results partly from the Landing Force Development Center which slightly reduced all antitank requirements. The main reason for the decrease, however, is a significantly lower requirement for the 3.5-inch high explosive antitank rocket which was replaced by the introduction of the 66-millimeter LAW.

This completes my presentation. I will be very happy to answer any questions the committee may have.

COMPARISON OF MARINE CORPS AMMUNITION OBJECTIVES AND USAGE

Senator STENNIS. That is a mighty good presentation, it seems to me. Senator Cannon, unless you have a special question you want to ask, suppose we let the staff proceed.

Senator CANNON. Just one very general question if I may, Mr. Chairman.

Senator STENNIS. Certainly, Senator Cannon.

Senator CANNON. As I understand it, General, in each instance your actual usage has been far less than your projected usage on which you based your inventory objective. I think the only exception, as I recall it, is the Claymore mine.

General VAN RYZIN. That is correct, sir.

Senator CANNON. So in every other instance if you actually achieve your requirement, based upon present usage rates, you are going to have a much greater reserve than you would have anticipated when you established that requirement.

General VAN RYZIN. That is correct, sir. In the event of a type war like Vietnam we would probably have [deleted] months of ammunition.

Senator CANNON. Thank you very much.

Senator STENNIS. Senator, may I remind you we are going to have a special report from the staff on Monday afternoon. The staff has been out to visit some of these special places, and I hope you will save about an hour's time for that.

Senator CANNON. Yes, sir, I will, thank you.

Senator STENNIS. All right, Mr. Kendall.

SUBCOMMITTEE STAFF CHARTS ON MARINE CORPS AMMUNITION INVENTORY AND OBJECTIVES

Mr. KENDALL. Thank you, Mr. Chairman. First, if I may, I would like to put in the record two charts which we have prepared with respect to the Marine Corps ammunition situation.

Senator STENNIS. All right, without objection, it will be put in the record at this point.

(The charts referred to are as follows:)

[Deleted.]

Mr. KENDALL. It will follow the same format as those for the Navy and Air Force. All the information came from the Marine Corps.

EXPLANATION OF MARINE CORPS CONSUMPTION OF AMMUNITION IN VIETNAM

General, I want to follow up with the same point I had in mind, and I want to follow up on Senator Cannon's question. What is the basic reason for the lower than anticipated expenditures of the items which you have covered?

General VAN RYZIN. The type of warfare that we are fighting in Vietnam. Our landing force study is based on an amphibious assault operation, and this is what our inventory objective is based on. But the type of counter guerrilla warfare does not produce the ammunition expenditures that the amphibious assault does.

Mr. KENDALL. Would a portion of that be explained by the fact that contrary to Marine doctrine, that you are more or less engaged in a static and defensive situation to a large extent?

General VAN RYZIN. I would not call it a static defensive situation in Vietnam, but it is a different type of warfare.

Mr. KENDALL. You have large numbers of your forces tied down in what is essentially a garrison-type operation.

General VAN RYZIN. A portion of the third MAF is, yes, sir.

Mr. KENDALL. If the time should come when you go over positively on a more or less continuous basis, to an offensive posture and are more aggressive, would you expect your rates to climb?

General VAN RYZIN. We would at least to the rates predicted in our development study. It is based on that type of warfare.

Mr. KENDALL. The point I have in mind, with some isolated exceptions which you can pick out from past history, the Marines are not tailored for this type of job; I do not mean not tailored for it, they are doing a fine job, but this is not really what we thought the Marines would be doing.

General VAN RYZIN. We have done a lot of this in our history.

Mr. KENDALL. I know, but you understand what I mean.

General VAN RYZIN. Yes, sir, I do.

Mr. KENDALL. And when you get out of this situation and break out and try to clear the country, if we ever come to that situation and have the forces in there to do it, you would expect the expenditure rates to climb, would you not?

General VAN RYZIN. That is correct. If, for example, one of the divisions were pulled out of Vietnam, as they were out of Korea, for the Inchon landing, we would expect our predictions on ammunition to come true.

Mr. KENDALL. And, as I understand it, you are projecting your consumption on your RSR—do you use that term, “required supply rate”?

General VAN RYZIN. The projected consumption has been modified for procurement purposes. We try to make the best estimate we could of what we are going to actually use in Vietnam. We do not want to overbuy ammunition.

Mr. KENDALL. I understand that, but you are basing those figures on a rate per weapon per day?

General VAN RYZIN. What we expect we will use in Vietnam.

Mr. KENDALL. You are not limited by the availability of it in any way.

General VAN RYZIN. None at all, sir.

Mr. KENDALL. Thank you. That is all the questions I have.

Senator STENNIS. General Shaw.

MARINE CORPS STATUS ON 4.2 ILLUMINATING SHELLS AND HAND GRENADES

General SHAW. Just for clarification, to be sure that we have a complete record, the Army has indicated some difficulty in both 4.2 illuminating shell and hand grenades. Have you all had similar problems?

General VAN RYZIN. We have not. In hand grenades, I will just give you our December 31, 1965, status. Our inventory objective is [deleted] rounds. We actually have on hand [deleted] rounds. We are transferring to the Army—we have transferred [deleted] in the first transfer [deleted] in the second transfer of grenades. In the 4.2 illuminating, the same dates, December 31, 1965, our inventory

objective is [deleted]. We will have [deleted] on hand. No problems in the 4.2 illuminating.

General SHAW. They are putting on much pressure to produce for themselves. Will you have any problem in meeting your own expected expenditures?

General VAN RYZIN. None at all. It is a very shallow dip. At our low point our inventory objective will be [deleted] rounds. Our actual will be [deleted] rounds.

MARINE CORPS STATUS ON 81MM MORTAR

General SHAW. In the 81 mm mortar high explosive, on June 30, 1967 you do dip way down beneath your planned inventory objective. What causes that? The inventory objective is shown as better than——

General VAN RYZIN. Could you show that chart, the 81 mm? We have in the Army stocks, sir, adequate stocks of the present standard ammunition. We are holding off to get the new round. If we cannot get it—its production has already slipped from [deleted] for our first round; if it slips any more, we will go out and buy.

General SHAW. From existing stocks.

General VAN RYZIN. From existing stocks that are available. We will never get that low.

General SHAW. Is this prediction based upon expected Army procurement?

General VAN RYZIN. That is correct.

General SHAW. Whereas they have reserves on hand to permit you to go back up.

General VAN RYZIN. Yes. We would prefer the new round as it has greater lethality, if we can.

General SHAW. Is there a problem on the VT fuses for the old round?

General VAN RYZIN. We have not experienced any in Vietnam.

MARINE CORPS USE OF M-16

General SHAW. On the 5.56 for the M-16, the Marine Corps is buying the M-16 for use in Vietnam; is it not?

General VAN RYZIN. We are.

General SHAW. So that ammunition will be for Vietnam only?

General VAN RYZIN. That is correct, and we are going to buy on the basis of the same 5 months backup for each of the 1st and the 3d Marine Divisions for the number of weapons.

General SHAW. But not to the other two.

General VAN RYZIN. Not to the other two until the SAWS and Stoner tests are finished about June 1 and we hope to have a decision on what our future weapon is going to be about July 1.

PROCUREMENT OF 60-MILLIMETER ILLUMINATING ROUND

General SHAW. There used to be a 60-millimeter illuminating round. Are you out of stock on that?

General VAN RYZIN. I believe all of the illumination and white phosphorus has gone to the MAP program so we had to go to new production; am I not right? It comes in in April and May.

General SHAW. The Army will bring that in in April, and is there an allocation you will get from that?

General VAN RYZIN. I do not believe the Army is using the 60-millimeter. We will get all of our requirements. This is our requirement.

General SHAW. Your requirement.

CONSUMPTION OF 105 ILLUMINATING AMMUNITION

Now, as to the special shipment of the 105 illuminating ammunition which you made, where did you acquire that?

General VAN RYZIN. This was in our own stocks in the United States.

General SHAW. Did you have to dip into the reserve of the other two divisions?

General VAN RYZIN. I am not sure. Could I see the 105 slide? I do not believe it did at this point. Later this year we might. But I doubt it. It is the 105 illuminating. You see our actual consumption is that relatively flat line, and our predicted consumption is the next line. Now we expect our actual consumption to be somewhere between the slope of those two, and I doubt if we will dip into the 2d and 4th Division stocks very deeply.

MARINE CORPS AMMUNITION BUDGET

General SHAW. General, you make a budget request for the ammunition, which is then placed on order to the Army.

General VAN RYZIN. That is correct.

General SHAW. Have you ever had any problems in getting your budget requests honored; have your budget requests been given as you asked for them?

General VAN RYZIN. Yes. Everything that we have asked for, with the exception—we went for a full buy on some of our highly classified ammunition. We were previously on a phase D program coming up to meeting our inventory objective. Since it was not going to be applied in Vietnam or used in Vietnam, we considered our budget request was reduced back to the phase D program. We have had no problems in ammunition dollars, nor have we had problems with the Army in the allocation of munitions.

General SHAW. That was going to be my next question.

General VAN RYZIN. It has been an adjustment. Where they are short they may get it first, and in some cases where we are a little shorter we will get the allocation first.

General SHAW. It works as an amicable arrangement to solve your problem mutually.

General VAN RYZIN. That is correct.

General SHAW. That is all.

Senator STENNIS. Mr. Kendall, anything further?

Mr. KENDALL. One further thing, I would appreciate it if the general will furnish for the record the Marine Corps' budget submission for ammunition versus the approval of the amounts in the present budget for fiscal year 1964, fiscal year 1965, fiscal year 1966,

the fiscal year 1966 \$12.3 billion supplemental, and fiscal year 1967. Thank you very much, General.

(The information referred to is as follows.)

[Dollars in millions]

Fiscal year	Navy/ U.S.M.C. request	OSD sub- mission	Difference
1964	\$74.2	\$67.1	-\$7.1
1965	69.6	48.3	-21.2
1966:			
Basic	46.6	28.1	-18.5
Supplemental	453.9	437.9	-16.0
1967	122.5	123.3	+ .8

NOTES.—

Fiscal year 1964—Difference resulted primarily from deletion of funds for the procurement of extended-range high-explosive ammunition for the 105-millimeter howitzer. This was based on the availability of large stocks of the standard-range HE (M1), and the concurrent production of more effective classified munitions.

Fiscal year 1965—A portion of the difference (\$6.8) resulted from an adjustment of requirements by the Marine Corps subsequent to the initial submission. The primary reason for the balance of the difference was deletion of funds for the extended-range ammunition for the 105-millimeter howitzer, based on availability of large stocks of standard-range ammunition and the delay in development of a fuze for the extended-range round.

Fiscal year 1966—The basic 1966 difference resulted primarily from decreases in extended-range 105-millimeter ammunition, plus other reductions in 7.62-millimeter and classified artillery ammunition.

The difference in the fiscal year 1966 supplemental resulted primarily from reductions in classified and chemical ammunition not employed in Vietnam and from a change in guidance concerning the acquisition of mobilization reserve stocks for the 5th Marine Division.

Fiscal year 1967—The difference results from various increases and decreases in quantities of ammunition authorized. Primary reductions were realized in extended-range 105-millimeter ammunition due to production difficulties and the advent of a follow-on round. Primary increase was in 105-millimeter HE (M1), for which no dollars had initially been requested due to reported availability from Army stocks on a nonreimbursable basis.

USE OF COMPUTERS IN ESTIMATING AMMUNITION REQUIREMENTS

Senator STENNIS. General, this is a good statement as I said. On page 2, about five lines from the bottom, you say:

"The 1965 study utilized computerized war gaming and other modern analytical techniques."

I hear a lot of accusations against the Pentagon for using computers. This is the first time I have ever seen in writing from any of you gentlemen that you do it. I do not say that critically. I am really interested in this. Do you use these computers in analyzing and determining what your future needs will be on ammunition?

General VAN RYZIN. Yes, sir. For example, we might computerize a typical situation in an amphibious assault, with the mix of weapons that we have, the lethality of the weapons, the number of targets that the enemy may present, the extent of our frontage, and it is a very complicated manipulation to do it by hand, so we utilize the machine in solving those problems.

Senator STENNIS. My real question is, do you feel that you do a better job by using the machine, or do you just use it to save time?

General VAN RYZIN. It is to save time, sir. I think we could come up with the same prediction.

Senator STENNIS. I was going to say you have been making these calculations all these years—

General VAN RYZIN. Yes, sir.

Senator STENNIS (continuing). And doing a good job of it. You can just do it so much quicker with computers.

General VAN RYZIN. That is correct, sir. It took 3 years, for example, to work one of the old studies. Now we can update it every year, sir.

General SHAW. I might offer something on this.

Senator STENNIS. Yes; I wish you would.

General SHAW. I was at the Development Center in 1959. I was director of it. When we were told we were going to do this ammunition study, we began to look for a way to foreshorten the calculations. The computer foreshortens the calculations. You have to use the same factors by hand or by machine, but that is all that is does.

General VAN RYZIN. That is correct.

General SHAW. This is not an attempt to predict the future.

General VAN RYZIN. The Marines' judgment is still the judgment.

Senator STENNIS. That is what I like to hear you say; you are still using that human judgment.

STATUS OF MARINE CORPS AMMUNITION

Now, on page 3 you have the ground ammunition always required to support four Marine divisions in [deleted] months of combat, four Marine air wings in [deleted] months of combat. General Shaw briefed us on that last year. It is certainly a striking contrast. This is not an unfavorable comparison between the Army and you, gentlemen, but a striking contrast in your favor where you have that ammunition supply ready. It is certainly well put. I hope you cling to it.

Now, you say that you are not having anything special for this new division, because it is programed elsewhere. I was very surprised with that. Are you completely satisfied with that situation?

General VAN RYZIN. Yes, sir. We started the activation of the 5th Division on the first of March. It will be combat ready for deployment—it is going to be a phased buildup; it will be about [deleted]. By that time our ammunition production lines will far exceed our consumption, and there is no point in storing it at this point.

Senator STENNIS. I believe that is all I have except I want to commend you again for your statement and you too, Captain. I did not hear all of yours, but all of these statements will be fully studied. You need not doubt that. They have a meaning to you, and they have a meaning to us in our overall study.

Thank you too for getting the statements over in advance of our hearings. Our rule requires a day in advance, and you can well appreciate how much that means to us.

If there is nothing more, I want especially to thank you gentlemen. We appreciate this good record you have made.

The subcommittee will take a recess, gentlemen, until Monday afternoon, at a time to be set by the Chair.

(Whereupon, at 12:40 p.m., the subcommittee recessed, to reconvene subject to the call of the Chair.)

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