DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1977

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FOURTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

GEORGE H. MAHON, Texas, *Chairman*

ROBERT L. F. SIKES, Florida
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SAMUEL RALPH PRESTON, JOHN M. GARRITY, PETER J. MURPHY, JR., DEREK J. VANDER SCHAAF, GORDON CASEY, CHARLES W. SNODGRASS, and DONALD P. SMITH, *Staff Assistants*

PART 6

COMMUNICATIONS PROGRAMS
DEPLOYMENT OF TACTICAL NUCLEAR WEAPONS
TESTIMONY OF MEMBERS OF CONGRESS AND OTHER INDIVIDUALS AND ORGANIZATIONS

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U.S. GOVERNMENT PRINTING OFFICE

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1977

TUESDAY, MARCH 30, 1976.

TELECOMMUNICATIONS AND COMMAND AND CONTROL PROGRAM

WITNESSES

RICHARD H. SHRIVER, DIRECTOR OF TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS
JOHN P. STENBIT, PRINCIPAL DEPUTY DIRECTOR OF TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS
MAJ. GEN. THOMAS M. RIENZI, DIRECTOR OF TELECOMMUNICATIONS AND COMMAND AND CONTROL, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, DEPARTMENT OF THE ARMY
VICE ADM. JON L. BOYES, DIRECTOR FOR COMMAND AND CONTROL AND COMMUNICATIONS (C3) PROGRAMS, DEPARTMENT OF THE NAVY
MAJ. GEN. ROBERT L. EDGE, ASSISTANT CHIEF OF STAFF, COMMUNICATIONS AND COMPUTER RESOURCES, DEPARTMENT OF THE AIR FORCE
LT. GEN. LEE M. PASCHALL, DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
RAYMOND T. TATE, DEPUTY DIRECTOR, NATIONAL SECURITY AGENCY, FOR COMMUNICATIONS SECURITY
MAJOR GENERAL HOOVER, JOINT TACTICAL COMMUNICATIONS

INTRODUCTION

Mr. BURLISON. Today's hearing is to review the 1977 DOD communications budget.

The total 1977 budget request for communications is just short of $4 billion. This is an increase of $656 million or 20 percent more than was available in 1976.

This overall 20 percent increase masks an even larger increase in the procurement budget, which increases from $704 million in 1976 to $1.132 billion in 1977. This is an increase of $428 million or 61 percent in 1 year.

The comparison between the 1975 and the 1977 procurement appropriations is even more astonishing. If the 1977 budget is approved as submitted, communications procurement will have increased by 140 percent or $661 million in 2 years time.

The committee needs to consider very carefully whether or not such large increases are justified in 1977.

In order to adequately review the 1977 budget. the committee will need to consider the review process within DOD for communications programs. This requires consideration of the roles of the Telecommunications Command and Control Systems Office, the Defense Communications Agency, and the chief communicators of each of the military departments.

Representatives of all these agencies are here today and each has a prepared statement.

The Director of Communications Security of the National Security Agency is also here today, since communications security is considered part of the overall communications budget.

The role of the worldwide military command and control council also needs to be considered. The council has unusual representation at the Deputy Secretary of Defense level. The committee needs to explore whether this high level representation has given the communications community special advantages in the competition for scarce resources.

The Soviet threat is used to justify many of the increases requested. The reliability of these threat estimates needs to be carefully considered to determine if they are genuine or if they are to justify larger budgets.

The communications community is in a time of transition. Many major studies are just being completed. In particular, the "World-Wide Military Command and Control Systems Architecture Study," by the IBM Corp., and the "Final Report of the European Command, Control and Communications Study Group" need to be considered. These studies may have multi-billion-dollar implications if their recommendations are accepted. This would require larger communications budgets in the future than the budget currently before the committee.

The communications community is also making a technological transition to a much larger dependence on communications satellites.

This has been a difficult and costly transition, with many cost overruns and schedule slippages. For example, the Navy's FleetSat program is 3 years behind schedule and the cost has increased from an initial estimate of $313 million in 1971 to the current estimate of $866 million.

The committee needs to consider whether these problems with the satellite programs have been solved.

The committee also needs to know whether cheaper alternatives have been adequately considered. For example, internal DOD studies show that savings of up to $237 million could be realized by upgrading the DSCS II satellite, as opposed to transitioning to the DSCS III satellite. However, the 1977 budget includes $30.6 million to begin full-scale development of the DSCS III satellite.

Large increases are also proposed for communications security programs. The future year costs of these programs will be in the hundreds of millions or even billions of dollars, depending upon the degree of security achieved. The committee needs to consider the basis for these increases, and whether clear priorities have been established which give realistic consideration to cost factors.

The committee also needs to consider items of interest to the individual military departments.

Finally, two reprograming requests in 1976 must be heard at the end of the day.

The General Accounting Office gave valuable assistance to the committee in preparing for this hearing and I would like to acknowledge the committee's appreciation at this point in the record.

Today's principal witness is Mr. Richard Shriver, Director of the Telecommunications and Command and Control Office. Mr. Shriver replaces Mr. Reed, who recently became Secretary of the Air Force.

Since this is Mr. Shriver's first appearance before the committee, we will place a biographical sketch in the record. Biographical sketches should also be provided for any other witnesses who are appearing for the first time.

Statements are also available for:

Defense Communications Agency (Lieutenant General Paschall).

Communications Security (Mr. Tate).

Army Communications (Major General Rienzi).

Navy Communications (Vice Admiral Boyes).

Air Force Communications (Major General Edge).

With six statements and only 4 hours available for the hearing, we will have to move smartly if we are to complete our work.

I hope the witnesses will hold their opening remarks to a minimum.

Questions and answers will also have to be limited to the essentials, with additional details being provided for the record.

That, gentlemen, will give you some of the concerns that the subcommittee has at this time.

We are very delighted to have Mr. Shriver with us today, as well as his advisers and staff.

We are glad to have Major General Rienzi, Mr. Stenbit, Vice Admiral Boyes, Lieutenant General Paschall, Mr. Raymond Tate, and Major General Edge.

Does the distinguished member from Alabama have any remarks at this point?

Mr. EDWARDS. You have done a beautiful job, Mr. Chairman. We may as well go ahead.

MOTION AND VOTE TO CLOSE HEARINGS

Mr. BURLISON. Does the gentleman from Pennsylvania have a motion?

Mr. FLOOD. I have a motion, Mr. Chairman.

I move the hearing to be held today with the Director of Telecommunications and Command and Control Systems, and the hearings to be held tomorrow with Vice Admiral Hyman G. Rickover on the nuclear shipbuilding program, and Mr. Donald R. Cotter, Assistant to the Secretary of Defense for Atomic Energy, on tactical nuclear weapons, be held in executive session because of the classification of the materials to be discussed.

Mr. BURLISON. The motion requires a rollcall vote.

The Clerk will call the roll.

[The Clerk proceeded to call the roll.]

Mr. BURLISON. Mr. Reporter, let the record show that on this vote Mr. Mahon, Mr. Sikes, Mr. Flood, Mr. Addabbo, Mr. Giaimo, Mr. Chappell, Mr. Burlison, Mr. Edwards, Mr. Robinson, and Mr. Ceder-

berg voted aye. There were no noes. Therefore, the motion was agreed to.

Mr. BURLISON. As I have indicated to Mr. Shriver, we do have a considerable number of committee questions that we want to get into in some detail, so we would like for you to make your presentation briefly and succinctly and then we will proceed with the questions.

You may proceed in your own fashion.

SUMMARY STATEMENT OF RICHARD H. SHRIVER, DIRECTOR OF TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS

Mr. SHRIVER. Thank you.

I would also like to add to your introductions Major General Hoover behind me here, who is in charge of our joint tactical communications effort. This is the team that works together to provide, develop, and maintain the systems whereby our commanders control their forces. In the short time I've been with the Department of Defense, I can tell you that this group and our respective staffs do not always agree.

Mr. EDWARDS. Good.

Mr. SHRIVER. Consequently, largely as a result of this, by the time our budget is presented to the President and the Congress, it is well balanced. Though not perfect, it has survived the scrutiny of literally hundreds of professionals who are as interested in the technical capabilities as they are in the economic cost versus operational benefit type of analyses.

First, I would like to comment generally about our budget.

Second, I will discuss the major attributes of our equipment that contribute to high costs, long leadtimes, and what I believe to be unprecedented management challenge.

Third, I will discuss the telecommunications and command and control systems for each of three mission areas: ranging from normal readiness to nuclear command and control.

II. GENERAL COMMENTS

As you have heard in previous DOD statements this year, our policy is deterrence, one element of which is to maintain a "rough equivalence" with the Soviet Union. As you know, this does not mean matching them weapon for weapon and man for man. Rather it requires a look at our total needs and force effectiveness versus theirs. One of the ways that we can vastly improve, and as we say, multiply the effectiveness of our forces is through our communications and command and control system.

The appropriations for which I am now responsible was $3.3 billion for fiscal year 1976, and we are asking for $3.98 billion for fiscal year 1977.

TELECOMMUNICATIONS AND COMMAND CONTROL PROGRAM RESOURCES [1]

[TOA by aprpropriation category; manpower by military and civilian]

	Fiscal year—			1977–1976 comparison
	1975	1976 [2]	1977 [3]	
Total obligational authority (millions):[4]				
R.D.T. & E	$435	$491	$585	+94
Procurement	471	704	1,132	+428
Military construction	22	12	28	+16
O. & M	1,079	1,202	1,339	+137
Military personnel	893	918	899	−19
Total	2,900	3,327	3,983	+656
Percent of DOD TOA	3.3	3.4	3.5	
Manpower (fiscal year end strengths):[5]				
Military	91,000	87,000	86,000	−1,00
Civilian	24,000	25,000	25,000	
Total	115,000	112,000	111,000	−1,000

[1] Program does not include the telecommunications or command and control capabilities of intelligence sensors, weapons systems, electronic warfare, tactical weapons control, and telemetry and command for ——— satellites.
[2] Appropriation.
[3] President's budget request.
[4] Current dollars.
[5] Rounded to closest thousand.

This chart is slightly different from the one in my original statement in that it shows changes between 1976–77, as you accurately mentioned in your opening comments.

We are in an especially important period of both the development and acquisition of new systems ———. That explains a large part of the delta, the difference that you see here. I think this is a very important point.

As you can appreciate, as we examine smaller and smaller portions of the DOD budget, large percentage changes such as this in R. & D. and procurement are inevitable. Because of two major new programs, this next chart shows that our overall growth in constant 1977 dollars is from 1976 to 1977, 11 percent.

TELECOMMUNICATIONS AND COMMAND AND CONTROL PROGRAM, FISCAL YEARS 1976–77 COMPARISON

[In millions of fiscal year 1977 constant dollars]

	Fiscal year 1976	Fiscal year 1977	Program growth	Percent program growth
R. & D	$527	$585	$58	10
Procurement	751	1,132	381	34
Military constuction	13	28	15	54
O. & M	1,292	1,339	47	4
Miliary personnel	977	899	−78	−9
Total T. & C.C.P	3,560	3,983	423	11

Note: OSD(C) appropriation deflators issued January 1976 were applied. 1976 column is appropriation. 1977 column is President's budget request.

I would reemphasize the word "constant" to relate to your earlier comments.

III. ATTRIBUTES OF MILITARY COMMUNICATIONS SYSTEMS

Now I would like to mention some of the reasons why these high technology capabilities can take so long and cost to much to develop relative to commercial systems with which you are familiar. We are not simply talking about radio stations, telephone and teletype as you are familiar with them in your everyday lives. We are talking about those and much more. We have underground and airborne command posts, specially equipped aircraft for message relay, many different types of satellites, large-scale computers ——— the sole purpose of which is to transmit execution orders to our strategic forces. Clearly, military systems are different in some obvious ways. I would like to mention a few of the not-so-obvious differences.

First, many of our systems and facilities are designed to be more "survivable." For example, U.S. policy may dictate that they should continue to function after a nuclear attack. Any changes in such policy can influence C^3 expenditures dramatically.

Second, our systems must be reliable. A computer or communication failure at precisely the wrong moment could seriously impair our ability to cope with a crisis situation or critical circumstances. Capabilities to protect against this, in other words, redundant capabilities, can be expensive.

Third, we must be increasingly able to cope with an aggressor who is capable and astute in the jamming of our communications systems.

Fourth, our four services must be able to operate together and consequently, their respective communications and command and control systems must also work together. "Interoperability," as we call it, is costly, but we think necessary.

Some of our systems require these attributes and more. Their inclusion can multiply development time and cost, and complexities many times over, and add to the risks of each. Our problem is to exercise the discipline and wisdom to limit the military requirements to those that we can practically afford.

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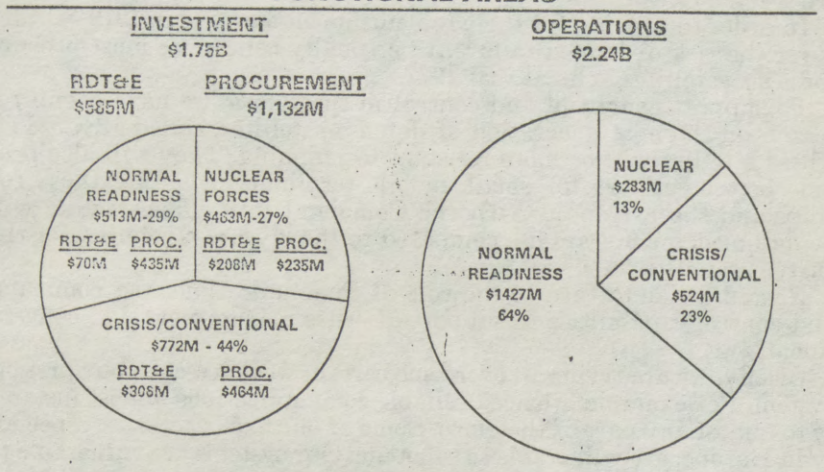
TELECOMMUNICATIONS AND COMMAND CONTROL PROGRAMS
BUDGET REQUEST FY 77

FUNCTIONAL AREAS



- Investment = RDT&E + Procurement + Military Construction
- Operations = Operations and Maintenance (including civilian personnel) + Military Personnel
- Systems are placed in area of primary support although they also support other areas
- FY 77 Request (Investment) includes $28M for Military Construction
- Source: January 1976 Five Year Defense Program
- Detail may not add due to rounding

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IV. FUNCTIONAL GROUPS

Our current program is a collection of 187 program elements. The total program can be divided into three mission areas. The first includes systems supporting normal day-to-day readiness. The next consists of systems to support crisis management and conventional warfare, and the last are systems primarily for command and control of nuclear weapons. As you can see, most of our investment is for nuclear and crisis-related systems. Most of our operations costs, however, are in systems for normal readiness.

As for normal readiness support, our major objective is to insure that the DOD's telecommunications systems provide quality services for day-to-day conduct of business and are in readiness for crisis situations. We are investing here to permit reduction of other Defense costs such as travel and overseas supply and personnel levels. In other words, we are in a growth business within the DOD to help alleviate costs elsewhere.

The defense satellite communication system (DSCS) is a major element supporting the communications of the Defense Department. This system includes both large and small ground terminals and provides some protection against jamming and nuclear effects. Furthermore, the DOD can unilaterally move military satellites in space in a matter of weeks to cover a completely different part of the world, if necessary.

We plan to launch six DSCS satellites between March 1977 and March 1978. This will provide a system of four operational satellites plus two satellites in orbit for use as spares. The operational satellites will be positioned over the Atlantic, Indian, Eastern Pacific, and Western Pacific Oceans.

In order to provide for their replenishment starting in 1979–80, and cover the risk of launch failure, I personally believe we must procure these six satellites in fiscal year 1977.

To support command and control in the 1980's, we have begun research on the next generation of defense satellites, called DSCS III. These satellies will be more resistant to jamming. They will also provide better support for small, mobile terminals including those for ships and the Advanced Airborne Command Post. This satellite will be designed for 6 years use compared to the 3 years, 2 months for the current satellite.

Next, I'd like to turn to the role of communications and command and control capabilities in support of crisis management and conventional war.

Briefly, we are trying to overcome certain weaknesses in our present system. For example, we need reliable communications almost instantly to almost any part of the globe. Some of our fixed facilities, especially in Europe, are vulnerable to sabotage. Our systems are vulnerable to electronic jamming, a science in which our principal adversary is highly skilled. Most of our voice communications are unsecure and easily picked up by adversaries.

Mr. BURLISON. Do we have an equal skill ———.

Mr. SHRIVER. I don't know, sir, but Mr. Tate perhaps can comment on that ———.

Mr. TATE. ———.

Mr. BURLISON. You may proceed.

Mr. SHRIVER. Military satellites provide the best means for rapid, secure voice communications to and from the on-scene commander during crisis situations. To support crisis management and conventional warfare, for example, we also have the fleet satellite communications program. Navy fleet communications will be greatly improved by this. The satellite program has had a number of technical problems during development. We now believe these problems are resolved and that the ——— launch will occur in 1977.

One of our major efforts on the tactical front is the joint tactical communications, or TRI–TAC program. Initiated in 1971, this program involves a single manager who is concerned with joint tactical communications needs of the services. We have eliminated duplicate research and development costs, and expect lower procurement and lifecycle support costs due to larger purchases of common equipment. Furthermore, use of common equipment should greatly ease interservice communications during joint operations. The new equipment will be introduced in the early eighties.

Finally, security. Improvements must be made in the security of our voice communications to deny an enemy knowledge of our military and political intentions. The Soviet Union has a deep appreciation for communications intelligence and employs a sophisticated collection system. Our goal is to secure ——— command and control circuits ———. To achieve this, funding for communications security must increase dramatically over the next 5 years.

Mr. ADDABBO. Before you proceed, why do you make a separate statement on crisis management and conventional war? Do you need different satellites, different communication? I would think nuclear would be a greater crisis than conventional war.

Do you use separate telecommunications in a nuclear crisis vis-a-vis a conventional war crisis?

Mr. SHRIVER. Yes, sir. Our policy is to be able to control conflict at any level as it moves up the scale from normal readiness to nuclear, and they are very different systems. There is some redundancy, of course, but there are very different systems in the different levels of conflict, and we will get into some of those this morning.

Mr. ADDABBO. A crisis is not a crisis then.

Mr. SHRIVER. I beg your pardon?

Mr. ADDABBO. I mean there are different priorities in crisis? Conventional war crisis differs from nuclear war crisis.

Mr. SHRIVER. Yes, sir.

Mr. ADDABBO. Therefore you would use ——— different——

Mr. SHRIVER. You will see here this morning some dramatic differences between crisis communications capabilities and those required for nuclear command and control. It is a very important point and a very excellent question, a very important point.

Mr. ADDABBO. Thank you, Mr. Chairman.

Mr. SHRIVER. Next I would like to turn to command and control of nuclear forces.

To maintain a credible deterrent against nuclear aggression, we must be able to send orders to our surviving retaliatory forces. We believe we should be capable of communicating those orders ———.

To meet these conditions, a command center must survive and that command center must be in communication with the President or a successor. In addition, we must have the ability to connect the command center to the surviving forces.

Today, the survivability of our system is sufficient ———.

Today's underground command centers are a ———.

Today's EC–135 airborne command posts are limited in communications capability, space, endurance, and resistance to nuclear effects.

The advanced airborne command post has been developed to overcome these limitations. When complete, principal improvements will include substantially increased communications capability, nuclear hardness, longer flight time, and a larger battle staff area.

Mr. BURLISON. What do you mean "battle staff area?"

Mr. SHRIVER. Sir, the area in the plane—we are trying to run a war from inside an airplane, and space is very limited once you have put in all the electronic equipment and necessary people to maintain the radios and telephones, and so the battle staff, the people who are making the decisions, have to have some room too

Mr. BURLISON. This is on the AWACS?

Mr. SHRIVER. No, sir.

Mr. BURLISON. Is that what you have reference to?

Mr. SHRIVER. I don't know if the AWACS has a battle staff area, but the EC–135 and the Advanced Airborne Command Posts both do.

Mr. SNODGRASS. Mr. Chairman, this is stationed at Andrews currently. I think they are going to change the stationing policies in the future.

Mr. SHRIVER. Yes. You do have an opportunity to take a look at this, and see the battle staff area, and I would recommend it.

Someone correct me if I am wrong, but I believe there is a battle staff area in the Advanced Airborne Command Post for 32 people, not a lot of people for the job to be done. We also have provisions for communications and maintenance personnel, OJS augmentees, and the national command authorities with a small supporting staff for a total capacity of 96 people. This is more than double the number we can accommodate on the EC–135.

Mr. EDWARDS. Where is the EC–135 located?

Mr. SHRIVER. Sir, I am going to let someone answer that; however, the three E–4's are all managed under one operator at Offutt Air Force Base, but they are dispersed from time to time.

Mr. STENBIT. There are ——— scattered around the world. There are some that support SAC, there are some that support CINCPAC and USCINCEUR and there are some that support CINCLANT. They are a group of almost commonly configured aircraft designed to play together, and all of the commanders in chief that have responsibilities for nuclear weapons, the Navy for the submarines, and the carriers, and the Air Force people for the airplanes, the bombers, and missiles, and in Europe there are some local Pershings and tactical aircraft that get involved in all of this, so that EC–135's are spread around the world. There are ——— of them at about a ratio of ——— per CINC, excluding SAC.

If I may interject a comment about battle staff, SAC has additional EC–135's, as they have the largest number of weapons systems to control, and because of space limitations in their EC–135 aircraft with the number of people they can have on-board to manage the battle, they actually employ two auxiliary command post battle staffs in other separate aircraft, EC–135's so the battle staff is now spread over three airplanes. These aircraft talk together and coordinate themselves. The 747 assuming it is equipped with on-board ADP will have all of those people combined into the one aircraft.

Mr. EDWARDS. I was just thinking if we went out to see the 747, I think it would be beneficial to see a 135 at the same time.

Mr. STENBIT. That is not normally at Andrews, but I am sure that it could be arranged to have one because they are in training all the time.

Mr. SHRIVER. General Edge, would you like to comment on that?

General EDGE. No, sir, I think Mr. Stenbit described the situation fairly.

Mr. SHRIVER. Back to the Advanced Airborne Command Post.

An airborne satellite communications terminal will allow jam resistant secure voice and data communications to major commands. Another improvement is a more powerful very low frequency transmitter to reach nuclear capable forces in spite of jamming and nuclear induced propagation effects. Only the larger 747–type aircraft can accommodate all of these capabilities.

We believe this program is of vital importance to the United States. We also believe it is now well on track and encourage your support for this program.

In addition to survivable command posts, we need survivable communications to the forces. The systems that provide this capability

are called the minimum essential emergency communications network. Unless improvements are made in our present system our studies indicate that ———.

Sir, this is the classified chart that gets at the question you asked earlier. This chart illustrates the effect of improvements now in our program. As many red lines as you see here there should be at least two more ———.

By increasing communications redundancy as shown here, the system will survive a far greater attack. I'd like to make two points with regard to this chart. First, each of the systems shown here ——— may involve literally hundreds of millions of dollars.

Secondly, a system such as this which is both multiservice and is in support of the national command authorities requires oversight at the level of the Secretary of Defense.

In response to your opening remarks, Mr. Chairman, this is one of the major areas in which the World Wide Military Command and Control System Council is involved.

Currently, our ——— survivable method of communicating with nuclear submarines is the Tacamo aircraft. This is a converted cargo plane carrying a high powered, very low frequency or VLF transmitter. ———.

This classified chart shows that the least detectable submarine with freedom to operate with good speed, ——— and at satisfactory depth. We currently have a project known as Seafarer, an unhardened ELF transmitter for communicating with submarines. We are also pursuing research on alternatives for achieving a more survivable system for use during and after an attack.

In summary, our program is quite broad and complex, and is directed at eliminating the most critical deficiencies in our system. In fact, this spring we are concluding a 2-year effort to complete a long-range architecture for the worldwide command and control network. In a matter of weeks, the engineer responsible for insuring the successful implementation of improvements should begin his work at the Defense Communications Agency.

At the time, Mr. Chairman, I would like to thank you and members of your committee for your interest in our activities, and would be pleased to answer any questions you may have.

[The biographical sketch and prepared statement of Mr. Richard H. Shriver follow:]

BIOGRAPHY—RICHARD HANSON SHRIVER, DIRECTOR, TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS, OFFICE OF THE SECRETARY OF DEFENSE

Richard H. Shriver of Mountain Lakes, N.J., was born in Baltimore, Md., August 17, 1933.

Mr. Shriver received his bachelor of science degree in mechanical engineering from Cornell University in 1956. He was commissioned a second lieutenant in the U.S. Air Force and served as a consultant with the Air Force's Air Material Command. He received his master of science degree in industrial engineering from Ohio State University in 1960.

He was with Esso Research and Engineering Co., from 1960 until 1966 where he was ultimately head of operations research for marketing and special projects. His responsibilities included technical, financial, and business planning studies in the United States, Europe, and the Middle East.

In 1966 he organized R. Shriver Associates of Parsippany, N.J., a consulting company engaged primarily in designing and developing information systems to aid in managing large, complex enterprises. The company also provides various engineering, management consulting, and computer-based services. Serving first as president and then chairman of this company, Mr. Shriver also managed or personally conducted assignments in data processing planning, organizational planning, capital budgeting, and long-range strategic planing for a number of clients including the Office of the Secretary of Defense.

Mr. Shriver joined the Department of Defense on February 9, 1976, when he assumed his present duties.

He is the son of Samuel H. and Eleanor (Ringgold) Shriver. He is married to Barbara Ann Brown and has two children: Richard Emerson 14, and Andrew Hanson, 11.

STATEMENT OF THE DIRECTOR, TELECOMMUNICATIONS AND COMMAND CONTROL SYSTEMS

I. INTRODUCTION

Thank you Mr. Chairman. It is my pleasure to be here, and I appreciate this opportunity to discuss our program. With me are the officers in charge of telecommunications and command and control in the Military Departments, the Director of Defense Communications Agency, and the Deputy Director for Communications Security of the National Security Agency. (Introductions)

Following this statement, each of these gentlemen will make statements of their own.

First of all, I would like to comment generally about our budget in relation to the overall DoD budget. In the process, I will also make some general assessments of the role of telecommunications and command and control systems in military operations.

Second, we will discuss the major attributes of our equipment that contribute to high costs, long lead times, and uncertainties in both.

Third, we will review the history that led to the creation of my office in 1970 and what its principal mission is today.

Fourth, I will discuss the telecommunications and command and control systems for each of three mission areas: (1) normal readiness, (2) crisis and conventional war, and (3) nuclear command and control. Improved performance of our communications and command and control systems under these conditions is, of course, one of our most important objectives.

II. GENERAL COMMENTS

As you have heard in previous DoD statements this year, our policy is deterrence one element of which is to maintain a rough equivalence with the Soviet Union. As you know, this does not mean matching them weapon for weapon and man for man. Rather it requires a look at our total needs and force effectiveness versus theirs. One of the ways that we can vastly improve the effectiveness of our forces is through our communications and command and control systems. In fact, we speak of such systems as a "force multiplier." An historical example when General Arthur MacArthur was Commander in the Philippines might illustrate the point. In reference to the contribution of the Signal Corps, he said: Without communications, "it would be impossible to hold this Archipelago with less than 150,000 men, which is now well and efficiently performed by 60,000." This is a ratio of 2 1/2 to 1. In the years ahead, as we see the strategic imbalance go increasingly against us, we begin to realize the special requirements placed upon our command, control and communications capabilities.

(Fig 1) The appropriation for which I am responsible was $3.3 billion for FY-76 and we are asking for $3.98 billion for FY-77. We are in an especially important period of both the development and acquisition of new systems.

III. ATTRIBUTES OF MILITARY COMMUNICATIONS SYSTEMS

Now I would like to mention some of the reasons why these high technology capabilities can take so long and cost so much to develop relative to commercial systems with which we are more familiar. We are not simply talking about radio stations, telephone companies and teletype systems as you are familiar with them in your everyday lives. There are important reasons why military systems are different. I would like to emphasize just six of these major differences.

First, we are changing fundamental ways in which a great many people, including those at the highest levels of the defense establishment, make decisions. These people must be thoroughly convinced of the benefits of the new systems and the transitions must be as painless and risk-free as possible; there is no margin for error when you are dealing with the mechanisms whereby a commander controls his forces.

Second, many of our systems and facilities are designed to be more "survivable." In other words, we may determine that they should continue to function in a conventional war after nuclear detonations of specified megatonnage and accuracy.

Third, our systems must be realiable. A computer or communications failure at precisely the wrong moment, for example, could seriously impair our ability to respond effectively in critical circumstances. Capabilities to protect against this can be expensive, but are absolutely essential in military systems.

Fourth, we must be increasingly able to cope with an aggressor who is capable and astute in the jamming or exploitation of our communications systems.

Fifth, our four Services generally operate together and consequently, their respective communications and command and control systems must work together. Interoperability as we call it is costly in the development stages, but should ultimately yield benefits in terms of both force effectiveness and cost.

Lastly, we are trying to fix the blueprints for new systems at a time when significant, relevant technological improvements are occurring at a rapid rate. The hazards of obsolescence in the business we are talking about today are as great as any we have ever experienced; substantial effort is devoted to maintaining an effective balance between engineering changes to take advantage of the latest technology on the one hand, and the penalties in terms of time and cost growth on the other.

Some of our major systems may require virtually all of these attributes. Their inclusion in a system can multiply both the development time and cost many times over. We do have a problem in this regard; that is to exercise the discipline and wisdom to limit the military requirements that we can practically afford in any new capability. In my short time at the Pentagon, I have been impressed by the extensive scrutiny applied to significant research or development projects. This scrutiny is applied to the basic requirement and costs as well as to the benefits.

IV. HISTORY

(Fig 2) During the fifties the advent of nuclear weapons increased the worldwide consequences of military action. Largely, as a result of this, we moved from a service orientation to unified commands with more control at the national level. This was consummated in the National Security Act with its amendment of 1958. In strategic command and control, bomber warning was emphasized and a few underground command centers were built. At the end of the fifties, Soviet testing of ICBM's changed the whole nature of the threat with the time frames involved shrinking to under an hour. Emphasis shifted to missile warning and concern for the survivability of strategic command control and communications to our nuclear forces. One consequence was the Airborne Command Post for the Strategic Air Command with its initial flights in 1961.

Also, until this time, each Service had traditionally maintained its own worldwide communications system. Mounting pressure to eliminate this costly redundancy led to the establishment in 1960 of the Defense Communications Agency to provide a single entity to engineer and manage global communications.

Concern for the continued integrity of control at the national level led to the creation of the National Military Command System. This included a National Emergency Airborne Command Post to ensure the exercise of national authority.

A series of incidents caused concern about the efficiency of command and control. The USS Liberty was attacked by Israeli aircraft in 1967, the USS Pueblo was seized in 1968, and EC-121 aircraft was shot down the following year.

In early 1970, the House Armed Services Committee established a special subcommittee to investigate the responsiveness of DoD communications in crisis situations and the overall management of those systems. The Blue Ribbon Defense Panel also addressed the management of DoD telecommunications. In the midst of these investigations, the position of Assistant to the Secretary of Defense (Telecommunications) was established.

The Worldwide Military Command and Control System was enhanced in 1971 when national level support was established as it's primary function. This same action gave the new Telecommunications office responsibility for this system within the Secretary's office. This role was later strengthened in 1974 when the title was changed to "Director" and the important phrase "Command and Control" was added.

Briefly, our role is to provide policy and exercise fiscal control over relevant Service and Agency programs. Furthermore, we try to ensure that major national programs are properly developed, managed and implemented. We have provided the necessary initiative and guidance for such programs as the Advanced Airborne Command Post, Joint Tactical Communications (TRI-TAC), Communications Security, Military Satellite Communications System, and the Worldwide Military Command and Control System.

We have also established the Telecommunications and Command Control Program to provide visibility of financial and personnel resources. The total program is a collection of 187 program elements, and includes all telecommunications systems, communications security equipment, and command and control systems (systems which are integral to weapons or surveillance systems or are used for the tactical control of weapons are not included).

V. FUNCTIONAL GROUPS

(Fig 3) Our program can be divided into three mission areas. The first includes systems supporting normal day-to-day readiness where our main interest is to provide improved service at reduced cost. The next consists of systems to support crisis management and conventional warfare, and the last are those systems that primarily support command and control of nuclear weapons. As you can see, most of our investment is for nuclear and crisis-related systems. Most of our operations costs, however, are in systems for normal readiness.

A. Normal Readiness Support

Our major objective here is to ensure that the DoD's telecommunications systems provide quality service for the day-to-day conduct of business and are in readiness for any crisis situation. You should note that we are making investments here to permit reduction of other Defense costs such as travel and overseas supply and personnel levels. As a matter of fact, even with current force reductions, demands for DoD telecommunications have actually increased. Also several thousand intelligence, headquarters and support spaces in overseas locations have been eliminated. These moves resulted in a savings in personnel costs but increased in demands on communications, especially across the Atlantic. In fact, we expect the growth in trans-Atlantic traffic will be similar to that experienced in the commercial area or a doubling every three years.

The Defense Communications System provides basic communications needs, and supports wartime command and control worldwide. This system includes a large telephone system (AUTOVON), a secure voice system (AUTOSEVOCOM), and a secure message and data transmission capability (AUTODIN). Overseas the system is largely U.S. government owned. In the U.S. it is leased from commercial communications carriers. For trans-oceanic communications, we try to maintain a balance of one-third leased cable, one-third commercial satellite, and one-third defense-owned.

The Defense Satellite Communication System (DSCS) is a major element in support of the long-haul communications needs of the Defense Department, including those of global command and control. They are also more resistant to high altitude nuclear explosions than commercial systems. Also, satellites can be moved in space in a matter of weeks to cover a completely different part of the world; when needed, this represents an important advantage of military satellites.

We plan to launch six satellites between March 1977 and March 1978. This will provide a system of four operational satellites plus two satellites in orbit for use as spares. The satellites will be positioned over the Atlantic, Indian, Eastern Pacific and Western Pacific Oceans. In order to provide for their replenishment starting in the 1979/1980 time frame, and cover the risk of launch failure, we need to procure six more of these satellites in FY-77.

To support command and control in the 1980's, we have begun research on the next generation of defense satellites (DSCS III). They will provide better support for small, mobile terminals including those for ships and the Advanced Airborne Command Post. This satellite will be designed for seven years use compared to the three years for the current satellite.

Finally, along with the Services and Agencies, we have an intensive ongoing program to reduce costs. Among other things, we stress automation of manpower-intensive operations.

As a result of the application of manning standards for telecommunications centers, we have been able to reduce personnel by about 2, 500 over the last couple of years.

Requested resources for normal readiness programs are shown here. The investment in satellite systems clearly dominates this part of the program, accounting for almost three quarters of the total.

B. Support of Crisis Management and Conventional War

Next, I'd like to turn to the role of communications and command and control capabilities in support of crisis management and conventional war. Our objective is to enable rapid response to crisis in order to control escalation.

Our present systems have certain weaknesses in this regard. For example:

- Most of our voice communications are unsecure and are easily picked up by adversaries, the consequences of which were clearly demonstrated in Southeast Asia.

- In general, our systems do not easily allow for communications between our Services and with our Allies, thereby impeding joint operations.

We hope to improve all of these areas with new systems including special satellites, tactical communications hardware, automatic data processing, and communications security.

Military satellites provide the best means for rapid secure voice communications to and from the on-scene command during crisis situations. This was clearly demonstrated during the Southeast Asia evacuations and the Mayaguez incident. To support crisis management and conventional warfare for example, we have the Fleet Satellite Communications program.

Navy fleet communications will be greatly improved by this. The satellite program has had a number of technical problems during development. We now believe these problems are resolved and that the launch will occur in 1977.

One of our major efforts on the tactical front is the Joint Tactical Communications, or TRI-TAC, program. Initiated in 1971, this program involves a single manager and program to meet the future tactical communications needs of all four Services.

We have eliminated duplicate research and development costs, and expect lower procurement and life cycle support costs due to larger purchases of common equipment. Furthermore, use of common equipment should greatly ease inter-Service communications problems during joint operations.

The new equipment will be introduced in 1980 and is expected to reduce personnel through the use of automation.

Modern warfare is placing ever increasing reliance on Automatic Data Processing for decision making support. Computer systems presently assist in planning strategic nuclear targets, maintaining an up-to-date record of force status, and developing contingency plans.

In 1971 we bought and set up 35 standard computer systems. We have provided needed capability and saved money and personnel but, we still have much work to do before this program can be deemed fully successful. The system does not provide needed information quickly enough to a commander during a fast-moving crisis. More seriously, we have yet to sufficiently refine our information needs so that we can provide fully effective operational support. We are modifying the program to better deal with this problem.

Finally security. The Soviet Union has a deep appreciation for communications intelligence and employs a sophisticated collection system. In Southeast Asia, even an unsophisticated adversary could successfully conduct collection from our unsecured systems. Intercept of unsecure U.S. military voice communications enabled the North Vietnamese to anticipate infantry, artillery, and air strikes. In the 1973 Middle East War, Israeli commanders experienced similar problems due to the intercept and exploitation of their unsecured communications. Our goal is to secure command and control circuits. To achieve this, funding for communications security must increase dramatically over the next five years.

This next chart shows the funding requests in the major areas associated with crisis management and conventional war. You can see that the topics I've just covered are reflected in the figures shown here.

C. Command and Control of Nuclear Forces

To maintain a credible deterrence against nuclear aggression, we must be able to communicate orders to our retaliatory forces to impose unacceptable damage on the attacker.

In order to meet these conditions, a command center must survive and that command center must be in communication with the President or a successor. In addition, we must have the ability to connect the command center to the surviving forces.

The Advanced Airborne Command Post has been developed to overcome these limitations. When the present phase is complete, the principal improvements include substantially increased communications capability, nuclear hardness, longer flight time, and a larger battle staff area. Only the larger 747-type aircraft can accommodate these capabilities. With these improvements, the flying area is increased substantially, thereby increasing its survivability.

As you know, this program experienced substantial cost growth, and has been the subject of extensive review. One consequence of this was the combining of the SAC and national airborne command posts. We also reduced the number of aircraft to six rather than seven as planned earlier.

We believe this program is of vital importance to the United States. We also believe it is now well on track and are asking the Congress to lift its ban on development efforts for future improvements.

In addition to survivable command posts, we need survivable communications to the forces. The collection of systems to provide this capability is called the Minimum Essential Emergency Communications Network. With improvements now in our program, the assurance of communications connectivity can be substantially increased. I'd like to make two points with regard to this area. First, communication systems shown here involve programs in the hundreds of millions of dollars. Secondly, and most important, a system such as this which is both multi-Service and is in support of the National Command Authorities, requires oversight at the level of the Secretary of Defense.

Our principal areas of investment in addition to airborne command posts include introduction of satellite capability, improvements in airborne Very Low Frequency systems, and an Extremely Low Frequency system for communicating to submarines. We currently have a project known as SEAFARER. We are also pursuing research on alternatives for achieving a more survivable system for use during and after an attack.

The resources we are requesting for these programs are shown here. Note the dominance of the AABNCP and satellites. By the mid-to-late eighties, these programs will provide a balanced, survivable command and control system to transmit orders to our nuclear forces and maintain credible deterrence.

VI. HOW WELL DOES IT WORK

How well does our overall command and control system work? We evaluate the system in two ways: first, through exercises, simulations and war games; the other is to assess its effectiveness during actual crises.

Military exercises have been valuable and we intend to use them more extensively in the future. An overall evaluation plan has been developed jointly by the Joint Chiefs of Staff and my office. This plan will encompass the approximately 8,000 exercises and tests, conducted annually, together with simulations, studies, war games, and analysis of past crises. It will provide an integrated view of the performance of our communications and command and control systems.

During recent events such as the Southeast Asia withdrawal and the Mayaguez incident the U.S. command and control system showed considerable improvements over previous experiences. A recent GAO report on the Mayaguez incident reports that the communications network demonstrated "the extent to which decision makers in Washington can exercise control over events taking place halfway around the world." This capability was made possible principally by satellite communications.

Indication of the value of satellite communications came during the evacuation of Saigon when a transportable satellite terminal supplied the highly reliable and effective communications to the area during the last hours of the evacuation.

In summary, our program is quite broad and complex, and is directed at eliminating the most critical deficiencies in our system. In fact, this Spring we are concluding a two-year effort to complete a long-range architecture for the worldwide command and control network. In a matter of weeks, the engineer responsible for ensuring the successful implementation of improvements will begin his work. We also anticipate further success in operational efficiency, and in our methods of measuring progress.

At this time, Mr. Chairman, I would like to thank you and members of your committee for your interest in our activities, and would be pleased to answer any questions you may have.

TELECOMMUNICATIONS AND COMMAND CONTROL PROGRAM RESOURCES [1]
TOA BY APPROPRIATION CATEGORY: MANPOWER BY MILITARY AND CIVILIAN

	TOA ($ MILLIONS) [5]			
	FY 1975	FY 1976 [3]	FY 1977 [4]	77-76 COMPARISON
RDT&E	$ 435	$ 491	$ 585	+ 94
PROCUREMENT	471	704	1132	+428
MILITARY CONSTRUCTION	22	12	28	+ 16
O&M	1079	1202	1339	+137
MILITARY PERSONNEL	893	918	899	-19
TOTAL	$2900	$3327	$ 3983	+656
% OF DOD TOA	3.3%	3.4%	3.5%	
	MANPOWER (FY END STRENGTHS) [2]			
MILITARY	91000	87000	86000	-1000
CIVILIAN	24000	25000	25000	-
TOTAL	115000	112000	111000	-1000

[1] Program does not include the telecommunications or command and control capabilities of intelligence sensors, weapons systems, Electronic warfare, tactical weapons control, and telemetry and command for weapons or non-communications satellites.

[2] Rounded to closest thousand.

[3] Appropriation

[4] President's Budget Request

[5] Current $

TELECOMMUNICATIONS AND COMMAND AND CONTROL PROGRAM
FY 76-77 COMPARISON
(FY 77 CONSTANT $ - in MILLIONS)

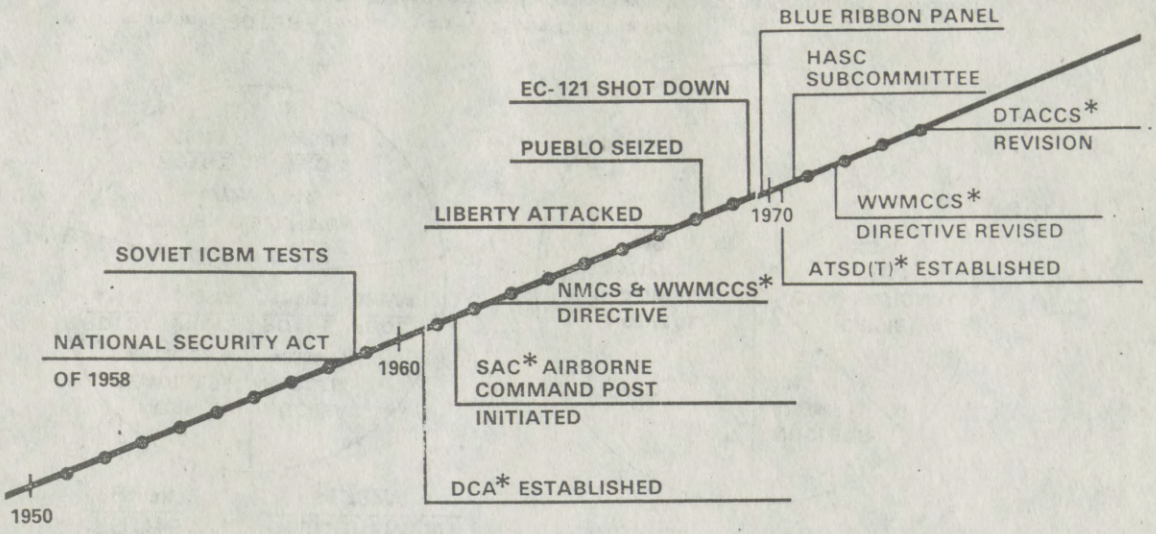
	FY 76	FY 77	Program Growth	% Program Growth
R&D	$ 527	$ 585	$ 58	10%
PROCUREMENT	751	1132	381	34%
MILITARY CONSTRUCTION	13	28	15	54%
O&M	1292	1339	47	4%
MILITARY PERSONNEL	977	899	-78	-9%
TOTAL T&CCP	$3560	$3983	$423	11%

NOTE: OSD(C) Appropriation Deflators issued January 1976 were applied.

76 Column is Appropriation, 77 Column is President's Budget Request.

ODTACCS/ResMgt
March 29, 1976

MAJOR EVENTS LEADING TO THE ESTABLISHMENT OF THE OFFICE OF DIRECTOR, TELECOMMUNICATIONS & COMMAND AND CONTROL SYSTEMS



* DCA- DEFENSE COMMUNICATIONS AGENCY
WWMCCS- WORLD WIDE MILITARY COMMAND & CONTROL SYSTEM
NMCS- NATIONAL MILITARY COMMAND SYSTEM
SAC- STRATEGIC AIR COMMAND

ATSD(T) ASSISTANT TO THE SECRETARY OF DEFENSE (TELECOMMUNICATIONS)
DTACCS DIRECTOR, TELECOMMUNICATIONS & COMMAND & CONTROL SYSTEMS

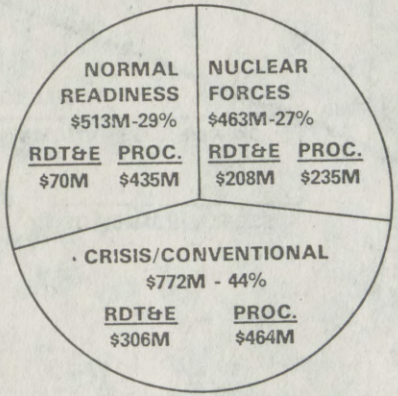
5889

TELECOMMUNICATIONS AND COMMAND CONTROL PROGRAMS
BUDGET REQUEST FY 77
FUNCTIONAL AREAS

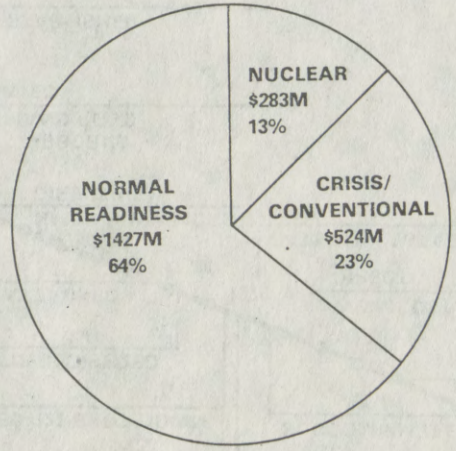
INVESTMENT
$1.75B

RDT&E
$585M

PROCUREMENT
$1,132M



OPERATIONS
$2.24B



- Investment = RDT&E + Procurement + Military Construction
- Operations = Operations and Maintenance (Including civilian personnel) + Military Personnel
- Systems are placed in area of primary support although they also support other areas
- FY 77 Request (Investment) includes $28M for Military Construction
- Source: January 1976 Five Year Defense Program
- Detail may not add due to rounding

5886

TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS FOR *NORMAL READINESS SUPPORT*

($ IN MILLIONS)

	FY 1977 REQUEST		
	INVESTMENT		OPERATIONS
	$513		$1427
	RDT&E	PROCUREMENT	
MAJOR INVESTMENT PROGRAMS — FY 77	($70M)	($436M)	
DEFENSE SATELLITE COMMUNICATIONS SYSTEM	40	324	
DEFENSE COMMUNICATIONS SYSTEM IMPROVEMENTS	25	40	
BASE COMMUNICATIONS	—	33	
INTELLIGENCE COMMUNICATIONS	—	17	
ALL OTHER RELATED PROGRAMS	5	22	

- FY 77 Request (Investment) also includes $7M for Military Construction.
- Operations = O&M and Military Personnel costs.
- Source: January 1976 Five Year Defense Program.

5886

TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS
FOR
CRISIS MGMT/CONVENTIONAL WAR

($ in Millions)

	FY 1977 Request		
	Investment $772		Operations $524
Major Investment Programs - FY77	RDT&E ($306M)	Procurement ($465M)	
Joint Tactical Communications Program	97	4	
Service-unique Tactical Communications	25	119	
Fleet Satellite Comm. System	11	110	
Sys Architectures/Sys Engineering	22	-	
Other Satellite Systems	35	27	
All Other Related Programs	30	57	

- FY 77 Request (Investment) also includes $1M for Military Construction.
- Operations = O&M and Military Personnel Costs
- Source: January 1976 Five Year Defense Program

DTACCS/ResMgt
PB Jan 76
18 March 1976

TELECOMMUNICATIONS AND COMMAND AND CONTROL SYSTEMS FOR NUCLEAR FORCES

($ in Millions)

Major Investment Programs - FY 77	FY 1977 Request: Investment $463 — RDT&E ($208M)	FY 1977 Request: Investment $463 — Procurement ($235M)	FY 1977 Request: Operations $283
Air Force Satellite Communications System	15	107	
Advanced Airborne Command Post	84	4	
Communications To/From Submarines	50	20	
Satellite Data System	15	59	
All Other Related Programs	31	22	

- FY 77 Request also includes $19.7M for Military Construction associated with the single manager concept for the Advanced Airborne Command Post Program.
- Operations = O&M and Military Personnel costs
- Source: January 1976 Five Year Defense Program

DTACCS/ResMgt
PB Jan 76
19 Mar 76

Mr. BURLISON. You ended your discussion on the Seafarer.

Before we get into the more general questions, let me ask you if the Soviets have any ELF requirement similar to Seafarer.

Mr. SHRIVER. Sir, ———. Admiral Boyes or Mr. Tate could handle that one. We do know that they have extensive VLF capabilities.

Admiral BOYES. The Navy's view of the Soviet submarine communications is that they have generally ———. They have ——— VLF stations in addition to HF stations. We would presume that as ———. The ——— way to communicate with submarines in the ———.

WORLD WIDE MILITARY COMMAND AND CONTROL COUNCIL

Mr. BURLISON. Mr. Shriver, what is the role of the World Wide Military Command and Control Council?

Mr. SHRIVER. The World Wide Military Command and Control Council?

Mr. BURLISON. More specifically who are the Council members?

Mr. SHRIVER. The chairman is Mr. Clements, the Deputy Secretary of Defense, Mr. Ellsworth currently, Deputy Secretary of Defense, the chairman of the Joint Chiefs of Staff, General Brown, and myself.

Mr. BURLISON. Why is the Deputy Secretary of Defense a Council member? More specifically again, has his participation given communications programs a special advantage in the competition for dollars?

Mr. SHRIVER. I think there are two questions here. One is why he is a member of this Council, and I think what you are talking about is fundamental policy of the United States in terms of how we defend ourselves against an adversary, primarily in a nuclear situation, but also in the full scale from crisis to nuclear management.

Many of those decisions, and the problems have been known for years, going back decades. Around 1971, when the World Wide Military Command and Control Charter was first set up, it was set up in recognition of the fact that we were simply not solving the problems that we had known about for years, and that many of these problems involving high-level policy, and requiring high-level coordination, necessitated a council, a committee of this group.

Now there are others here who have the history behind that, and I would cheerfully defer to anyone that would like to add to that.

Mr. BURLISON. Has the participation of the Deputy Secretary given communications programs a special advantage in the competition for dollars?

Mr. SHRIVER. I don't think so, sir, in the sense that to date we have spent something on the order of $11 million or $12 million for this architecture study, and that architecture study certainly will have a significant impact on our program in the future.

Mr. BURLISON. Do you expect the Deputy Secretary to remain on the Council?

Mr. SHRIVER. I can't answer that, sir. Certainly the most critical period has been during this architecture, these 2 very critical years, to develop the architecture.

Mr. BURLISON. How often does the Council meet and what are the principal topics of discussion?

Mr. SHRIVER. The WWMCCS Council meets once per month in open session where it receives two basic types of presentations: (1) information briefings on the capabilities, performance, threat environment or

program status of WWMCCS or WWMCCS-related system; or (2) briefings requesting guidance in these areas. Topics discussed include:

(*a*) Progress and ongoing technical results of the WWMCCS Architecture study efforts.

(*b*) The WWMCCS architecture and plan.

(*c*) Army European C^3 study.

(*d*) WWMCCS ADP program.

(*e*) ELF systems.

(*f*) Advanced Airborne Command Post program.

(*g*) WWMCCS supporting command and control and sensor systems.

(*h*) WWMCC System Engineer Charter, functions and organization.

(*i*) WWMCCS evaluation and exercise results.

Mr. BURLISON. What impact did the council have on the 1977 budget?

Mr. SHRIVER. I would like to ask Mr. Stenbit to comment on that, if I may.

Mr. STENBIT. I think there are both kinds of impacts, both positive and negative in terms of money that is not there, because they decided in terms of programs that should be reduced or backed off or postponed. Let me give a couple of examples of that.

Mr. Snodgrass alluded to the fact that the rebasing of the Advanced Airborne Command Post is postulated. That was the result of a review of that program, which I think you are familiar with, which had some significant cost growths as it was originally envisioned. It was the WWMCCS Council that made the original decision they were not going to base these here at Washington and Offutt Air Force Base in Omaha.

Therefore by using a common base it was feasible to reduce the number of aircraft required. I don't believe that is in the fiscal year 1977 budget but would show up in the budget when the new aircraft are procured.

Another case in point is the Navy's ELF program. I think as originally constituted a couple of years ago, this year would have required a major commitment of funds to the full-scale development of the Sanguine system. It was a combination of funding investigations on the part of the Congress, but it was also the WWMCCS Council that reviewed that program and reoriented it towards the present Seafarer system, and in effect had slowed down the development effort of that kind of program.

Those are some negatives.

Some positives are the fact that the Advanced Airborne Command Post is there at all. That was one of the first programs that the WWMCCS Council got behind and pushed. I think the AFSATCOM program—the Air Force satellite communications program that is one of the key elements of the chart that Mr. Shriver showed with respect to the Minimium Essential Emergency Communications Network—was started and has been under the sponsorship of the WWMCCS Council, so those are some programs that are there because of their actions and some other actions that are not there.

Mr. SNODGRASS. Two points.

One, could you provide a more detailed list for the record of some of the major pluses and minuses that are in the 1977 budget as a result of the WWMCCS Council's decisions?

The second point, referring just briefly to whether or not you have been somewhat favored in the competition for resources, you do have a 61-percent growth in procurement this year, even on your chart which put it in constant dollar terms it is a 34 percent growth. By any standard that seems to be a rather dramatic increase in 1 year in procurement programs.

Do you think this is merely because of the merit of your programs, and it is not that you had money put back in because the Deputy Secretary of Defense was on this council, and therefore you did have a special access to the budget process?

Mr. SHRIVER. I would like to provide for the record the answer to your first point.

[The information follows:]

WWMCCS COUNCIL DECISIONS

The Council makes broad decisions on WWMCCS related programs which guide the courses of their development. The programs then must still go through the normal Defense PPBS cycle and procurement process since they all appear in a service or defense agency program. Specific actions by the WWMCCS Council which had some effect on the fiscal year 1977 budget include:

1. Guidance for the adoption of a baseline WWMCCS warning system.
2. Guidance to change the Navy ELF program from surface hardened Sanguine to a soft Seafarer. The program was also influenced by a number of external factors.
3. Guidance to reduce the Air Force AABNCP program from seven to six aircraft and to use a single manager and basing concept.
4. Guidance to continue the WWMCCS architect function in DTACCS to maintain the WWMCCS architecture.
5. Guidance to establish the WWMCC system engineer at the Defense Communications Agency to implement the approved WWMCCS architecture.

Mr. SHRIVER. I think it would be helpful if we may, Mr. Chairman, take a look at the procurement. We do have a chart on the procurement.

Do you want the whole procurement budget? We can show the breakdown and show where the different increases really are.

To answer your question generally, procurement is always the follow-on of a research effort that may have taken place over the last 2, 3, or 4 years, and those research efforts are now coming to fruition, and that is the reason why we are now procuring things that we would like to have procured even earlier.

Mr. SNODGRASS. I think the issue is that there are a lot of other very large and complex programs in the Defense Department which involve more dollars than the communications program, yet they don't have the Deputy Secretary of Defense looking over them with the close eye that he does in this area.

It would either imply, one, there must be troubles in this area, or, two, for some reason, it is favored. Otherwise why is he giving such extra management attention to your particular area?

Mr. SHRIVER. I think the history would say that there were serious weaknesses that were felt at the highest level in our handling of crisis situations in the late 1960's, and those things among others led to the interest.

Mr. SNODGRASS. Does his continued presence on this Council mean you have continuing management problems, or are they beginning to be solved or what is the situation? Again why should we give you such large increases, if there are management problems in this area as you have admitted by having this special Council?

Mr. SHRIVER. Mr. Stenbit has a comment on that.

Mr. STENBIT. I think there are several answers to your question. One is that we do not get money any differently in our program than the normal DOD process. All of our programs that exceed DSARC thresholds have to go through the DSARC process. All of our funds get scrutinized by the Comptroller, by the system analysis people, and everybody else. I think that you are drawing a comparison to the fact that the Deputy Secretary of Defense sits on the WWMCCS Council and there has some special way that he puts money in the budget for communications items.

That is not true. The WWMCCS Council is a review body of the entire program, and because the Deputy Secretary recognized problems in this area in the past, and actually that predated the present Deputy Secretary back to Secretary Packard, who was instrumental in starting this entire process.

It is true that they recognized difficulties. That is why they set up their special management attention. It is also true that because they recognized them, they were interested in them. However, I think that your inference that there is a special way that money gets in the budget for our kinds of programs is not correct.

Secondly, there is another factor. You will recall that your committee cut $145 million or something like that of procurement out of our fiscal 1976 program, and as you may well understand, you are taking a comparison of procurement growth from a baseline of programs which had been going forward on a smooth basis, that were suddenly subjected to a significant drop, so you are seeing two effects. One, a decreased base for your comparison, and, second, the normal growth that was apparent because we are now getting from out of the research stage with some of these critical programs and smooth procurement stage.

Mr. SNODGRASS. Would you consider the demise of the WWMCCS Council an indication that these basic problems have been overcome? You said it was set up because there were special problems.

What kind of a sign can we look for to indicate that these problems are being coped with and are over?

Mr. SHRIVER. I think the sign that you can look for is the successful installation of the WWMCCS, the World Wide Military Command and Control System Engineer, and the installation of his staff and a successful degree of momentum behind that whole program, and you will see I believe, I certainly can't speak for the Deputy Secretary of Defense, but I believe at some stage he would certainly have a more standard interest.

By that I mean he is interested in many programs, not just this program, and he personally talks to program managers and gets involved, so this type of involvement, with the exception of the fact that there is a formal Council, is not unusual for the Deputy Secretary of Defense.

ROLE OF THE OFFICE OF THE DIRECTOR OF TELECOMMUNICATIONS AND COMMAND CONTROL SYSTEMS

Mr. SNODGRASS. What is the role of the Office of the Director of Telecommunications and Command Control Systems?

Mr. SHRIVER. The main role is to be the principal adviser to the Secretary of Defense on matters involving telecommunications and command and control systems. We have two primary responsibilities, first to set policy for telecommunications and command and control systems, and second, to exercise in a manner, fiscal control over the budgets of the services and agencies in these areas.

Mr. SNODGRASS. What items were added to the 1977 budget by the Office of the Director of Telecommunications and Command and Control Systems?

Mr. SHRIVER. What items would be added specifically?

Mr. SNODGRASS. Yes.

Mr. SHRIVER. I don't know that any were.

Mr. SNODGRASS. You can provide the major items and a detailed breakout for the record.

Is there anything in particular that is in this budget because your office feels it is very important, and you put it in over the objections of the military services?

The reason we ask this question is that at times it has been charged that the military services are being asked to implement communications programs which they didn't fully support, and which were put into the budget by your office.

Mr. SHRIVER. They are here, so I certainly encourage them to speak and comment on that.

Mr. TATE. There are some reductions but no additions.

General RIENZI. In the case of the Army the tactical programs are supported by Mr. Shriver's office, are the key to maintaining and achieving the 24 division force that is the drive of the Secretary of the Army and the Chief of Staff of the Army, so we have that support, and there are new programs on the tactical side that have come from the research we have done and you see reductions in research and increase in procurement of things building toward that 24 division force, at the same time and related to the building toward the WWMCCS system, so it is a total worldwide system.

General EDGE. I think in the context of your question, sir, that in the process of putting together the President's budget, Mr. Shriver alluded earlier to disagreements between his staff and the staffs of the services. Those disagreements seldom in my experience have centered around whether or not the particular procurement was needed. The disagreements generally center around the timing of it, the particular means by which one proceeds, and we do have some give and takes, sometimes very healthy give and takes but when all is said and done we have essential agreement, and I think it would be grossly unfair to say that there is anything imposed upon the services against their will, if that is what was intended.

Mr. SNODGRASS. Is there anything in any of the communications budgets which were not initially requested by the services but which is in the 1977 budget?

General EDGE. I can think of one key exception, and that is that the Joint Chiefs of Staff are not within the services themselves, and so with respect to the requirements, some of the WWMCCS requirements, which are not service requirements per se, but really JCS requirements, they state the requirements, but that is not the same thing as putting a particular amount in the budget. That is in essence an operational requirement which gets translated then into some technical

solution of that requirement, and eventually gets priced out, developed, if development is necessary, and gets into the budget in what I regard to be a rather regular fashion.

Mr. SNODGRASS. Could we place in the record at this point any items which were not in the original requests of the military department but which ended up in the final budgets.

[The information follows:]

The only item which fits this category was $63 million added to Air Force procurement to insure adequate funding for the Defense Satellite Communications System (DSCS). This funding adjustment was made mainly to correct the DSCS II shortages and accelerate the delivery schedule. Aside from this item, DTACCS recommended more than an 8-percent overall reduction to the original requests.

Mr. BURLISON. What items were deleted in 1977 because of your office—that is, the service requests? What service requests, if any, were deleted by your office?

Mr. SHRIVER. I am sure there was some shuffling around of budgets. Can we comment on that?

General PASCHALL. I can begin.

At the time the phase II satellites experienced a launch failure, the Defense Communications Agency, which has responsibility for the Defense Satellite Communications System, reexamined the replenishment policy, and it made a recommendation to buy seven additional communications satellites of the phase II variety. Upon review by the DTACCS Office, that was reduced to six, with which I subsequently agreed. There was one such case.

Mr. SHRIVER. The point is that the services now have to finance that satellite, even though the Defense Communications Agency and my office have come up with the requirement, so that is where the give-and-take is. The fiscal control is not direct. I think it is important to understand that the way that we function is primarily through a veto power in order to have the services fund projects that may not be totally in the service interests but are in the JCS and OSD interests. That is the process I think that you are asking about.

I should mention that General Hoover's activities in the TRI–TAC activity report directly to my office, and his activity is financed by the services, but is not a service program per se. It is for the benefit of the services as the equipment that he is designing is available.

Mr. SNODGRASS. Most offices at the Office of the Secretary of Defense level tend to reduce budgets. Some of the figures that the staff has seen indicate that they have been increased by your office. That is an unusual Office of the Secretary activity.

Could you explain why this is happening, and has your office, in effect, abdicated its oversight responsibility and become a program advocate rather than a program reviewer?

Mr. SHRIVER. No, sir, I think that when we appear here, by the time we have reached this point, yes, sir, we are advocates. Before we reach this particular point in our budget, we are not advocates. We are the skeptics looking at the budget and trying to exercise the same kind of management thinking that the next step would exercise, and so the process during the budget year is one of give-and-take, as General Edge said. Once we have a budget that we have a consensus on, then, yes, sir, we are advocates.

Mr. SNODGRASS. Would you comment on whether or not, in fact, the budget has been larger coming out of DTACCS than it was going into it, in the scope of the last couple of years?

Mr. SHRIVER. I don't know that. If anyone knows, fine. Otherwise we will supply it for the record.

General RIENZI. That is correct.

Mr. STENBIT. I think I have some figures if you would like them. When the budgets were submitted in October 1975, for the total CTP and WWMCCS, which are the two budget categories we use, the Consolidated Telecommunications Program and the WWMCCS budget, the sum of those requests was about $4.2 billion. The result of our examination of that budget ended up with our request of $3.9 billion, so in fact $300 million or about 10 percent of the sum of the budget request—requests that came up—were, in fact, taken out between the budget submission by the components of the agencies and the services.

I can give you some specific examples that I worked on, because the overall Defense Department R.D.T. & E. requests were too high.

Dr. Currie, who manages all that money, came to DTACCS and said, "You have to lose $70 million, and in addition, since you have just decided to add some money into the Advanced Airborne Command program, you have to get that out of your hide, too," so we were looking for $88 million out of our R.D.T. & E. which I believe came out of the order of $500 million. That is of the order of a 20-percent cut which we effected by reviewing all of these, and I am sure that these gentlemen can describe where that all came from.

Mr. SNODGRASS. You just stated you did it because some other Secretary of Defense Office, that is, Dr. Currie, came and directed you to do it. Up until that time you had had that at a much higher level.

Mr. SHRIVER. Mr. Snodgrass, we definitely should provide that for you for the record and in detail.

Mr. STENBIT. I also believe we took out $125 million of procurement money from the Army. Is that not correct, General Rienzi?

General RIENZI. It is a number like that which has hurt the tactical program but that is how it had to go at the time. You will see some of those procurements back in that now have come out of R. & D. and fit into our transition plan and certainly must be approved this year if we are going to arrive at where we should be in 1980 by our integrated tactical communications system plan approved by the Chief of Staff of the Army.

Mr. BURLISON. Provide for the record the budget requests for each of the military services for each year since the formation of the Office of the Director of Telecommunications and Command and Control Systems and the amount included in the budget. Provide explanations for any major increases or decreases from the service requests, with particular emphasis upon increases or decreases made by your office.

[The information follows:]

Mr. SHRIVER. The following chart provides the budget requests for each of the military services and also the amount subsequently included in the President's budget, as you have requested. As the chart indicates, DTACCS has been responsible for only overall decreases to the service requests. In fact, there are no increases at all in evidence on the chart. However, there was one major increase in fiscal year 1977 where $63 million was added to Air Force procurement to insure adequate funding for the Defense Satellite Communications System (DSCS) as explained earlier. In spite of this necessary addition, the Air

Force budget request was still reduced by $19 million as the chart indicates. The overall net reductions for the military services for fiscal years 1976 and 1977, as you requested, was $331 million. These reductions were due to DTACCS programmatic decisions and to adjustments reflecting more realistic costing and program scheduling. The program decisions primarily deleted items due to insufficient justification and in light of TRI–TAC, SINCGARS, and TACSATCOM planning. The major illustrative examples are as follows:

The Navy's fiscal year 1976 procurement funds for fleet satellite communications were reduced by $36 million through introduction of a slower pace to the procurement process and limiting production to a total of six satellites.

The Army's fiscal year 1976 procurement funds for several telecommunications programs were reduced by $46 million mainly to provide for more orderly procurement schedules.

The Air Force's fiscal year 1976 telecommunications operations resources were reduced by $19 million to reflect price adjustments and program reordering.

The Navy's fiscal year 1977 procurement funds for various telecommunications programs were reduced by $19 million to reflect deferral of several programs and reduction in proposed production levels.

The Army's fiscal year 1977 procurement funds for several telecommunications programs were reduced by approximately $65 million mainly through programmatic decisions made by DTACCS.

The Army's fiscal year 1977 telecommunications operations resources were reduced by $18 million mainly to reflect program adjustments and more realistic personnel requirements.

TELECOMMUNICATIONS AND COMMAND CONTROL PROGRAM TOA

[In millions of dollars]

	Army			Air Force			Navy			Marine Corps		
Fiscal year	October submit	President's budget	Difference	October submit	President's budget	Difference	October submit	President's budget	Difference	October submit	President's budget	Difference
1976	969	949	−20	1,459	1,413	−46	803	750	−53	46	38	−8
1977	1,183	1,063	−120	1,761	1,742	−19	832	772	−60	40	35	−5

DEFENSE COMMUNICATION AGENCY

Mr. BURLISON. We have the head of the Defense Communications Agency with us. We would like for you to make a very condensed statement at this point. We have four or five statements remaining, and we are going to run into time limitations, so I will ask you to utilize your time as best you can.

General PASCHALL. Before discussing the proposed fiscal year 1977 budget for the DCA, I should like to discuss briefly the role and objectives of the Agency with respect to the overall T. & C.C.P. discussed by Mr. Shriver.

Within the DCA there are four major activities: The Defense Communications System—DCS—the Military Satellite Communications System Architect's Office, a Command and Control Technical Center which provides technical support to the WWMCCS with emphasis on the National Military Command System—NMCS—and the newly formed WWMCCS System Engineering Office.

The DCS provides the long haul, point-to-point, special purpose, and common user service to the DOD. The DCA is responsible for its management control and operational direction, working cooperatively with the services which operate the Government-owned portions of the system. The DCS was started in 1960, built up during the 1960's and has evolved to its current configuration. We are currently carrying out a major upgrading to provide an improved secure voice capability and more cost-effective computer communications. We have also

begun to convert the transmission plant from analog to digital both to support the above needs and to provide more economical system both with respect to people and dollars.

As was pointed out by Mr. Shriver, a program is being carried out to upgrade the Defense Satellite Communication System. This most important program is absolutely essential to our ability to satisfy the communications needs of the 1980's. Those needs include ——— as well as a very much larger WWMCCS and ground mobile force Earth terminal population. Pending deployment of the DSCS III,* we must continue to provide a highly reliable DSCS II space segment which includes on orbit spares and recognizes the possibility of launch failure. Military satellite communications systems, in particular the DSCS, have conclusively demonstrated their importance to military operations.

The DSCS is just one example of a DOD satellite communications system which serves many needs crossing service lines. To insure that all DOD needs are supported most cost effectively, the Military Satellite Communications Systems Office in the DCA has recently completed its first architectural plan charting the projected DOD SATCOM systems.

I have only recently taken on my new responsibiilty as Director, WWMCCS System Engineering. This office will have the responsibility of providing technical guidance to DOD components who will be implementing the WWMCCS architecture endorsed by the WWMCCS Council.

The Command and Control Technical Center provides a number of diverse services to the NMCS and the WWMCCS. Their past work has provided a foundation for the WWMCCS architect and their future work will be closely coordinated with that of the WSE. The Center provides system engineering for the Minimum Essential Emergency Communications Network (MEECN), a collection of links operated by the service for providing control of nuclear forces under extreme conditions. The Center also provides to the NMCS day-to-day engineering support, computer support and studies and analyses. The latter work extends to other OSD elements as well.

Finally, the Center continues to provide a standardized software base for all 35 WWMCCS computer sites to meet their needs most economically. Its program also emphasizes the development of techniques for achieving ADP security so as to permit the economies in the sharing of ADP resources among users at different classification levels while simultaneously segregating their data.

The DCA budget request for fiscal year 1977 is $126.6 million; $89 million for O. & M., $31 million for R.D.T. & E. and $6.6 million for procurement. Improvements to, and operation of, the DCS is provided for in the budget requests of the military departments and the Defense agencies. Their budget requests for the DCS are based upon program guidance provided to them by DCA early in the budget cycle. Their fiscal year 1977 budget requests are fully responsive to that guidance and I fully support those requests.

STATEMENT OF LIEUTENANT GENERAL LEE M. PASCHALL, UNITED STATES AIR FORCE,
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY

Mr. Chairman and Members of the Committee:

It is a pleasure to appear before you to present the budget request of the Defense Communications Agency (DCA) for FY 1977.

Defense Communications Agency Responsibilities

Before discussing the proposed FY 1977 budget for the Defense Communications Agency, I would like to discuss briefly the communications and command and control systems of the Department of Defense and highlight the role of DCA with regard to the management of these systems.

Department of Defense Communications

Department of Defense communications can be considered to fall in three broad categories. First, the Defense Communications System (DCS) which is the long-haul, general purpose communications system; second, non-DCS communications which are primarily large fixed systems related to weapons systems, to post, camps and stations communications and to special purpose communications; and third, tactical, which are those communications that are integral to tactical force units to include air to air, ship to ship, and communications integral to ground units at the corps level and below.

Defense Communications System

The Defense Communications System (DCS) can be defined in technical terms but in general it may be viewed as the long-distance communications capability of the Department of Defense. It is made up of all types of communications media and a mixture of systems ranging from simple point-to-point circuits to massive automated switching systems.

As Director, DCA, I am responsible for the management control and operational direction of the Defense Communications System. I think it might be useful to explain in more detail what this means and how DCA relates to the military departments in the management of the DCS.

Operational direction can be thought of as addressing the real time operation of the DCS to ensure optimum service to the users. In most cases operational direction is applied directly to the DCS operating facilities. It includes taking action to satisfy communications requirements, control the voice and data switched networks, route and reroute circuitry, provide alternate routes for communications, and accomplishing other adjustments of the DCS as necessary. Management control is more of a system overview and is the result of analysis and evaluation of the DCS. It is an attempt to discover the best ways to operate the DCS and to apply therapy to the system and support elements. It covers essentially the broader long-range planning and programming, system and subsystem engineering, and general management activity necessary to the continued operation and improvement of the system.

In contrast to these DCA efforts, the military departments are responsible for the actual operation of the system, including the provision and maintenance of facilities, the training and assignment of personnel, the supply and servicing of the facilities and all other actions required to provide the actual communications service. In addition, the military departments are responsible for the detailed engineering, procurement, contracting, implementation, acceptance, and other activities, including Research, Development, Test and Evaluation incident to individual projects for improving or expanding the DCS. These actions are all taken within the scope of the system.

Military Satellite Communications

Another of my major responsibilities concerns Military Satellite Communications Systems. I have been designated system architect for all current and future systems including both long-haul and tactical applications.

National Communications System

I am also manager of the National Communications System (NCS). The NCS includes selected resources of various departments of the Federal Government and is designed to provide essential communications to support critical government operations under all conditions.

Command and Control

The functions of command and control of the forces are quite distinct from communications functions but are so closely associated and dependent on communications that it is logical for DCA to have a substantial role in support of the Worldwide Military Command and Control System (WWMCCS). As the name implies, this is the system through which the forces of the nation are controlled. The principal component of the WWMCCS is the National Military Command System (NMCS) serving the National Command Authorities at the seat of government, wherever it may be. DCA performs system engineering and provides technical support to the NMCS. This support includes analytical and automated data processing (ADP) support to the Joint Chiefs of Staff and the Secretary of Defense. We also provide centralized common software support for the WWMCCS standard ADP systems of all DoD components.

I also have responsibility for doing a portion of the overall architectural work for the WWMCCS program as assigned by the WWMCCS Council. To implement the overall architecture approved by the Council, in November 1975 I was assigned new responsibilities as Director, WWMCCS System Engineering. In this capacity, I will develop technical guidance, conduct technical evaluations of the WWMCCS, and of course, provide technical advice wherever needed with particular emphasis on the national and joint level WWMCCS components.

I am also responsible for the system engineering and technical support of the Minimum Essential Emergency Communications Network (MEECN) which is a composite of assets of DoD components. This network is intended as a highly survivable system which would serve the needs of command and control of forces under all conditions of hostile action.

SUMMARY OF DCA BUDGET

($ In Millions)

Appropriation	FY 1975	FY 1976	FY 197T	FY 1977
Operation and Maintenance.....	66.1	77.3	19.2	89.0
Procurement.....	3.6	6.7	0.0	6.6
Research, Development, Test and Evaluation...	26.5	26.9	7.6	31.0
TOTAL	96.3	110.8	26.8	126.6

CHART 1

Budget Summary

The Defense Communications Agency request for FY 1977 is $126.6 million in three appropriations as shown on Chart 1. My statement will explain the highlights of the request which has been covered in detail in the justification material.

Operation and Maintenance

Operation and Maintenance funds are requested to meet the operating costs of the DCA Headquarters, and field activities through which DCA carries out its operational responsibilities in support of the Defense Communications System (DCS) and the Worldwide Military Command and Control System (WWMCCS) including the National Military Command System (NMCS). For FY 1977, $89 million is requested, a net increase of $11.7 million over FY 1976.

In the DCA Headquarters program element, $14.7 million are requested, an increase of $98 thousand over the estimate for FY 1976. This increase is primarily the result of annualization of civilian pay increases effective in October 1975. These increases have been offset by $306 thousand in reduced headquarters civilian man-years.

To provide for the operating expenses of the DCA field activities in the communications area, we are requesting $32.4 million which is an increase of $641 thousand over FY 1976. This increase includes (1) annualization of the cost of the civilian pay increase of October 1975, (2) inflated cost of maintaining the FY 1975 level of operation other than personnel costs, (3) maintenance of equipment to be delivered from procurement by the end of the transition quarter, and (4) higher cost of services provided by host military installations. These increases have been partially offset by numerous reductions, the most significant being $703 thousand in civilian man-years.

Support of the National Military Command System in areas other than automatic data processing will be maintained at $3.4 million which is about the same as FY 1976.

For support of the Joint Technical Support Activity (JTSA) which provides centralized technical ADP support to the Joint Chiefs of Staff and the Worldwide Military Command and Control System (WWMCCS) commands, we are requesting $14.2 million, which is an increase of $3.4 million over FY 1976. This increase covers the inflated cost of maintaining the FY 1975 level of operation and will provide system software support needed by WWMCCS commands whose standard WWMCCS ADP systems have now all become operational. This centralized support provides essential services at a fraction of the estimated cost if users were to obtain the support independently.

The request for automatic data processing support of the National Military Command System (NMCS) is $19.2 million, an increase of $2.2 million over FY 1976. The increase includes the higher cost of continuing operations at the FY 1975 level and the cost of contractual support for achieving the initial operational capability for the NMCS Information and Display System which is being procured in FY 1976.

The additional role of Director of WWMCCS System Engineering was assigned to DCA on 21 November 1975 to fill the need for engineering and technical guidance for implementation of WWMCCS architecture. Work planned for FY 1977 has been estimated at almost $5.1 million.

Procurement

The FY 1977 Procurement request is $6.6 million. A little more than half of this, $3.8 million, is for improvement of WWMCCS ADP systems to be responsive to requirements of the Joint Chiefs of Staff and the Office of the Secretary of Defense. The capacity and capabilities of the National Military Command System (NMCS) ADP system will be expanded at an estimated cost of $2.9 million. Additional user display hardware at $236 thousand is requested for the NMCS Information and Display System for which procurement was initiated in FY 1976. The WWMCCS request also includes $674 thousand to upgrade the computer of the Joint Technical Support Activity (JTSA) which provides centralized system software support to WWMCCS sites. All sites are now operational. Without the upgrade, JTSA would be unable to provide timely response to user needs.

The remainder of the procurement request is $2.8 million for items less than $500,000 each. About $2 million of this will provide for normal replacement and modification of equipment and systems used by DCA communications activities. Approximately $800 thousand is requested for purchase of computer components which will enable DCA to expand the capability of existing data processing systems in order to phase out obsolescent equipment without direct replacement. Through this procurement and the Federal ADPE reutilization program it is planned to retire four computers which have been in constant use since 1963.

Research, Development, Test and Evaluation

The Research, Development, Test and Evaluation (RDT&E) program of DCA supports the needs of the Defense Communications System (DCS), and my closely associated Command and Control activities, including my newly assigned responsibilities as Director, Worldwide Military Command and Control System (WWMCCS) Engineering (WSE). For FY 1977, $31 million is requested. This represents an increase of $4.1 million above the FY 1976 program, over half of which is for the new WSE organization. The details of the FY 1977 program are contained in the justification material which was furnished the Committee earlier. In this statement, I will emphasize only the principal objectives we will work toward during FY 1977.

Defense Communications System RDT&E

The RDT&E program for the Defense Communications System (DCS) is divided into two program elements: One element covers DCS Research and Development while the other covers DCS Test and Evaluation.

DCS Research and Development supports the essential long-haul and switched communications through which the National Command Authorities (NCA) control the worldwide U.S. forces throughout the range of hostile environments from cold war to general war, as well as in peacetime. This program identifies, develops, and specifies the telecommunications technology and system concepts for needed modernization of the DCS. In addition, it provides system concepts development, system planning and engineering and resource integration in support of Military Satellite Communications (MILSATCOM) system architecture for all DoD satellite communications.

The FY 1977 program will emphasize (1) continuing implementation of the Phase II Secure Voice Subsystem, which using components of the TRI-TAC Secure Voice System will provide high quality secure voice communications for cirtical DCS users while ensuring compatibility with tactical systems; (2) implementing AUTODIN II, a common user interactive data network to serve the needs of the WWMCCS and other automatic data processing systems economically, securely, and reliably, minimizing the use of dedicated special purpose systems; (3) developing a real-time control capability for the Defense Satellite Communications System (DSCS) to provide the ability to meet crises with enhanced flexibility; (4) continuing conversion of DCS transmission facilities from analog to digital for economy and spectrum conservation; (5) developing design criteria to be included in equipment specifications for improvement of DCS survivability; and (6) continuing development and implementation of an overall DoD satellite communications architecture. This architecture is to insure a single, coordinated approach to the planning, development, acquisition and operational deployment of satellite communications systems that will serve a variety of critical national requirements. For FY 1977, $9.055 million is requested for this program, a decrease of $0.220 million from FY 1976.

DCS Test and Evaluation will include support for two areas of high impact on the DCS: (1) determining the effects of and corrective measures for High Altitude Electromagnetic Pulses (HEMP) that could seriously degrade the ability of the DCS to meet critical user requirements in times of crisis; and (2) selectively identifying and evaluating commercial hardware and software, thereby conserving RDT&E resources through maximum utilization of existing commercial developments meeting DCS needs. For FY 1977, $2.300 million is requested for this program, a decrease of $0.525 million from FY 1976.

Command and Control RDT&E

The RDT&E program for Command and Control activities within DCA is divided into three program elements: National Military Command System (NMCS) wide support; WWMCCS Automatic Data Processing (ADP)-Joint Technical Support Activity; and Minimum Essential Emergency Communications Network (MEECN). This work is closely coordinated with the related activities in WWMCCS System Engineering.

The NMCS is that portion of the WWMCCS designed to support directly the National Command Authorities (NCA) on a priority basis. The NMCS RDT&E effort provides the system engineering and technical support to insure the most responsive, reliable and survivable system that can be provided within available resources. The major thrusts of this work in FY 1977 will include: (1) revising the NMCS development plans to reflect the impact of WWMCCS architecture definition, forecasted new operational needs, and changes indicated as beneficial by ongoing analysis, experimentation, simulation and modeling work; (2) providing technical support to the NMCS in the integration and implementation of a variety of improvement projects required to enhance NMCS communications, survivability, facilities, and information processing and display, with emphasis on studies of survivable command facilities; and (3) undertaking an active NMCS performance measurement and implementation program emphasizing the improvement of the realism of NMCS exercises. For FY 1977, $5.850 million is requested for NMCS-Wide Support, an increase of $1.615 million over FY 1976. Most of the increase is required to fund a concept development and validation study for a survivable command center. The remainder is required to fund high priority tasks related to Emergency actions and WWMCCS/ NMCS Exercises.

The WWMCCS ADP Joint Technical Support Activity RDT&E effort provides centralized technical support to achieve a WWMCCS ADP information processing system fully responsive to the NCA. In FY 1977 we will emphasize: (1) continuing development of a prototype network interconnecting WWMCCS computers and the conduct of operational feasibility experiments evaluating the resulting improvements to NCA command and control capabilities; these will provide the data necessary for the design of a future operational capabilility; (2) developing techniques for achieving security in the WWMCCS computer and computer network; and (3) continuing analysis of the hardware and software needs for the WWMCCS community and preparation of specifications supporting these needs. For FY 1977, $6.9 million is requested for this program, an increase of $0.7 million over FY 1976. The increase is aimed largely at early solutions to the critical ADP security problem of limiting access to classified data in the system to authorized personnel.

The Minimum Essential Emergency Communications Network (MEECN) is a composite of designated WWMCCS communication assets that netted together provide assurance that decisions of the NCA can be delivered to the U.S. Forces during all periods of stress. The MEECN RDT&E effort provides the technical foundation for system engineering the MEECN in an effective and survivable manner. Major FY 1977 tasks will include: (1) conducting technical tests and evaluations, under a wide variety of situations, of all current systems which play significant role in executing NCA messages to the Forces; emphasis will be placed on quantitative assessments of the worldwide airborne command system performance; (2) analyzing the performance of alternative MEECN configurations quantitatively, thus addressing new threats with new capabilities in an updated MEECN Master Plan; (3) reducing the vulnerability of NCA messages to communications exploitation and usurpation through application of message test security and other safeguards with emphasis on lower frequency communication systems; and (4) evaluating and analyzing MEECN potential to support communications in theater operations. For FY 1977, $4.8 million is requested for this program, an increase of $0.4 million over FY 1976. This increase will primarily provide for technical support to evaluate the integrity of an alternate transmitter system, and investigating techniques which would improve the reliability of higher frequency radio transmissions under adverse conditions.

WWMCCS System Engineering (WSE) RDT&E

The WSE charter was approved in November 1975, and the WSE organization is now being formed to assure the effective implementation of the WWMCCS architecture. Its RDT&E program is divided into two program elements: one entitled WWMCCS Architecture and the other WWMCCS System Engineering.

The WWMCCS Architecture RDT&E effort will support an evolving WWMCCS architecture extending the approved architecture into selected areas. The FY 1977 effort will include: (1) conducting analyses in such areas as the interoperability of WWMCCS with corresponding North Atlantic Treaty Organization (NATO) command and control capabilities and (2) determining the need for transportable command and control facilities which can be deployed to replace permanent facilities which have become incapacitated. This is a new program beginning in FY 1977 and $1.1 million is requested.

The WWMCCS System Engineering RDT&E effort has the goal of ensuring that the components, subsystems, and support systems of the WWMCCS are integrated into a cohesive, compatible, and interoperable whole having the requisite capabilities defined by the approved WWMCCS Architecture. The WSE will develop concepts and technical design, performance, and interoperability criteria for use in engineering and implementing the WWMCCS. The FY 1977 effort will be directed primarily at: (1) producing an initial WWMCCS Transition Plan, derived from the a approved WWMCCS Architecture; (2) producing selected technical analyses and guidance documents for specific programs such as the satellite communications configurations required to meet unique WWMCCS needs under varying threat levels; and (3) developing criteria for interoperability of WWMCCS components, subsystems and supporting systems. This is a new program beginning in FY 1977 and $1.0 million is requested.

Mr. Chairman, this concludes my prepared remarks. We are ready to answer your questions.

SUMMARY STATEMENT OF LT. GEN. LEE M. PASCHAL, DIRECTOR, DEFENSE COMMUNICATIONS AGENCY

General PASCHALL. I have a statement for the record which will be submitted. I will summarize that very briefly at this point in time. I think it important for me to clarify the roles of DCA.

Within DCA there are four major activities. One deals with the Defense Communications System, which is the long distance communications system of the Department of Defense. I also have responsibility for all military communications satellite architecture. I also have a Command and Control Technical Center that provides command and control support primarily to the National Military Command System, and recently assigned responsibility as Director of WWMCCS System Engineering.

The Defense Communications System was the original reason for the establishment of the DCA. Its purpose was to consolidate three separate long-distance communications systems. It did so in the early sixties. We are today beginning a major upgrading of the Defense Communications System worldwide to provide an improved secure voice communications capability as well as a greater ability to respond to the kinds of communications modern computers require.

As was pointed out by Mr. Shriver, probably the most important program this year for the Defense Communications System is the Defense Satellite Communications System. It is key to our ability to satisfy the communications needs of the 1980's. These needs include ——— a very much larger population of Earth terminals of both small and large variety.

The Defense Satellite Communications System is just one example of many, where it crosses service lines, and I have a responsibility in that respect for providing military communications satellite architecture for both tactical as well as strategic uses.

We have recently completed our first architecture for the projected Department of Defense Satellite Communications Systems into the future.

Mr. SNODGRASS. General Paschall, may I interrupt here?

These are new items for the committee. Could someone briefly explain what "architecture" means, because I think it is going to be a significant term used throughout the day, and I am not sure that the meaning of the term is clear to the committee at this point.

General PASCHALL. Certainly.

Architecture, the easy way to define it is apply it to building a house or a building. It generally takes the stated requirements of a person who wants a home, and translates those into a rather broad gage set of plans, and puts a price tag on it. Then the builder comes in and he tends to begin to look like the engineer. He is now concerned with the details of the plumbing, the details of the receptacles, and we often refer to that as system engineering.

When we talk about architecture, as I use the term, then we are talking about the broad layout of plans and the price tag. When we talk about system engineering, we are talking about the details of how the plumbing fixtures are set and such as that.

Does that make the kind of distinction that is helpful?

Mr. SNODGRASS. It is the World Wide Military Command and Control Council, and particularly the $11 million IBM study that has given you the plans or the architecture to which you are referring?

General PASCHALL. A broad architectural plan targeted on 1985, what we would like to see in 1985.

Mr. SNODGRASS. Then it is DCA who is going to be responsible for building that plan.

General PASCHALL. Providing the technical guidance to the military departments, who will be the executive agents for the actual acquisition and installation and subsequent operation of those elements of the WWMCCS.

For example, in the case of the Advanced Airborne Command Post, the Air Force will acquire it, operate it, maintain it. In the case of something like SEAFARER, the Navy will acquire, operate and maintain. The WWMCCS System Engineers' job is to provide the technical guidance to insure that the Advanced Airborne Command Post can operate with the Navy's Seafarer. We don't intend to duplicate acquisition and procurement activities or management activities that already exist within the military departments.

Mr. SNODGRSS. It seems unusual that you would not have had a plan until 1976. Are you implying that in the past the Department of Defense just built its communications systems willy-nilly?

General PASCHALL. No, let's make a distinction between communications systems, and the World Wide Military Command and Control System. The World Wide Military Command and Control System began in the 1960's as a collection of command and control systems whose primary purpose was to serve the unified and specified commanders. They had an obligation to the National Command Authorities, but only as we began to hear President after President reiterate the need for centralized control, and as we began to see the need for a flexible response kind of strategy did the tight central control that is characteristic of today's WWMCCs begin to be a perceived need.

The net result is that today's WWMCCS will be much more highly integrated rather than the rather loose confederation that preceded it. That requires a different kind of planning document than we have seen in the past.

Mr. SNODGRASS. One final question before you continue your statement.

You stated I believe that this systems engineer has only been established within the last couple of months. Therefore it would seem that this plan could not have been available to prepare the 1977 budget. Yet many of the large procurement expenditures in 1977 are related to the kind of activities you have just discussed.

Why shouldn't we wait a year until your office has had a chance to really do this detailed systems engineering before providing some of these large procurements?

General PASCHALL. The WWMCCS System Engineer and the WWMCCS architect must proceed from today's capabilities and, in fact, the architect, as he develops what the system should look like in 1985 began with what is currently in the 5-year program and he refers to that as the baseline. Thus his architecture is based upon, if you will, an ongoing program and only where the current programs are incompatible with the 1985 architecture would there be any reason to stop or delay ongoing programs. He has built on those programs

for the future architecture. Thus any 1-year hiatus in acquisition of present programs just serves to further delay.

I would see no need for such delay. Moreover, there is no way that in 1 short year that the WWMCCS system engineer will do completely detailed engineering for all aspects of what we would expect to see in 1985.

He will begin by focusing on national level capabilities and the most critical interfaces. Thus, the WWMCCS system engineer will have an ongoing job providing technical guidance for many years to come.

Since we are basing it on today's projected capabilities, I see no merit in stopping and waiting for that millennium to arrive, hopefully a year hence, after the WWMCCS system has been in operation for that short period of time.

Mr. BURLISON. The initial purpose of the Defense Communications Agency was to reduce duplication. Yet JCS and each of the military departments still have large communications organizations. Why do these separate communications organizations still exist?

General PASCHALL. The separation of roles between the players in this community is that the Joint Chiefs of Staff provide the operational requirements necessary to support military operations. I provide management control and operational direction of the defense communications system. The military departments operate, maintain, and acquire and install the defense communications system assets. We believe this to be the most economical method of doing business.

If the Defense Communications Agency were to take over, for example, operation, maintenance, training, and all those other kinds of activities, I would duplicate functions now performed in the services.

A case in point: The services train their personnel. I would have to train communications personnel in DCA; instead it is much more economical to use the established logistics and procurement base.

Mr. SNODGRASS. I don't quite follow that. It would seem to me that in fact it might be more cost effective to have one training school rather than the Army, Navy, and Air Force training schools and that was the kind of thing originally envisioned when DCA was set up.

General PASCHALL. No. Remember, there are three general categories of communications: Base communications, tactical communications, and strategic, or DCS.

Each have different kinds of needs and requirements. DCA's role is the strategic kind of communication.

If we give DCA the role of training strategic communicators, then they are lost in their application to either base or tactical communications. DCA does sponsor single-service training for DCS activities. For example, the Air Force is the single trainer for all AUTOVON switch operation and maintenance. The Army provides all training for all three services for satellite Earth stations. We do encourage that.

My point was, if we tried to take a category of people and say: "Those belong to DCA and they operate the defense communications system, strategic, long distance communications, then their utilization in base or tactical communications roles would be precluded. Thus, I remain convinced, having operated on both sides of the DCS, that it is the most economic configuration possible.

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Current Dollar and Personnel Levels for Communication Headquarters Elements

Mr. Burlison. Please provide for the record the current dollar and personnel levels for the communications headquarters elements for the JCS and each of the military departments. What were the comparable figures in 1961 when DCA was founded?

[The information follows:]

The Army has 268 military and 735 civilian positions costing approximately $23 million in fiscal year 1976 associated with communications headquarters elements. Specifically, these positions are in the U.S. Army Communications Command and its principal subordinate headquarters, the 5th Signal Command in Europe and the 6th Signal Command in the Pacific.

Cost data for 1961 is not currently available. The Washington National Records Center has records that are being retireved and the data will follow when available.

The Navy/USMC data shows 102 military and 213 civilian positions at $4.99 million for fiscal year 1976. The 1961 comparable figures are 114 military positions at $539,000 and 36 civilians (cost data not available).

The Air Force reports a total of 93 positions as of the end of fiscal year 1975 costing $1.745 million. In 1961, the data shows 120 positions at $936,000.

The JCS has 26 military and 6 civilians in the staff currently costing $945,000. While the cost data for 1961 is not available, records indicate that there were 42 military and 24 civilians associated with the communications function at that time.

Mr. Burlison. In the DOD intelligence community, the Defense Intelligence Agency acts as the J–2 for the JCS. Why couldn't the DCA assume a similar role in the communications area?

General Paschall. The Director of the Joint Staff has recently reorganized so that the separate J–6 staff has been integrated within the J–3 staff. The reason why the Director, DCA, would be a poor choice to fill that kind of function is that I have no responsibilities by charter for base communications and tactical communications except in two broad kinds of architecture roles. Thus I would be a poor spokesman, as an adviser to the Chairman, Joint Chiefs of Staff, on two-thirds of the J–6 business, namely, tactical and base communications.

Mr. Snodgrass. You are in essence defending the current system. We are trying to see whether or not the current system is the most cost-effective system. The obvious question arises: Why don't you have responsibility for tactical and base communications? It would seem there are an enormous number of interfaces between all levels of communications and it might well be more cost-effective to have one overall person responsible for it rather than having responsibility spread in such a diffused manner. It is very difficult to determine who is responsible for what at any given time, particularly with regard to these complex interface issues.

General Paschall. I guess from my answers you must preceive I believe the current structure is the most cost-effective structure.

Let me tell you why. I am a strong believer that in order to manage one must have something that is manageable. It has to be of reasonable size from a management standpoint. The DCS is that kind of entity. Tactical communications have very major, direct roles to play in support of combat field commanders. They must have a much stronger degree of control than they could ever have over me, located in Washington.

Base communications contain a myriad of activities which again must respond to the local base commander and I could contribute little to his management in that role.

Now as to interfaces. Both base and tactical communications interconnect with and interoperate with and in fact use the defense communications system. I specify the technical standards criteria and procedures. They meet those criteria, standards and procedures.

Thus there are no barriers, technically, to base, tactical and strategic communications. There are management boundaries which I believe to be sound and cost-effective. I am a defender of the present system. I have lived on both sides of it and I believe it to be the most efficient system we can devise, so long as one has four military services, each with different kinds of operational roles.

Mr. SNODGRASS. Does this smooth interface in fact exist? It was my impression one of the major conclusions of the worldwide military command and control system study is that the current system does not interface well; that the Army sometimes cannot talk to the Navy. Yet you seem to be implying the present system has enabled these kinds of problems to be solved.

I thought that was the whole conclusion of the WWMCCS study, that the present systems haven't worked and that is why we need to have these massive expenditures requested in the 1977 budget for communications programs.

General PASCHALL. There are many conclusions in the WWMCCS study itself other than the need for interoperability.

Let me describe, though, where the WWMCCS study conclusion could lead you in that direction: Until 1971, when the new WWMCCS directive was issued, it was expected that ——— command would be exercised from the national level through the chain of command. That means that one would call CINCPAC who would then pass the order on down to the forces.

The new DOD directive says that in a time sensitive situation the national command authorities must have the capability to communicate with the scene-of-action commander. ——— That has resulted in a need for Washington-level people to talk to aircraft, ——— the *Mayaguez*-type of incident. That is a new interoperability requirement.

The tactical world today communicates to each other, Army, Navy, Air Force, via DCS over long distances and they will talk to each other easier when the TRI-TAC family of equipment becomes available. That is the purpose of the TRI-TAC program. The interoperability needs of WWMCCS are the results of a changed national doctrine, not from inaccurate planning or organizational boundaries within the Department of Defense.

Mr. SHRIVER. I would like to add one comment to what General Paschall said and that is the need for communications security ——— and that is a major requirement that we have.

Mr. BURLISON. What would be the savings in 1977 if the DCA became the J–3 or J–6 for the JCS?

General PASCHALL. The operations directorate, J–3, is the principal element of the Joint Chiefs of Staff and the national command authorities, NCA, for the exercise of strategic direction over the unified and specified commands. DCA is not qualified to assume this overall

function. The recent reorganization of the JCS included the transfer of J–6 functions to J–3. During this reorganization, the assignment of certain J—6 functions to DCA was considered and certain functions were transferred to DCA. I, therefore, believe that for DCA to assume the remaining J–6 functions would result in no savings in 1977.

Mr. BURLISON. If DCA is an effective organization, why is there a need for a separate Office of the Director of Telecommunications and Command and Control Systems?

Mr. SHRIVER. The lack of DOD telecommunications resources visibility and the fragmentation of authority and responsibility within the Office of the Secretary of Defense were the primary considerations that led to the establishment of the present DTACCS organization. During the 1969 deliberations regarding this problem, the alternative of assigning the DCA the role presently performed by DTACCS was evaluated. It was concluded that due to the relationship of DCA missions to the operating forces that DCA should continue to report through the JCS to the Secretary of Defense and not assume the dual role of Director, DCA, and the Assistant to the Secretary of Defense for Telecommunications. It was further concluded that a relatively small, highly qualified, professional staff serving on the immediate staff of the Secretary of Defense would provide the most cost-effective means for accomplishing centralized policy direction and a management overview of DOD telecommunications resources. This solution also avoids putting DCA in the undesirable position of deciding resource allocation issues arising from the competing demands of DCS programs, which it manages, versus those it doesn't manage; that is, local base and tactical communications.

Mr. BURLISON. What would be the savings in 1977 if the functions of the Office of the Director of Telecommunications and Command Control Systems were merged with the Defense Communications Agency?

Mr. SHRIVER. It is doubtful that any savings would accrue from such a merger. The functions performed by DTACCS are an essential element of OSD management of C3 resources. DTACCS is the only DOD element staffed to perform this function. If the function were assigned to DCA—or anyone else—essentially the same staff would be required. Considering the relatively small DTACCS staff and their accomplishments to date in obtaining resources visibility and centralizing the policy direction for all DOD C3, the present arrangement is the most cost effective for accomplishing this important function.

Mr. BURLISON. Is any consideration being given within DOD to simplifying the complex organizational structure for communications programs? Will this have an impact on the 1977 budget requirements?

Mr. SHRIVER. Other than the recently announced reduction and consolidation of the J–6, JCS, no other organizational changes for communication programs are contemplated that would impact the 1977 budget requirements.

Mr. BURLISON. Mr. Tate, I think we will hear from you now if you have a brief statement. You may place your biographical sketch and prepared statement in the record.

[The biographical sketch and prepared statement follow:]

RAYMOND THEODORE TATE

Raymond T. Tate was born in Ragland, Ala., on April 28, 1924. Upon graduation from public schools in Laurel, Miss., in 1943, he entered active military service and during World War II served with the combat air crew (B24 and B17) Army Air Force until October 1945. After the war he was associated with the Electronics Division-Air Proving Ground Command in Orlando, Fla., and then entered active duty with the U.S. Navy during the Korean conflict until June 1954. His military service was distinguished by the Air Medal, three oak-leaf clusters, Purple Heart, and three battle stars.

Upon leaving military service, he joined the National Security Agency as an electronic engineer in the communications security organization, where he served in a variety of staff and line positions.

In June 1966, he was selected for the resident course at the Industrial College of the Armed Forces. Upon returning to NSA in September 1967 he began a series of assignments in the production organization, where he was responsible for special collection, processing, and signal analysis programs.

Mr. Tate returned to the Communications Security Organization in September 1972 as the Deputy Assistant Director, NSA for Communications Security. He became the first Deputy Director, NSA for Communications Security on July 1, 1973 and in this position was promoted to GS–18.

In July 1972 Mr. Tate received the Exceptional Civilian Service Award—NSA's highest award—for his executive management achievements.

Mr. Tate completed his undergraduate work in 1956 at the University of Maryland. In 1967 he completed his education with a Master of Science degree from George Washington University.

His hobbies include hunting and fishing, and he is also a boat enthusiast.

Mr. Tate is married to the former Helen Jackson of Greensboro, N.C. They have four children, Susan (Mrs. Donald Burrowbridge of Severna Park, Md.); Stephen, a student at the University of California; and Andrew and Elizabeth at home. The Tates' residence is at 17929 Pond Road, Ashton, Md. (upper Montgomery County).

STATEMENT OF RAYMOND T. TATE, DEPUTY DIRECTOR, NSA FOR COMMUNICATIONS SECURITY

INTRODUCTION

Mr. Chairman, members of the committee. I am pleased to have this opportunity to appear before you today to discuss the National Security Agency's role in the telecommunications and command and control program. As you know, NSA has two primary missions for the U.S. Government, signals intelligence and communications security. General Lew Allen, our Director, appeared before this committee earlier to present his fiscal year 1977 resource requirements for the signals intelligence mission which is to derive intelligence information from the communications systems and other electronic emitters of specified foreign countries. At that time, he briefly discussed his other role, of assuring that the communications of the U.S. Government are protected from exploitation by the intelligence organizations of foreign countries. It is the latter mission and the fiscal year 1977 resources required to support it that I wish to discuss in more detail today.

ROLE OF NSA IN COMSEC

By Executive order and National Security Council directive, the Director, NSA, acts under the Secretary of Defense as the central authority for communications security within the U.S. Government. Mr.

Shriver, as principal staff officer for the Secretary of Defense, provides broad policy guidance under which we then monitor the proper development, production, and use of all DOD COMSEC resources.

In addition, the National Security Agency is charged with providing the necessary COMSEC principles, capabilites, doctrine, and practices for use throughout the entire Federal Government. Accordingly, we develop and provide methods and equipment to protect not only defense communications but the communications of the entire Federal Government including command and control, voice, data, teletype, and telemetry, and we prescribe the way in which such systems are to be used.

———.

The direct significance of SIGINT in the overall intelligence scheme was never more clearly demonstrated than during the recent Vietnam conflict. It was during that conflict that the capability of a relatively unsophisticated enemy to exploit the unencrypted voice communications of United States and Allied forces was used to significant advantage. We have ample evidence that the North Vietnamese and the Vietcong effectively evaded air and artillery strikes because of advance information gained through monitoring unsecured United States and Allied communications. In addition, we have evidence that in a significant number of cases the enemy was able to exploit our communications to their advantage in carrying out operations against United States and Allied forces. From prisoners of war, defectors, and captured materials, it was obvious that the North Vietnamese and Vietcong, having made only modest investments in relatively unsophisticated monitoring equipments, achieved a valuable COMINT capability against unencrypted voice communications.

It is this threat of foreign exploitation which urges that measures be taken to secure ——— U.S. communications and results in the identification of requirements for COMSEC protection which I would now like to discuss.

VALIDATION OF REQUIREMENTS

The COMSEC requirements process involves identification and validation. Before funding for a COMSEC requirement is requested, it is subjected to a rigorous review and validation process. NSA plays an active role by assisting users in determining the potential vulnerabilities of their communications systems and in identifying measures which may be used to overcome them. The need to secure any given communications system is determined by the users on the basis of NSA assistance, the particular use to which the communications system is to be put and in consideration of long-range COMSEC plans and objectives. The user may be a military department or other Federal agency who recognizes the potential intelligence value of his own communications. For DOD requirements, the validity of this need is subjected to a review which involves documenting the stated requirement and subsequently staffing it through the respective military department and the Joint Chiefs of Staff in coordination with NSA and staff representatives of the Secretary of Defense. Upon approval by the Secretary of Defense, the NSA is responsible for prescribing the means for providing the required COMSEC protection. This may take the form of applying an already existing COMSEC system or

may involve the development and acquisition of a new system. This process naturally involves a close working relationship and exchange of information among DTACCS, JCS, military departments, DCA, NSA and other Federal agencies. In addition to these user identified and DOD validated requirements. NSA also identifies COMSEC requirements independently when there is a critical and urgent national need; then, these requiremnets are validated by proper authorities. ———.

Within the overall requirements review process, research and development occupies a significant position in insuring the proper planning, cohesiveness, and integration of all COMSEC systems. Recognizing this need for a centralized effort. NSA has been given principal responsibility for carrying out research and development efforts for all COMSEC programs within the DOD. ———. Additionally, recognizing that a centralized procurement effort would optimize the economic and scheduling considerations in the acquisition process, NSA has been given responsibility to provide procurement services for all cryptographic equipment acquired by defense components and other Federal agencies. NSA in collaboration with users also provide follow-on logistics support to these systems during their useful life.

PRIORITIES

Once a particular requirement for COMSEC protection is validated and the need for a new development program is established, the requirement must compete for priority among all COMSEC programs. These priorities are based on policies generated at the national level by the President, National Security Council, the U.S. Communications Security Board, the Secretary of Defense, and congressional mandates as appropriate. Guidance and tasking for COMSEC matters, however, comes to NSA from the Secretary of Defense.

While the program presented to you today emphasizes our efforts in ——— responding to general departmental objectives such as the overall DOD guideline that all critical telecommunications must be secured ———.

The fiscal year 1977 request is an integral part of a long range plan to satisfy ——— needs ———. It represents an essential level of resources necessary to carryout the established policies and programs which have been determined as necessary to counter the ——— threats ———.

DISCUSSION OF NSA BUDGET REQUEST

Of the ——— budget, ——— is in support of our R.D.T. & E. activities. In fiscal year 1977, as in recent years, our R. & D. efforts stress developments in the area of ———.

We are also requesting ———. Although much of this type of traffic is considered secure, many of the equipments have been in inventory for over 20 years, are technologically obsolete and, therefore, difficult to procure, are difficult to maintain, operate at very low data rates and are unsuitable for use within present day communications technology. Communications upgrades presently underway within the DOD require that measures be undertaken to provide reliable development and integration of ——— systems to insure continued protection ———.

An additional ——— of our R. & D. request is in support of ——— security programs. There is a need to protect ———.

In addition, ——— covers such areas as the developent of new production techniques and equipment ——— the development and maintenance of our technology base, and testing and evaluation support to insure the effective implementation of newly developed ——— systems. The balance o four R.D.T. & E. request ——— is for payment of salaries for civilian personnel engaged in the foregoing activities.

The program before you today also includes a request for ——— in procurement funds. These funds provide for ——— military department purchases of ——— equipment. This support consists of engineering tasks on the production contract, the purchase of all technical data required by operator and maintenance personnel and equipment required for testing ———.

A large part of these funds pay for the purchase of raw material used in the production process. These funds also pay for the salaries of personnel, chiefly production workers, engineers and analysts engaged in production, ———. The increase in fiscal year 1977 over fiscal year 1976 is due mainly to civilian pay raises, increases in production material costs, user demands ———.

In concluion, I would like to emphasize that an investment in Communications Security will result in benefits to our ——— posture as well as satisfying U.S. defense needs for secure communications. If we are to successfully counter the threat posed by very organized and determined forces, we must protect the security of our communications and be prepared to devote the resources necessary to achieve it.

This concludes my presentation and I would be pleased to answer any questions the committee might have on Communications Security.

SUMMARY STATEMENT OF RAYMOND T. TATE

Mr. TATE. If it serves the purpose of time, since we have filed fuller statements on the record, I might just summarize and concentrate on what I think is a threat to many of these communications which you alluded to in your opening statement.

The National Security Agency, of course, has two basic missions. General Allen was here and talked about primarily his intelligence mission. I happen to be the Director of Communications Security which is the other basic fundamental mission of the Agency and therefore cut across almost all boundaries of communications both in the DOD and in the civilian agencies of Government, including CIA, FBI, the State Department and the entire Government funded communications set-up.

Basically, in exercising these functions, we do consolidate R. & D., we invent crypto, and more importantly, in many instances besides inventing it, we assess its security and what good it provides and we also assess the threat against the security. It is that today I would like to concentrate on a bit because I think fundamental to spending a lot of money on anything is the basic purpose of it and in COMSEC the basic purpose has to be what is the worldwide threat against U.S. communications.

Obviously in the time allowed I can summarize or go into whatever depth the chairman likes in the course of a discussion period.

[Deleted.]

This committee was briefed in summary form on that matter back in October, I believe it was, and actually provided me ——— R. & D. money to proceed with certain programs of work that needed to be done for COMSEC against this particular threat.

Mr. BURLISON. Mr. Tate, we will suspend your presentation at this time. We will go on to the three services and receive their statements.

General RIENZI. I am Maj. Gen. Thomas M. Rienzi.

I would like to take 4 or 5 minutes to summarize the prepared statement that you have desired us to submit to the committee.

[The biographical sketch and prepared statement of Maj. Gen. Thomas M. Rienzi follows:]

MAJOR GENERAL THOMAS M. RIENZI

Thomas M. Rienzi was born in Philadelphia, Pa., on February 5, 1919. After 1 year at Lehigh University studying in the mechanical engineering field, he entered the U.S. Military Academy at West Point in 1938. He was commissioned a second lieutenant, Signal Corps, in 1942.

During World War II, General Rienzi served with the 96th Signal Battalion in command positions in India and Burma from October 1943 to May 1945, when he entered the Command and General Staff College at Fort Leavenworth. In late September 1945, he was assigned to the U.S. Army Signal School and after taking the signal officer career course served as a faculty member until 1947. That year he entered the University of Illinois where in 1948 he received his master's degree in electrical engineering and then was assigned in August 1948, to the Armed Forces Special Weapons Project at Sandia Base, N. Mex., in the atomic energy field.

In August 1952, General Rienzi was assigned to the Department of the Army War Plans Division until July 1954 when he was ordered to West Point for duty in the Academy's Tactical Department. He attended the Army War College in 1958 and then took command of the 51st Signal Battalion in Korea and also served as Corps Signal Officer of I Corps (Group). In July 1959, he was assigned to Headquarters, Pacific Command, Hawaii, as the Chief of Requirements Branch; Communications and Electronics Division J–6, until June 1961. Thereafter, he was stationed briefly at Headquarters, U.S. Army Pacific as Chief, Supply and Maintenance Division of the signal section.

In January 1962, General Rienzi was designate Corps signal officer, XVIII Airborne Corps, Fort Bragg, N.C., and in August 1963 he became executive officer, Office of the Chief Signal Officer, remaining in that post at the Pentagon until after the chief signal officer had become the chief of communications electronics, Department of the Army. During these years he obtained a master's degree in International Relations from George Washington University. In March 1965 he was assigned to Headquarters, U.S. Army Materiel Command, as Chief of the Combat Surveillance Office, and from that position he was reassigned on April 1, 1966, as Commanding General and Commandant of the U.S. Army Signal Center and School at Fort Monmouth, N.J.

In September 1968, he became Deputy Commanding General of the 1st Signal Brigade in Vietnam and its Commanding General in February of 1969. In June 1970, he assumed command of the Strategic Communications Command, Pacific and served concurrently as the Assistant Chief of Staff, Communications-Electronics, U.S. Army Pacific.

General Rienzi arrived in Washington, D.C. in June 1972 and assumed his position as Director of Telecommunications and Command and Control, Department of the Army, Washington, D.C.

General Rienzi is married to the former Claire M. Moore of Long Branch, N.J. They have two children.

STATEMENT OF MAJ. GEN. THOMAS M. RIENZI, DIRECTOR OF TELECOMMUNICATIONS AND COMMAND AND CONTROL, DEPARTMENT OF THE ARMY

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to appear before you to speak about the Army's Telecommunications and Command and Control Program for Fiscal Year 1977; to give you an insight into our plans for the future; and to discuss our interaction with some of the programs Mr. Shriver spoke of.

Responsibilities

My mission as the Director, Telecommunications and Command and Control for the Chief of Staff of the Army, General Weyand, is to provide the Army's battlefield commanders with the vital communications structure needed to facilitate the execution of the essential command and control function, rapidly and responsively from out front line forces back through the echelons of command to the National Command Authority (NCA). This includes: the necessary interface between the Tactical systems and the Defense Communications System (DCS) which LTG Paschall discussed and which links our forward forces to the National Command Authority (NCA); the responsibility for overseeing the operation of both the Tactical system and the Army's portion of the Defense Communications System (DCS); and the responsibility for the planning and implementing of Tactical and Strategic Command and Control Systems.

Total Program

I am here today to aid in helping you to understand our budget request for the Army portion of the Telecommunications and Command and Control Program (T&CCP) of $1062.4M for all appropriations. This is composed of individual appropriation amounts as shown on this slide. As you can see, of the $1062.4M total, $27.8M represents inflation and $114.6M is program growth.

We are at present driving towards insuring that our forces in being are equipped and trained to provide the response necessary to win the first battle, and that's our battle cry within the Total Force. To this end, we are planning on the phased modernization of our supporting C^3 capabilities as we transition from the previous 13 Division force to a 16 Division Active Army, 8 Division Reserve Component, 24 Division Total Force structure. As the size of the combat force increases, we must of necessity re-order our command and control capabilities in order to provide essential C^3 to the support units as well as the front line troops -- and it's the time-sensitive value of the information and the very critical nature of these essential command/control/communications systems that I am particularly concerned about in my work.

The lessons we have learned from previous wars have taught us many times over that all of the combat hardware is of no avail in combat if we can't get the word to the right people at the right time to postively and conclusively influence the outcome of the battle. You and I have grown accustomed to instantaneous communications at our desksides and we accept it as a matter of course. It is a function in part of the tremendous advances in technology we have experienced in recent years. That same capability is required to effectively command and control our Army in the field, not only in voice communications but in data and record traffic as well - and all of it must be done better, with fewer people and more and more efficiently in an adverse, rather than benign, environment.

Defense Communications System

In order to insure that this capability is provided as required at all echelons, we function as part of the Defense Communications System and Worldwide Military Command and Control Systems of which Mr. Shriver spoke earlier. Army operating systems are engineered, in fact, to interface with the DCS in any theater of operations, worldwide, regardless of the Service or Agency operating the DCS points of access. This standardization with the DCS has increased Army flexibility to respond to crises, reduced unit costs of operating equipment and reduced logistics problems.

In support of the worldwide DCS, we have included in our request $21.3M (OPA), $13.6M of which is program growth, to upgrade security, transmission media and the technical control facilities.

In order to provide better service and improve our interface with the DCS, we have included in our request $8.3M (OPA) (FY 76, 0), for upgrading of the European Telecommunications System (ETS). The improvements are sorely needed; the current system is not responsive to today's needs - it cannot accept the data load, it is not secure and it does not adequately meet our needs for rapid passage of large volumes of information. Maintenance costs are rising steeply because of the advanced age of the equipment. As the pace of technology has quickened, equipment obsolescence has also quickened. In fact, manufacturers no longer make replacement parts for many items of equipment such as the old dial exchanges and transmission equipment. The result in many cases is high cost special handwork for repairs. Daily usage for twenty to thirty and more years has taken its toll - and this should come as no surprise.

We do not have, nor could I ask in peacetime for sufficient men and materiel to provide a complete tactical theater Communications System. Thus, the optimum course of action is to upgrade our "garrison" systems; make them responsive, reliable and interoperable with our allies as well as our own forces.

We also have, within the Army Communications Command, an active program for the automation of the message origination and processing function - something which will enable us to capitalize on today's state-of-the-art technology with a real payoff in manpower savings and a real speed up in message handling. For this FY, we are asking for $2.8M (OPA), in this area, which represents an actual program decrease of $4.8M. The payoff potential in increased responsiveness at a much lower manpower cost is very promising.

EUCOM C^3

In August 1975 the Army submitted a final detailed report to the Joint Chiefs of Staff on command, control and communications (C^3) in Europe. This landmark study, which took about 17 man years of effort, contains 139 recommendations on changes which should be made to improve European C^3. The report addresses: C^3 policy in support of NATO requirements; C^3 commonalty among allies; C^3 for tactical nuclear and conventional war; C^3 survivability; improvement of information flow; and development of aids for decision makers. Mr. Shriver's office is presently organizing a special coordinating group to oversee the resultant program.

Towards the accomplishment of these items we have asked for $16M (OPA), $14.6M of which is program growth. I believe that this funding will permit us to take a big step forward in our efforts to provide the C^3 capability our forces must have in Europe.

Tactical Communications

Our tactical forces are currently using the Army Tactical Communications System equipment. When designed in the mid to late 60's, this was excellent equipment -- and it still is. It's capabilities to satisfy our needs in 1985 and beyond, however, are limited and will be even more so with the passage of time. We will use this equipment as long as it meets a minimum need and is economically maintainable, but we must look to our future needs and our future methods of battlefield operation. To illustrate the problems we face, our radios are rapidly being overtaken by technology and the threat of jamming. We cannot expect to stay with transistor and vacuum tube technology for very long when microminiaturization and large scale integration are industry standard. Soon, tubes will go the way of celuloid collars and the button hook. These sorts of technological advances and changes, plus a more significant and growing electronic countermeasure threat have made it imperative that we devise a rational, well-ordered and deliberate framework to take us from where we are to where we must go.

We feel we have the answer to the questions posed by the future with INTACS, the Integrated Tactical Communications System. This product of a long term, detailed study which was just last month approved for implementation by the Chief of Staff of the Army gives us a flexible, sensible, cost-effective master plan for communications support for the Army in the field. This blueprint is the result of a concentrated effort to determine the tactical communications needs of the Army - from the front lines back to the waters' edge - and all of it is tied not to the communicators idea of what is required, but rather, to the rigorously purified needs of the combat users on a time phased basis, weighted by the associated costs to produce the most economical mix of capabilities.

At the heart of INTACS will be the Joint Tactical Communications Program, TRI-TAC, which will provide the family of equipment to meet Army tactical communications needs of the future. In the transition period, we intend to maximize the useful life of existing equipment through such innovations as the add-on of the High Speed Serial Data Buffer (TD 1065), which adapts our present analog equipment to the digital world of computers and computer-like devices. For this upgrading, we have asked for $10.2M (OPA) in 1977 (FY 76: $0).

Another innovation which will extend the useful life of our workhorse tactical radio relay equipment, the AN/GRC-103, is the Band IV head which increases flexibility and for which we have asked $10.9M (OPA) (FY 76: $0).

Both of these items of equipment will be used in the Integrated Tactical Communications System (INTACS).

In further support of this integrated plan, INTACS, we are just entering into Advanced Development of the Single Channel Ground and Airborne Radio System (SINCGARS) for which we have asked $6.4M (RDTE) in FY 77 and which will provide the combat maneuver forces with their basic on-the-move command and control capability starting in about 1984.

Satellites are to be a basic and standard means for communications over extended distances in the future, throughout the Army, tactical and worldwide. Towards this end, the Army has been charged with the development responsibility for the ground portion of the ground mobile forces satellites and ground portions of the Defense Communications System. These systems will give us an exceptional capability to overcome terrain and distance and communicate with great reliability. Unlike High Frequency Radio Teletypewriter, for example, a team guarding or responsible for firing a high yield weapon can now be in constant communication with higher command authorities. Brigades can communicate with higher echelons, regardless of atmospheric and terrain interference, with greater reliability and with fewer people, while at the same time improving security, flexibility and responsiveness. We eliminate manned relay sites with attendant operating and defensive personnel and the need for exceptional logistics services to reach scattered hilltop sites; the requirement to communicate from high terrain is eliminated, personnel casualties decrease and resupply requirements drop.

Our requests in support of these programs for FY 77 are $4.9M for the DSCS communications equipment development, $23M for DSCS terminal procurement (FY 76, $23M), $3.5M for the tactical satellite communications equipment development and $23.6M for tactical terminal procurement (FY 76, $25.1M).

Supporting the systems I have mentioned, and others, we have also asked for $55.2M for 1977 procurement of critically needed communications security (COMSEC) devices - exceptionally high priority items needed to insure survivability and security on the battlefield (FY 76, $29.0M). The lack of such security has contributed to unnecessary combat casualties in the past.

All of these support, or form a portion of the Army's tactical communications system. We are in a period of transition, but it is orderly transition; it is well thought out and uses present inventories to the maximum. When our conversion is eventually complete, and that will be only when we can no longer afford to operate economically the present generation equipment, our eventual objective system will rely totally on the TRI-TAC equipment, satellites and the Single Channel Ground Airborne Radio System (SINCGARS).

We feel strongly that this INTACS architecture will provide the response, security and capacity needed, and at the same time provide for a substantial saving in personnel, vehicles and operating equipment. To assist us in managing this master plan for tactical communications, we have designed in a great deal of flexibility. We are able, for example, to rapidly assess the impact of actual or potential budgetary, program, force structure or doctrinal changes through an automated implementation program which we have on-line and working. We think we have come a long way in a short time and we are intensely proud of this master-planning program, INTACS, the Integrated Tactical Communications System.

One question always arises: Why more and more expensive communications equipment? The Army has taken many strides toward eliminating echelons, soldier positions and equipment requirements which are not absolutely vital. The classic field Army, as an echelon in the field, was eliminated; corps responsibility has been expanded to cover a larger area; the corps must be able to exercise this responsibility without impediment in an era of increased battlefield sophistication. This will be possible because we will provide better means of communication

not merely more communications capability. We seek a minimum of redundancy and place a premium on cost-effective reliability. We are placing emphasis on the needs as defined by the user. We will provide security and anti-jam capability to counter the enemy threat as soon as economically feasible.

Summary

In summary, we are deeply involved in an area of high technology and high payoff potential. We are, as Mr. Shriver explained, striving to insure that the uncertainties of command and control, insofar as they are related to our operating systems, are reduced to the minimum possible. We are pushing for survivability and reliability in our C^3 systems while pressing hard to make sure we've kept our taint of 'gold-plating'. We have, from a planning standpoint, placed ourselves in a position to exploit technology, cope rationally with the needs for high-speed communications with security and effective Electronic Counter-Counter-measures. The Army's systems are highly integrated within the DOD and, with the passage of time, will hopefully be so within the NATO community.

We have looked at the challenge of the future and we are confident that the Army is heading in the right direction in these vital areas of command and control. We ask your support for our budget request.

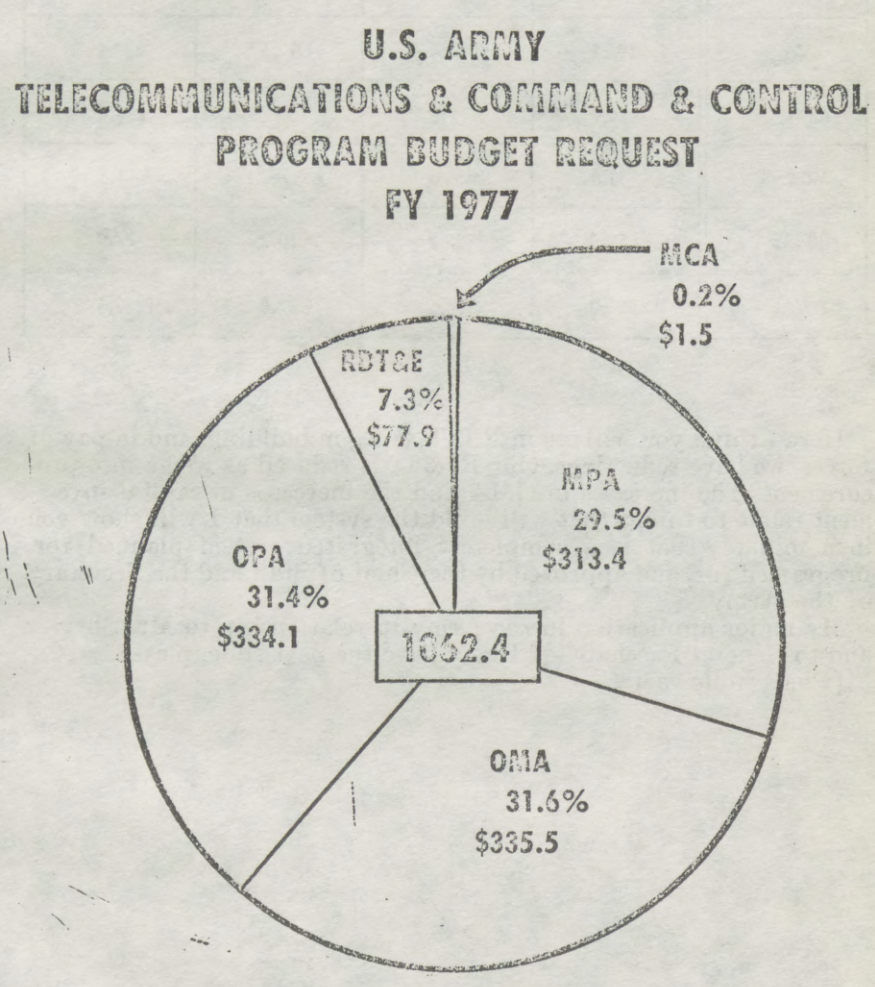
I thank you for your attention and am prepared, Mr. Chairman, to address your questions.

SUMMARY STATEMENT OF MAJ. GEN. THOMAS M. RIENZI

General RIENZI. I think you will see in it we are following the sense of Congress in preparing a 24-division force that our Secretary and the Chief have placed before you.

The major things we are trying to do is shown on this slide. We have our communications structure, do our command and control properly, and tie our tactical systems to the systems that General Paschall discussed.

[Chart follows:]



U.S. ARMY, DIRECTOR TELECOMMUNICATIONS AND COMMAND AND CONTROL

Communications structure.
Command and control.
Tactical and DCS operations.

This is what our budget looks like for the Army. About one-third, one-third, one-third, in OMA procurement, the pay of our soldiers, and about 10 percent in R. & D.

[Chart follows:]

U.S. ARMY
TELECOMMUNICATIONS & COMMAND & CONTROL
PROGRAM BUDGET REQUEST
FY 1977 vs FY 1976

	FY 1976	CHANGE	INFLATION	FY 1977
OMA	315.8	+19.7	—	335.5
OPA	196.1	+120.4	+17.6	334.1
MPA	315.9	−2.5	—	313.4
MCA	1.8	−.3	—	1.5
RDT&E	90.4	−22.7	+10.2	77.9
TOTAL	920.0	+114.6	+27.8	1062.4

CHART —

Here I think you will see in R.D.T. & E., in building, and in pay of forces, we have reductions. Our R. & D. is reduced as we go into procurement. The increases in OMA and the increases in capital investment relate to things that will build the system that I will show you in a minute; that is a completely integrated system planned for, programed for, and approved by the Chief of Staff and the Secretary of the Army.

My major application in the Army in relationship to Mr. Shriver and to General Paschall—if I may have the next slide, please.

[Chart follows:]

U.S. ARMY

DIRECTOR TELECOMMUNICATIONS & COMMAND & CONTROL

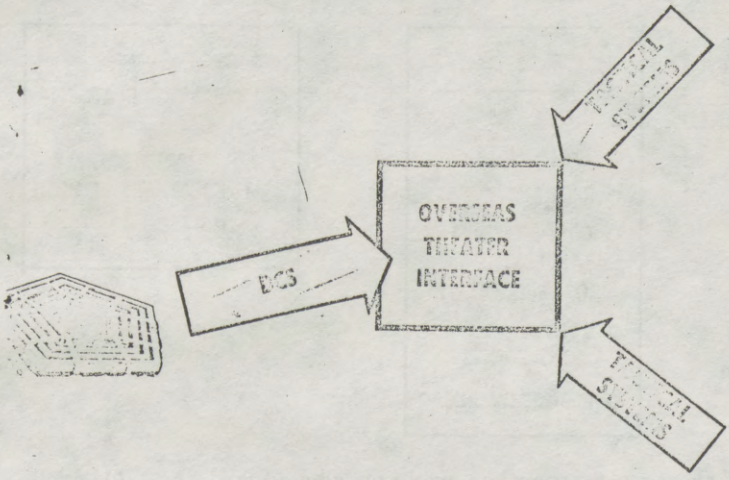
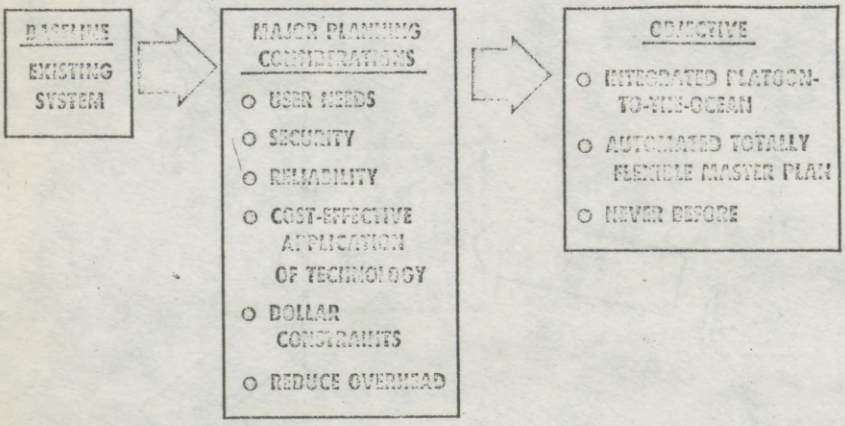


CHART —

My major critical interface in the Army in relationship to Mr. Shriver and to General Paschall is to be sure that overseas interface, with the long haul that is the long lines of defense—that General Paschall talked about—interfaces well and ties into the Worldwide Military Command and Control System for those tactical forces in the field. It would be darned close to impossible for a person back here in Washington to manage the communications of the tactical forces in Europe, in Korea, in Vietnam, or in Thailand, to give some key examples.

[Chart follows:]

U.S. ARMY
INTEGRATED TACTICAL COMMUNICATIONS SYSTEM (INTACS)
A RATIONAL APPROACH TO THE FUTURE



To tie all these pieces together, we have worked with the IBM architect for the WWMCCS and the Integrated Tactical Communications Systems plan, approved by the Chief of Staff and the Secretary into a total picture. It starts off with the baseline over on the left.

We have $1 billion worth of multichannel equipment and about $1 billion worth of tactical equipment that is used to run the forces on the battlefield. The major considerations in this integrated plan are those in the center.

The user needs: We looked at 50,000 user needs lives of all the units in the Army. We need that security. We don't have it today. The planned reliability is reasonable, but we must get it.

We took cost effective technology. What was the most cost effective way to do it, not just by any technology.

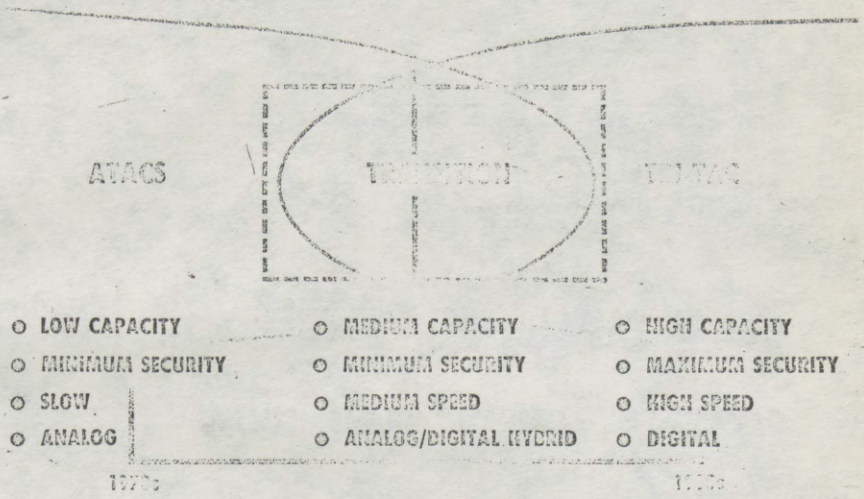
Finally, we were dollar constrained. Within the Army's balanced program of 24 divisions, how do we equip those as a balance so we can fight as we have to—if we have to go, today; we are ready with a balanced program.

We have done a lot in reducing overhead, and we have provided to the committee staff what we have done in the last 2 years.

Finally we have developed an objective system that goes from the platoon, the front line, to the water's edge; we have an automated, flexible master plan that allows us to change R. & D., procurement, priorities, strategy, and still have a balanced program then and there. We have an automated interface into our office so we can do that quite quickly for Mr. Shriver, for General Paschall, or in conjunction with the services.

[Chart follows:]

U.S. ARMY
TACTICAL COMMUNICATIONS
ARCHITECTURE



This is what the Army is trying to do in the tactical side. ATACS is the equipment we have today. We want a transition to John Hoover's Tri-Tac equipment in the 1980's or 1981 or 1982.

Today low capacity, minimum security, into the transition and that is what is in our budget request this year, an increase in procurement as we have gone from R. & D. into the procurement to get those transitional devices, so we get transition to a medium capacity in the hybrid world of some of the old and the new and finally we are in the Tri-Tac world of the 1985's or 1990's. This is what my mission is with that integrated communications plan, to transition from what we have today to what we are going to use in the 1980's and 1985's.

What does the Integrated Tactical Communications System do for us?

[Chart follows:]

U.S. ARMY
DIRECTOR TELECOMMUNICATIONS & COMMAND & CONTROL

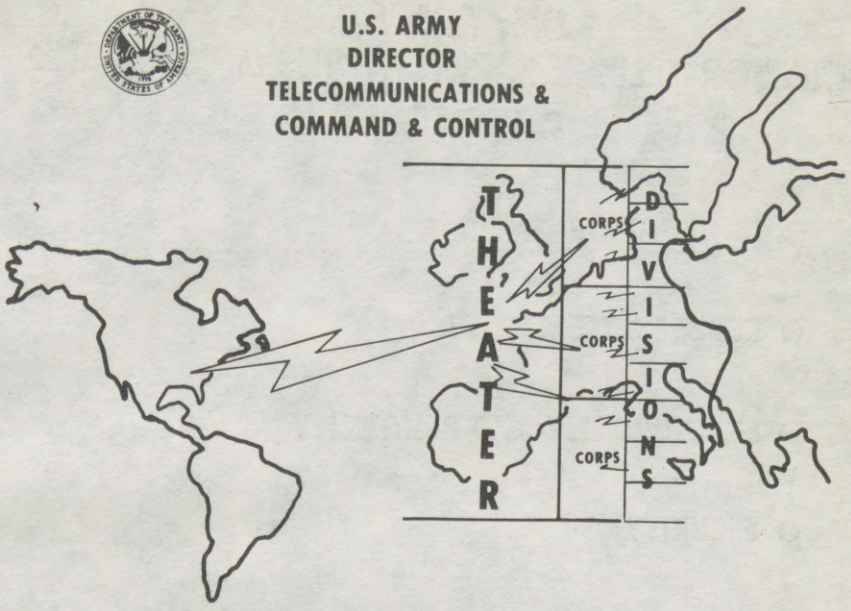
INTACS

- RESPOND TO USER REQUIREMENTS
- REDUCE OVERHEAD
- INCREASE PLANNING FLEXIBILITY
- INCREASE OPERATIONAL FLEXIBILITY
- EXPLOIT TECHNOLOGY

This is an approved plan to be implemented in the Army in a balanced way.

To respond to the real users' requirements, the users' overhead, it is very flexible in operations and planning and really exploits technology in places like electronic warfare, guarding against jamming. We truly need this system.

[Chart follows:]

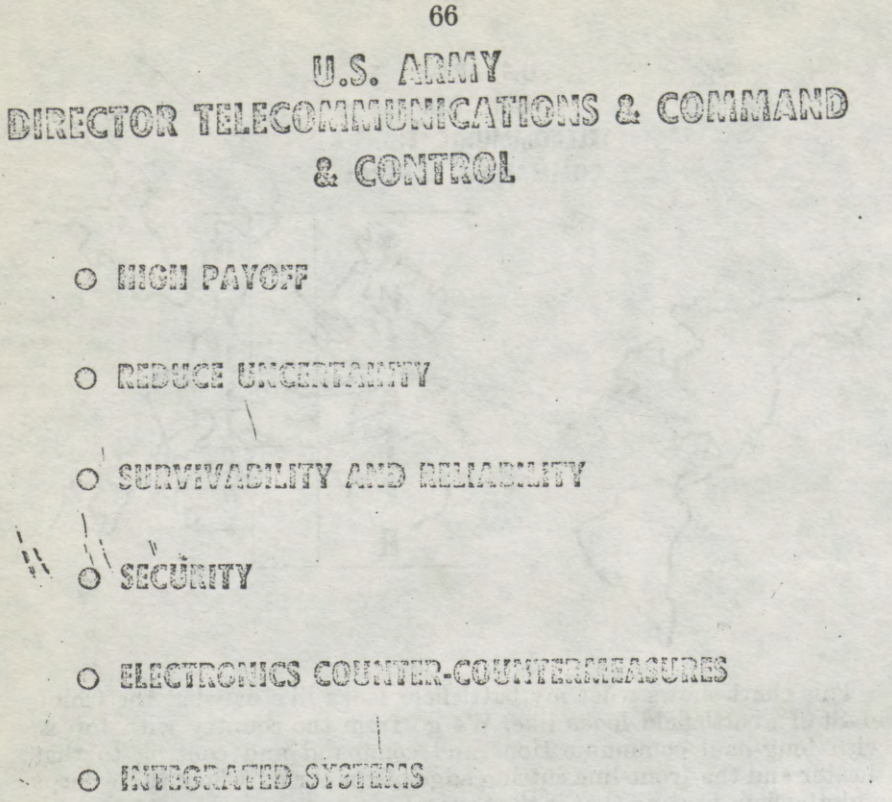


This chart shows what my battlefield looks like or what the Chief of Staff's battlefield looks like. We go from the country with forces, with long-haul communications and command and control, to that theater and the front-line cutting edge of the Army where those corps and divisions are and that is the tactical communications system which equal about two-thirds of the forces I must program, plan, and provide policy for on a daily basis.

So I see that battlefield. I see my interrelationships to General Paschall and provide that piece of that long haul communications that the Army provides to the total system, the Defense System.

The program we have which has increases in procurement this year will have these characteristics.

[Chart follows:]



Payoff in security; payoff in EW. It reduces the uncertainty we have today. Counter-countermeasures to work against the threat that Mr. Tate spoke to that are so important, so the enemy doesn't hear what we are doing. We are using technology to achieve that.

Finally, it is an integrated system throughout the tactical battlefield.

I would like to speak to Mr. Snodgrass' questions.

I want to build a radio that is 16 pounds for an infantryman walking through the woods. I don't have that air-conditioning found in fixed stations. I don't have the capability for all the fine-tuned circuits that General Parschall can put in a building someplace where there is much more room. As a consequence, there is a dichotomy. We have the interface standards but there are judgments you have to make to get it on the back of that soldier, still with the interface, but with the quality of the communications because of the size of the box is not the same as you can put in a big building with all the capabilities you can get with size.

But it is an integrated system and our mission is to be sure you can talk from Europe on any other place in the world to the Worldwide Military Command and Control System here in Washington.

We ask your support of our budget request to enhance the Army Forces.

Thank you very much, Mr. Chairman.

Mr. BURLISON. If you had the TRI–TAC system as you project it for 1985, if you had that now, you would have a reliable system, a se-

cure system. Do your projections build in, however, any assumption of increased Soviet capability between now and 1985?

General RIENZI. The answer to your question is "Yes." In our budgeted programs for electronic warfare, in our budgeted programs for countermeasures, and our budgeted programs in our radios to counter the threats that we see, we look at the threat of Russia as we can get it from our intelligence agencies, and build equipment that works toward that threat. If we could have TRI–TAC today, the Army would take all it can, but it just isn't with us.

We also have to use what we have in our depots today and transition to the newer equipment.

Let's take our tactical radios. We have 200,000 of them. They were built in the fifties, or were designed in the fifties, built in the sixties. By 1980 they will be 20 years old. We must look for one that can give us what we should use in 1982, 1983, 1984, 1985 and it is built against the threat that we see of the Russians at that time, or our enemy and it has many more counter-countermeasures, to that threat than we have today.

You made a point on security. Generally speaking, for the Army in the field, a radio costs "x" amount. The security device costs that same amount again to secure it. As a consequence, the national policy is to have secure, or securable equipment. The Army sees in its balanced program today, and under the aegis of Mr. Shriver, that ——— we will ———. That allows us to secure our communications down to ———. The payoff just isn't there because the Army must balance its budget against tanks, aircraft and bullets.

I hope that answers your question.

INTEGRATED TACTICAL COMMUNICATIONS STUDY

Mr. SNODGRASS. General, could you tell us when the INTACS study was completed?

General RIENZI. The integrated tactical communications study, which is designed for the tactical battlefield of the Army, was completed about January of this year. I was the study advisory chairman for the last 3 years on it. It was completed, briefed to the senior officers of our Army; to the Chief of Staff of the Army and to the Secretary and it has their complete approval as the architecture and concept for the future tactical battlefields of the Army and it ties into the Defense communications system; it ties into NATO and it is our plan and the basis for our budgeting for the future.

Mr. SNODGRASS. It was available too late to impact upon the 1977 budget, where essentially decisions were completed in November and December. Is that correct?

General RIENZI. Strictly if you say it was approved and finished in January, but that is not really correct. This study in which I have been deeply involved, as it has progressed, and last summer we could see most of the findings of what it would be and what the support plan would require to support 24 divisions. That information we had prior to the approval of the complete document was used for the budget of 1977. It is now an approved document and the difference between what we used last summer that we knew was going to be the final document and the final document, was little or no difference.

Mr. SNODGRASS. Why was it you did not have such a comprehensive plan until January 1976? Is this a previous plan or is it the first time the Army has tried to do something like this?

General RIENZI. The Army has always had a plan and we have gone through communications electronics in 1960, 1965, 1970, and 1975 in the same manner General Paschell has answered that question.

This is the first time we have taken and looked ahead 10 years, looked at the technology, got all the user requirements—this took about a year—to go to everybody in the Army who is going to use a piece of communications; voice, data, or message—and got agreement within the Army, what are those uses for different levels of combat? A crisis level, a nuclear level. So that we could then program it into a complete system.

Another thing has just developed in the last year. We have now, with Operations Research, taken communications, knowing now the user requirements, 90 percent correct as to what our commanders want, and have put this tactical communications system on the battlefield and then have withdrawn communications—voice, data and message—to see what that does to the movement of the forward edge of the battlefields FEBA, or to see what that does if the communications line isn't there, and the ammunition doesn't arrive at the right place or the gasoline doesn't arrive or the soldiers don't because communications wasn't there.

We have just completed an Operation Research analysis where we are beginning to see how communications affects the movement of the FEBA or how communications affects how many enemies we defeat or how many soldiers we lose. That has just come into being in the last year.

Mr. BURLISON. Let us hear from the Navy.

Admiral BOYES. Thank you, Mr. Chairman. I would like to submit a full statement.

[Biographical sketch and prepared statement of Vice Adm. Jon L. Boyes follow:]

STATEMENT OF VICE ADM. JON L. BOYES, DIRECTOR FOR COMMAND AND CONTROL AND COMMUNICATIONS PROGRAMS, DEPARTMENT OF THE NAVY

VICE ADMIRAL JON L. BOYES, U. S. NAVY

Jon Lippitt Boyes was born in Oakland, California, on July 5, 1921, son of Lieutenant Commander Gordon M. Boyes, USN (Retired) and Mrs. (Lucia Smith) Boyes. He attended Balboa (Canal Zone) High School and Balboa Junior College, prior to entering the U. S. Naval Academy, Anapolis Maryland, on appointment at large in 1940. Graduated with distinction in the Class of 1944, on June 9, 1943 (accelerated course due to World War II), he was commissioned Ensign and subsequently advanced in rank to that of Vice Admiral, to date from 29 July 1975.

Following graduation from the Naval Academy in 1943, he joined the USS SAUFLEY (DD-465) and while attached to that destroyer participated in seven landings and invasions in the Pacific area. Detached from the SAUFLEY in June 1945, he had submarine training at the Submarine School, New London, Connecticut, and during January and February 1946 had further training at the Fleet Sonar School, San Diego, California. He next reported on board the USS BRILL and after that submarine was transferred to Turkey in May 1948, he remained on board, with a small American crew, as acting Commanding Officer and Training Officer for Turkish Personnel. From January 1949 until June 1950 he served as Operations Officer, Navigator and Executive Officer of the USS TRUMPETFISH (SS-425).

He completed graduate communications as the Postgraduate School, Annapolis, Maryland. In July 1951, he joined the Staff of Commander Submarine Squadron TEN, to serve as Communications Electronics and Intelligence Officer. In April 1952 he transferred to the Staff of Commander Submarine Force, U. S. Atlantic Fleet, where he had duty as Communications and Cryptographic Officer until October 1953. He then reported as Executive Officer of the USS HALFBEAK (SS-352) and in November 1954 assumed command of the USS SARDA (SS-488). During the period June 1955 until January 1957, he commanded the Navy's first high speed research submarine, the USS ALBACORE, after which he was assigned as Submarine Material Readiness and Research Officer in the Office of the Chief of Naval Operations, Navy Department, Washington, D. C.

In January 1960 he reported for instruction at the Armed Forces Staff College, Norfolk, Virginia, and in July that year joined the Staff of Commander Submarine Force, U. S. Pacific Fleet. While on COMSUBPAC staff, he was temporarily assigned to JTFS, as the Submarine Operations/Communications Director, for the first SSBN nuclear war test shot launched by the POLARIS Forces. He was commended for this performance. In July 1962 he assumed command of the Navy's first all nuclear Submarine Division SEVENTY-ONE. During this period, significant nuclear submarine Arctic under-ice operations were conducted. In July 1963 he was detached from that c ommand for instruction at the National War College, Washington, D. C., from which he graduated with distinction. He reported in June 1964 as Assistant to the Director of the Far East Region, Office of the Assistant Secretary of Defense (International Security Aggairs), Washington, D. C. "For exceptionally meritorious service... (in that capacity) from June 24, 1964 to September 9, 1966..." he was awarded the Legion of Merit.

In September 1966 he became Commander Submarine Squadron TEN and formed the Navy's first all-nuclear attack squadron consisting of nine advanced type SSN's and two support ships. He was commended for this accomplishment.

In November 1967 he was assigned to the Office of the Chief of Naval Operations, Navy Department, as Deputy Director, Navy Program

Planning. He was promoted to flag rank while in this position. He reported in July 1969 as Deputy Director for Plans, Defense Communications Agency, Washington, D. C. For his duty as Deputy Director Plans, DCA, he was awarded a gold star in lieu of second award of the Legion of Merit as the result of significant planning and advanced concepts for the global Defense Communicatons System, and for: unique major developments in communications research and development, five million dollars annual savings as the result of major redesign of the DCS, vital negotiations with the United Kingdom on new satellite systems, and representing the United States during the development and implementation of the NATO Integrated Communications System as the U.S. military delegate to the NATO Joint C-E Committee.

In August 1971 he reported as Director of the Communications-Electronics Directorate (J-6), Headquarters, United States European Command in Stuttgart, West Germany. He was awarded the third Legion of Merit for outstanding services and significant improvements to both U.S. and NATO C^3 systems and procedures. On 22 June 1973 he took command of the Naval Telecommunications Command and reported for duty to the Chief of Naval Operations as Director of Naval Telecommunications Division. Additionally, he became the Naval Telecommunications System Architect upon its establishment in late 1973. On 1 December 1974 he assumed the duties of Director, Command Support Programs. On 20 March 1975 the organizational title was changed to Director, Command and Control and Communications (C^3) Programs. On 29 July 1975 he was promoted to the rank of Vice Admiral .

He has done graduate work in communications and ADP and has received a Master of Arts degree in International Law (Honors) and a Master of Arts degree in Political Sciencie (Honors). He holds a PhD in International Affairs. He is a member of Pi Sigma Alpha (National Honor Society, Political Science) and Phi Kappa Phi (National Honor Scholastic Society).

In addition to the Legion of Merit with two gold stars, Vice Admiral Boyes has the Meritorious Service Medal; the Purple Heart Medal (for wounds received in enemy action); American Defense Service Medal with Star; Asiatic-Pacific Campaign Medal with one silver and two bronze stars (seven operations); American Campaign Medal; World War II Victory Medal, National Defense Service Medal with bronze star; Korean and United Nations medals; and the Philippine Liberation Ribbon with one star. He has also been awarded the Korean Order of National Security, Third Class.

His official home of record is Scotts Valley, California. He is married to the former Nancy Mitchell of Waynesville, Missouri and has three children, Jan Brooke, Christopher Lynne, and Virginia Leigh Boyes.

Thank you, Mr. Chairman, It's my pleasure to be here and I appreciate the opportunity to discuss Navy C^3 with the committee.

The Navy is developing a Naval Command and Control System complimentary to, and supportive of, the World Wide Military Command and Control System, WWMCCS. It envisions a hierarchial system which has as its hubs the Fleet Command Centers (FCC) and as its afloat nodes the Tactical Flag Command Centers (TFCC) located on high value ships, such as carriers. Additionally, each FCC is tied to the WWMCCS to provide information and intelligence from our afloat commanders to the national commanders and to provide essential intelligence tasking requirements to the WWMCCS agencies. Further, the FCC functions as an essential node for the execution of missions and tasks assigned to the Navy component commander by the unified commander.

In order that the Fleet Command Center can insure timely and responsive intelligence to its Task Force Command Centers as they deal with day-to-day problems, crisis management situations and general war situations. Command and control connectivity is provided through FLTSATCOM and FLT Broadcast.

This viewgraph shows an overview of the total system just described and the many interfaces between WWMCCS and the Navy Command and Control System. This next viewgraph more precisely defines pictorially the FCC and the TFCC.

In addition to the Fleet and Tactical Flag Command Centers, we are integrating existing Navy surveillance and intelligence and information systems to feed directly into the FCC. Ocean systems are the Ocean Surveillance Information Systems, OSIS, as shown here. Another supportive system is the ASWCCCS as displayed in this viewgraph. A list of the other systems, Navy and Defense Department, are shown. The point is that we will be able to take maximum advantage of both raw and processed information available from all types of sensors operated by the services or by other agencies responding to the national command authorities.

This data and processed intelligence will be synthesized, collated and correlated at the FCC ashore and rapidly disseminated to those afloat tactical commanders that require it. This shore-based support will provide our sea-going commanders with data on areas which concern him but are outside his own force sensor range. This data will keep the commander up to date on the status of other U.S. forces, friendly forces, neutral forces, merchantment and those of the other side. We also provide a direct tactical information circuit to the tactical commander for certain information which needs immediate handling without collation.

In turn, each Tactical Flag Command Center is provided data by supporting sensors as shown here - air, surface and subsurface - in a manner similar to the FCC, collates and correlates information in his region of responsibility and passes it back to the FCC.

With that brief outline, it is apparent that C^3 is made up of skilled people, information, intelligence, ADP supported facilities, doctrines, procedures and the essential rapid, reliable, secure communications with that concept in view, the Navy has organized its C^3 functions as shown here under a Director of Command and Control and Communications. Within the organization we have the communications with its supporting field activities,

and the signals exploitation and communications intelligence directorate, with its field activities.

Next we have the environmental services which provide oceanographic and meteorological information. Such information is absolutely essential in modern warfare to the commander at sea in establishing and, more important, exploiting the environment in which he is operating for antisubmarine warfare, for air attack missions and even for the selection of precision guided weapons such as "smart bombs."

We also have a programming and budget section which is essential to the management of available resources to insure that our Navy C^3 programs are properly supported.

The governor which provides regulation to our developing C^3 systems is the Navy C^3 architect who began his work in mid-1973 and over the past several years in close coordination with the Navy's systems commands, Naval laboratories plus Federal Contract Research Centers (FCRC'S) and contractors is bringing together C^3 in a way which will logically and systematically set the pathway from now and into the twenty-first century for Navy command and control. It puts together in the most cost effective manner the usage and requirements for all communication media from extremely low frequency Seafarer to the blue/green laser. It has clarified the Navy's R&D program for C^3, eliminating those nice-to-have projects and focusing our limited resources upon the vital. I would make an aside at this point that one only has to view the success of the Soviets with their amazing command and control and communications system and its success in Okean '70 and Okean '75 to appreciate and accept the essentiality of command and control and communications programs which provide for such a capable C^3 system.

Now I would like to deal briefly with specific major programs which I know are of interest to you.

Our central effort is the Navy command and control system program. It is made up of the Fleet Command Centers with their supporting subsystems, the Ocean Surveillance Information System and the Antisubmarine Warfare Center Command and Control System; plus the afloat node which is the Task Force Command Center. This program makes modest resource demands with almost half devoted to research and development. However, a most significant portion will be required for computer software. The ashore part of this program is to be basically completed in FY 78. The afloat portion begins procurement in the early eighties.

In the strategic world our programs are dominated by the requirement to provide continuous survivable communications to our fleet ballistic missile submarines, shortly to include Trident. Currently we rely on a widely dispersed series of very low frequency transmitters which can reach our submarines anywhere in the world as long as they stream a floating wire antenna or special buoy. To enhance survivability in the event of nuclear attack, we augment these VLF transmitters ashore with the airborne VLF relay system, TACAMO. The problem with the VLF system is that it ties the ballistic missile submarine to near surface depths depriving it of full exercise of its unique capability to avoid detection. He is restricted in both speed and by the physical constraint to connect to a near surface antenna to receive command traffic. The use of extremely low frequency has long been looked to as a method of releasing the submarine from this near surface antenna requirement and thus maximize his ability to avoid detection and enhance survivability. SEAFARER

is our program to build this ELF system. To be most cost effective in both construction and in the utilization of energy during operation, it should be built in a laurentian shield, a particular geological formation. We are currently assessing environmental impacts, negotiating a suitable site and are doing everything possible to attain this ELF capability in the early 80's.

Command and control of our task force and intra-task force communications beyond the line of sight have long been severely handicapped by the limits of the high frequency radio method of communications. Satellites provide the best solution to this problem. Thus, major fleet wide tactical communications program is concentrated in the Fleet Satellite Communications System. We are equipping certain high value ships with SHF or super high frequency terminals which use the Defense Satellite Communications system. Satellite communications system precludes meeting all Navy requirements by this method. The Fleet Satellite Communications System is designed to meet the requirement for all fleet units including patrol aircraft and submarines. Long unfulfilled needs for secure voice and data communications to afloat units will be met. This program also includes an Air Force capability and provision for presidential communications. We expect the system to be operational in 1978. Currently over 90% of our ships are equipped to copy the satellite broadcast and by the end of this year 165 units will be able to use satellite voice and data service. To meet the most urgent operational requirements and to take advantage of installed equipment, we are leasing service on a specially configured portion of the Merisat Satellite. This will give us a limited but vital capability in the Atlantic, Mediterranean and Pacific Ocean areas two years in advance of the more capable fleet satellite system.

The CNO in his posture statement when summing up the required characteristics for deployed Naval forces to operate globally without dependence on forward base system and against the most advanced weapons technology stated that they must embody several military characteristics. The part pertaining to C^3 said:

"They must be controlled by a command organization and communications system which provides swift, accurate, and secure collection and transfer of information upon which commanders may make recommendations to the national command authority, coordinate with allies and other commanders, and make decision to effectively direct their own forces."

A major obstacle in translating this requirement into reality is a procurement program designed with an eye to the future.

This program has not faired well with the Congress. For the Fiscal Year 76 and TQ periods, we lost nearly $35M worth of procurement authorization out of a total $120M package. This brings the problem forward to where we are requesting $131M in C^3 related procurement. Of the $131M in Navy C3 equipment to be procured in FY 77, $120M is for shipboard/submarine installation, nearly $50M is for satellite transceivers and associated terminal equipment and $34M for cryptographic equipment. We are at a critical juncture in our long over due improvement of fleet C^3 capability.

In the C^3 area, we are very impressed with the Soviet capability and their demonstrated advances in command, control

and surveillance. We feel a slim margin of superiority in C^3 and our proposed budget tries to maintain this advantage. As in so many other areas the impact of inflation in C^3 is severe but we have tried to lessen it through better management throughout our planning, programming and budgeting cycle. We continue to propose changes which will enable us to better meet requirements and improve capabilities of our forces through introduction of more reliable and capable C^3 systems.

Thank you, Mr. Chairman.

Summary Statement of Vice Adm. Jon L. Boyes

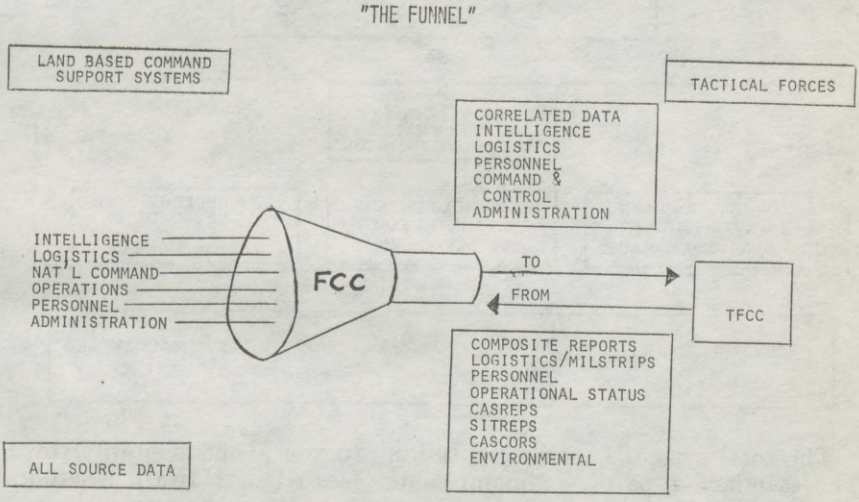
Admiral Boyes. I will quickly move across the Navy Command and Control Systems.

Naval Command and Control and Communications

As you know, the Navy has a rather unique situation in that it has aircraft to deal with, surface ships to deal with, submarines to deal with, and forces ashore with the Marines to deal with, and to interconnect all of them. Therefore, our command and control system is complementary to and supportive of the Worldwide Military Command and Control System as well as taking care of our own problems.

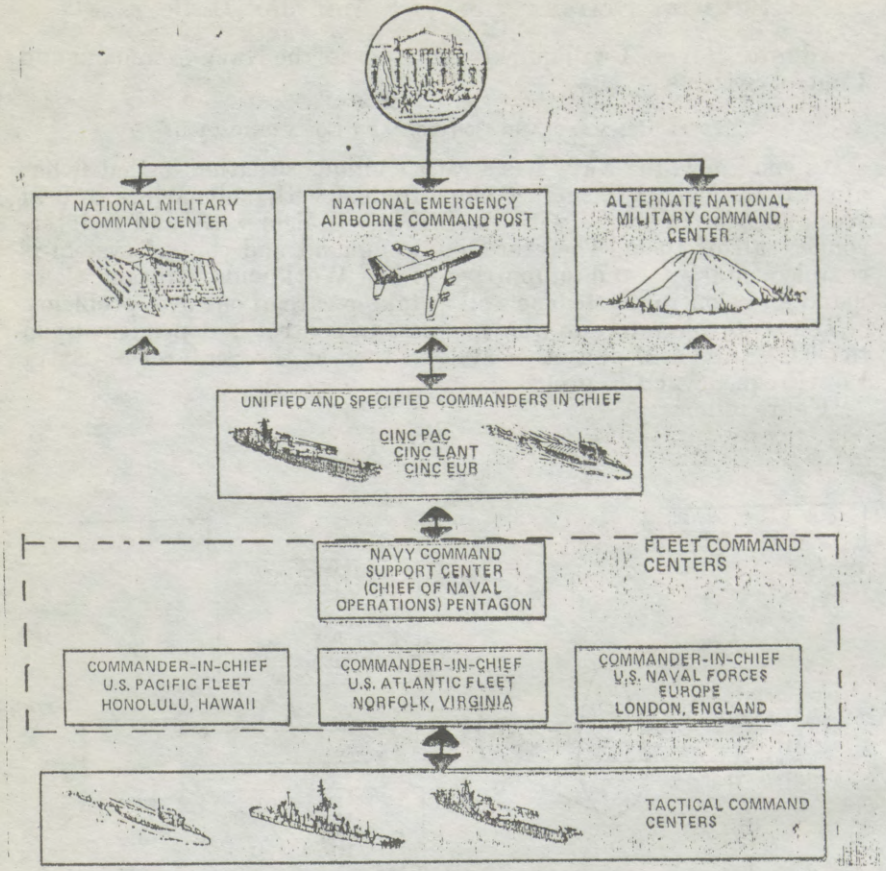
The centerpiece to our whole success in control is dependent upon the FLTSATCOM and other systems such as the Seafarer or Extra Low Frequency, ELF, program.

[Chart follows:]



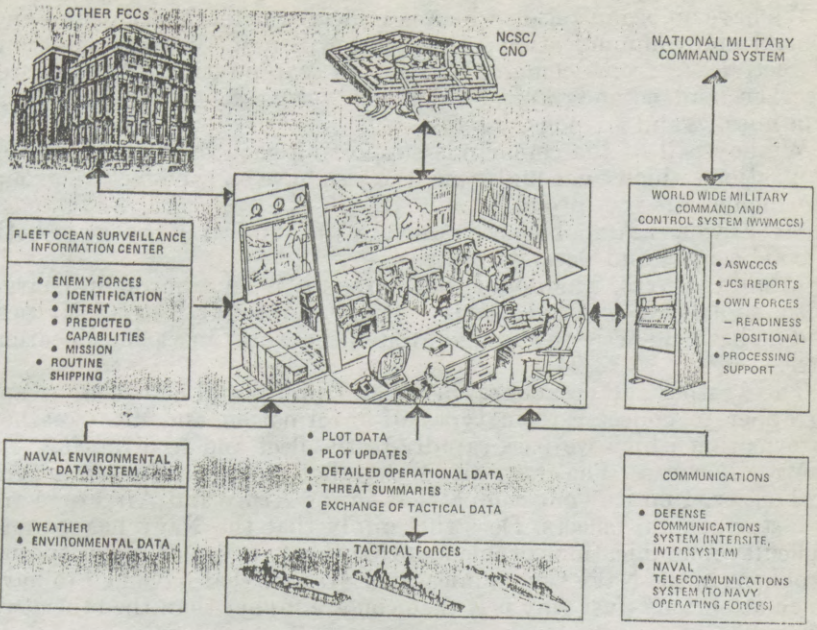
This essentially is what I have been talking about. We have the Fleet Command Center which operates the forces at sea. For example, on the carriers, on the task force command center, we attempt to take intelligence, logistic information, and what you see there and pass it back and forth between the units.

[Chart follows:]



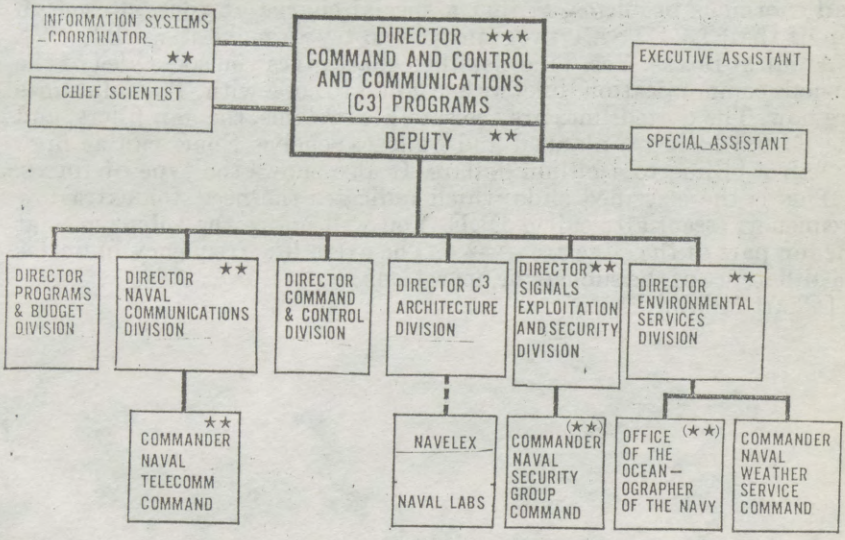
The total system I have been talking to you about is simply this: The standard type of command center located in Hawaii, Norfolk, and Europe, dealing with various forces throughout the world.

[Chart follows:]



With this system then we move from the old business of having communications and command and control as sort of separate entities which equal C–3. We have the multiplying effect shown here.

[Chart follows:]



(★★)DOUBLE HAT

We have an organization which is indicated here, the command and control and communications which you will note runs the spectrum of activities from communications to exploitation, intelligence, weather, and oceanography which are very essential to precision-type missiles and weapons systems.

We have all of the commands supporting each of the various organizations which come under me. We also have an architecture group of which we are very proud.

Mr. EDWARDS. A double hat is worn by the admiral in charge of both Naval Security and Oceanography.

Admiral BOYES. The double hat here, sir, is an admiral in charge of the signals exploitation activity, very similar to Mr. Tate's activities, and he has field activities spread around the world in various location sites.

The weather and oceanographer is an admiral and he has an oceanographer to collect certain types of information and also weather information which we pass rapidly to the fleet and to aircraft.

Mr. SNODGRASS. The chart also shows that you are a three-star general officer. I notice your compatriots in the Army and Air Force are two-star general officers. Does this imply that the Navy has a more difficult communications problem or that there are some kind of special problems in the Navy Communications Systems that have had to have extra attention? Just why is it that you are higher than the other two services?

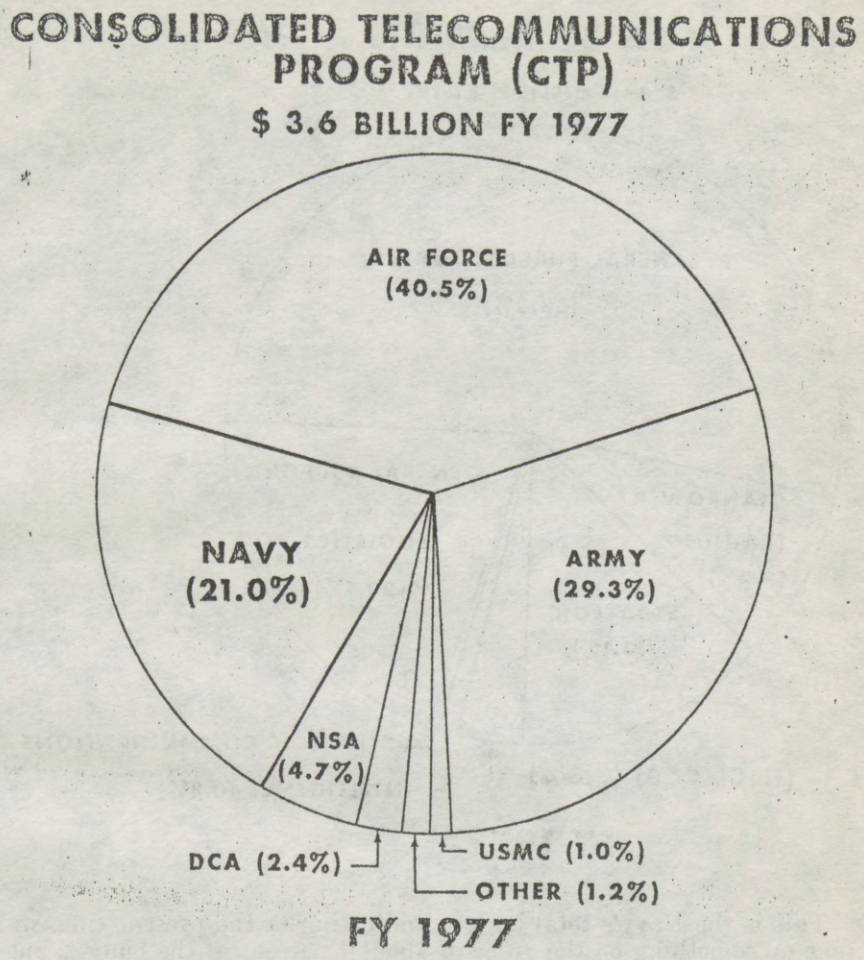
Admiral BOYES. That is part of the reason for it. The second is that the Chief of Naval Operations felt proper command and control includes all of these activities, which are quite large and therefore he wanted a three-star directing this activity.

Mr. SNODGRASS. For example, the FLEETSATCOM program has had enormous problems. Is that a special charge of yours, to get on top of the FLEETSAT program and to try to make it work?

Admiral BOYES. Yes. This classified chart gives you some idea of the various communication links we are going to cope with. The solid lines are now. The dotted lines are the satellite systems, the gap fillers, and the ELF which are planned and quite expensive. Some run as high as half a billion to a billion dollars. It also shows the type of forces.

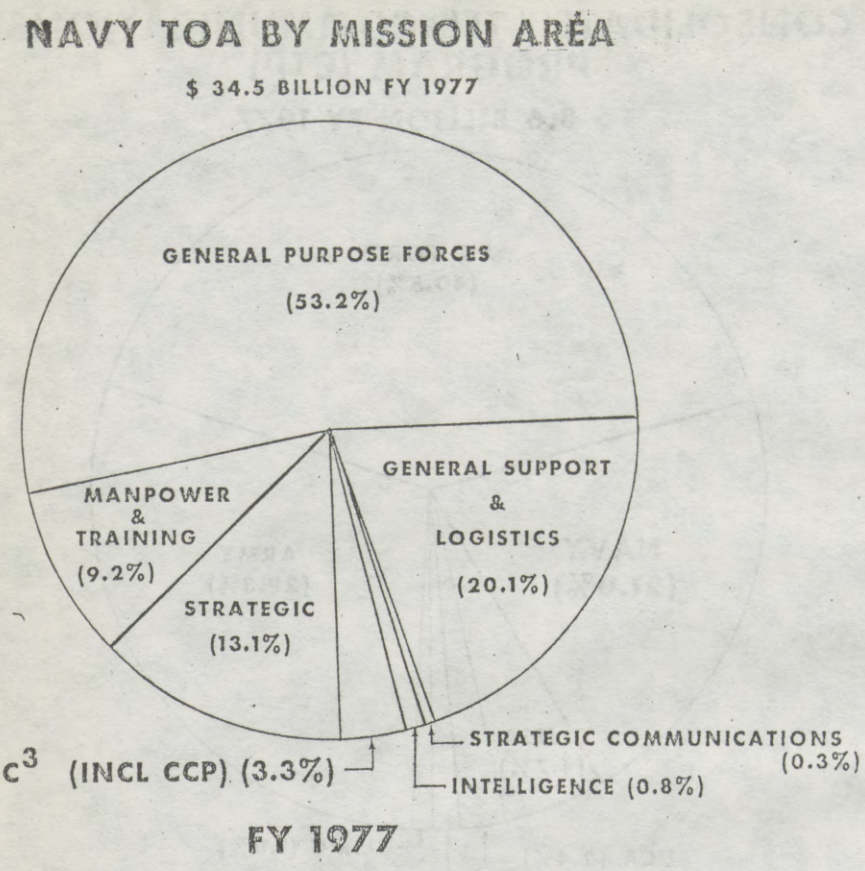
This is the classified slide which indicates the need for extra low frequency, essentially called ELF. You will notice the submarines at the top part of the slide are ———. The extra low frequency indicates the difference of the submarine operations.

[Chart follows:]



This is the total budget that Mr. Shriver has been presenting. I wanted to indicate here that the Navy takes up about 21 percent of that budget at the present time.

[Chart follows:]



This is the Navy's total budget, indicating at the present time we take up something on the order of about 4 percent of the budget, but if you throw in signals intelligence and the other activities that I am responsible for, we come up with a total budget of 3.6 percent.

I want to indicate here that one of our deepest concerns over programs is that our strategic and general purpose communications are starting downhill after an infusion of money as a result of the Mollohan committee, in which the Navy was specifically criticized for its lack of modern communications systems and its inability to deal with situations such as EC 121, *Liberty*, and *Pueblo*.

[Chart follows:]

TELECOMMUNICATIONS AND COMMAND AND CONTROL PROGRAM, FISCAL YEAR 1976–77 COMPARISON

[Fiscal year 1977 constant dollars, in millions]

	Fiscal year 1976	Fiscal year 1977	Program growth	Program growth	In percent— Army	Air Force	Navy
R. & D.	$527	$585	$58	10	−24	+27	+4
Procurement	751	1,132	381	34	+37	+45	+11
Military construction	13	28	15	54			
O. & M.	1,292	1,339	47	4	−1	+5	+3
Military personnel	977	899	−78	−9	−7	−12	−3
Total, T. & C.C.P.	3,560	3,983	423	11	+7	+18	+4

Mr. BURLISON. Let me remind you and the other witnesses who are using the slides, to provide a copy of those slides for the reporter so that our discussion will make a little more sense.

Admiral BOYES. Yes, sir, we have that for you. This is the last slide, since we have talked about growth, and Mr. Snodgrass has discussed the problem with us. We feel our real growth in the Navy has been 4 percent. Last year we had $120 million and in procurement it was reduced by $35 million. The difference between 1975 and 1976 in gross terms was 6.5 percent and therefore we feel that we did not have an abnormal growth for our procurement, particularly in view of the fact that we are trying to come from a very limited condition in 1970 of high frequency communications basically, a system that was not very well secured, a system that now is highly dependent upon FLTSATCOM and other very, very expensive programs.

That is all I have.

Mr. BURLISON. May we hear from the Air Force now?

General EDGE. I too would like to submit my opening statement for the record.

[Biographical sketch and prepared statement of Maj. Gen. Robert L. Edge follow:]

MAJ. GEN. ROBERT L. EDGE

Maj. Gen. Robert L. Edge is Assistant Chief of Staff, Communications and Computer Resources, Headquarters, U.S. Air Force.

General Edge was born in 1925 in Los Angeles, California, graduated from the Golden Gate Academy in Berkeley, California in 1942, and entered the U.S. Army Air Forces as a private in 1943. He completed Aviation Cadet Training and was commissioned a second lieutenant in 1945.

General Edge was Deputy Director and then Director of Command Control and Communications, Headquarters, U.S. Air Force, from July 1971 until his present appointment in September 1975. He came to Headquarters, U.S. Air Force from the Air Force Communications Service where he held positions from 1969 as the Commander of the Central European Communications Region at Ramstein Air Base, Germany, and then as Deputy Chief of Staff, Plans and Programs, at Headquarters, AFCS, Richards-Gebaur Air Force Base, Mo. In 1968 General Edge served as the Staff Assistant for Communications-Electronics in the Office of the Director of Defense Research and Engineering, Office of the Secretary of Defense, Washington, D.C. He was assigned to the Air Force Systems Command, with duty at Headquarters Electronic Systems Division, L. G. Hanscom Field, Mass., in 1965, and served successively as system program director for the Headquarters USAF Command Control System and the USAF Spacetrack program.

He is a command pilot, with almost 6,000 flying hours as a radar-navigator-bombardier and a pilot in B–29's, B–50's, and B–47's. He served in flying duties for the Air Weather Service and the Strategic Air Command.

General Edge is married to the former Mary C. Boyce of West Monroe, La. They have three children.

Statement of Maj. Gen. Robert L. Edge, Assistant Chief of Staff Communications and Computer Resources, Department of the Air Force

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE

I am privileged to appear before this committee, Mr. Chairman, to present the Air Force portion of the Telecommunications and Command and Control Program or T&CCP for Fiscal Year 1977 and to respond to questions.

We have requested a total of $1,741.6 million. This represents about 5.4% of the total Air Force budget and about 43.7% of the DOD Telecommunications and Command and Control Program.

Another way of slicing this budget takes into consideration the different roles we play, and the degree of responsibility associated with each role. First, we are Executive Agent for some DOD telecommunications programs, such as development, acquisition, launch and operation of the space segment of the Defense Satellite Communications System although the Defense Communications Agency provides us with the requirements and with the system architecture. Second, we share in the development, operation and maintenance of other elements of the WWMCCS facilities and the Defense Communications System such as AUTOVON switches, although the Defense Communications Agency manages the total system. Finally, we develop, acquire, operate and maintain or lease the communications vital to support the Air Force mission, where DOD systems cannot provide the support we need; an example is the SATIN IV program, which will replace the aging telecommunications portion of the SAC Automated Command Control System which was developed in the early 1960's. Our budget accounts are not set up to display this kind of slicing readily. Our estimates place about 25% of our T&CCP budget in the category of Executive Agent, about 17% in the category of support to the Defense Communications System, or connection of our bases to the Defense Communications common user systems, and the remaining 58% in the category of almost pure Air Force communications. It is this last category which I intend to discuss: communications vital to support the Air Force mission.

First, and in some ways the most demanding, is the Strategic Air Command. We must be able to launch our alert bombers and tankers for survival against nuclear attack. We do not attempt to harden the communications terminals, because we cannot harden the aircraft themselves; nor can we harden the long lines of communications required to assure receipt of warning and order to launch. So we provide redundant communications means to give us high assurance of our ability to launch quickly, before a weapon detonation. After the aircraft have passed beyond line of sight of our ground based radios, we presently rely on high frequency communications to pass execution or recall orders to the bombers. But high frequency radio has a reliability, under benign conditions, of 90% or less, particularly over polar regions. And ionospheric disturbance resulting from nuclear detonation degrades this radio medium further. We have long sought a more reliable means of communicating with the bombers in flight; the so called AFSATCOM, or Air Force Satellite Communications Program, will provide such a capability. We are requesting funds in Fiscal Year 1977 to continue acquisition of the space segment and terminals to satisfy our critical needs.

The long line communications to the ICBM forces are provided similarly to communications to bomber bases. But the ICBM's can and may need to survive a direct attack; so the communications within the missile fields is hardened to withstand such attack. Also,

we are able to use low frequency communications, transmitted from our Airborne Command Posts, to send execution orders to the Launch Control Centers, even with a disturbed ionosphere. This last ditch communications method is presently slow and vulnerable to jamming; we are requesting funds in 1977 as part of the modulator/demodulator replacement program to improve the speed and jam-resistance, without impaired accuracy.

Another critical major area is support of tactical command and control. We have a Tactical Air Control System, consisting of transportable radars and control centers, staffed by competent people. This system is used to increase our tactical air power effectiveness by controlling aircraft in close air support of troops in contact with the enemy, and for air superiority. But none of this could work without the ground communications to interconnect the control elements and to communicate with aircraft.

Our doctrine requires frequent relocation of the tactical elements, to flow with the battle lines and to minimize the enemy's targeting ability. And as the control elements move, their communications must move with them. We are continuing our program to completely equip these tactical control elements, both in the active force and the Air National Guard.

The improvements in these two critical areas require only a small part of our T&CC Program. Most of the resources for Air Force use continue to provide the needed base communications and command center support at stable levels of effectiveness, or to pay for our use of the common user system in the Defense Communications Systems. It is in this portion of Air Force telecommunications that a major challenge confronts us: how to maintain the effectiveness of support to the various Air Force missions - offensive, defensive, airlift and the command and control and logistics and administrative support to these - under changing conditions.

One of these changing conditions is inflation; since we cannot control it, we must adapt to it. Inflation affects all costs - not just communications costs. One method the Air Force has used to adapt is greater centralization, especially of management and overhead. This centralization, although very important as an overall cost control measure, inevitably increases the need for long distance communications - the most costly kind. Not only does this second force drive up the cost of communications in the absolute, but it tends to drive the cost up as a percentage of the Air Force budget.

A third upward-driving force is the reduction of military manpower overall. Communications costs do not fall very much with reduced manpower unless major facilities are closed. But the percentage of military members assigned to the communications function should remain at a minimum consistent with military requirements; if feasible, we would prefer to see that percentage decrease. I would emphasize here that we continually review our military essential requirements to insure our Blue Suit capability is used to operate and maintain those systems which are vital to the Air Force wartime mission. For the remaining communications workloads, alternative methods of performance (Civil Service, contract, or leased service) are considered and employed on the basis of which of those is most cost effective.

Controlling costs under these conditions leads to the following approach for Air Force communications management:

- First, provide effective communications for vital command and control.

- Second, provide only the minimum required communications for logistic and administrative support.

- Finally, in consonance with the Congressional maddate embodied in the FY75 Appropriation Authorization Act, we seek to employ the least costly form of manpower in carrying out Air Force communications as well as other functions, consistent with military requirements.

Clearly, following this approach - which seems best to us - will result in fewer communications "workers" and a higher percentage of communications "managers" who must be knowledgeable and innovative, and who must resist arbitrary reductions in communications-- arbitrary reductions which could optimize the telecommunications program cost, but at the expense of the effectiveness or economy of the missions which they support.

We believe we have submitted a sound program, following the approach we have described for telecommunications, and pursuing our vital needs for command and control effectiveness. We request your support for this budget.

Thank you, Mr. Chairman. I am ready for questions.

SUMMARY STATEMENT OF MAJ. GEN. ROBERT L. EDGE

The Air Force portion of the telecommunications and command control program is $1,741.6 million. It is about 5.4 percent of the total Air Force budget and about 43.7 percent of the DOD telecommunications and command control program.

There is another way of slicing that, however. For instance, about 25 percent of that resource is required to carry out the executive agency responsibility to which Mr. Shriver and General Paschall spoke earlier.

Examples are the space segment for the defense satellite communications system and the advanced airborne command post program.

About 18 percent of this portion of the Air Force budget is our support to national programs, or WWMCCS command centers and the remaining 57 percent we regard as almost pure communications to satisfy our own internal mission needs.

Within this last category I would like to highlight the two major areas of growth between 1976 and 1977 in connection with the chairman's opening statement.

The chief of these is the Air Force satellite communications program, or AFSATCOM, as we call it.

We have long needed a better capability of communicating with our bombers in flight after they have passed over the horizon from ground communications system. We presently use high frequency radio to do this. However, the high frequency radio has an availability of about 90 percent under benign conditions; worse than that over polar or aural regions and can have extended outages under conditions of nuclear perturbation of the ionosphere. The Air Force satellite communications program will provide us for the first time the capability of providing very reliable communications with the bombers under those circumstances.

Earlier Mr. Tate talked about the need for communications security from his perspective. We agree with that need and for the first time we are able to achieve a covering of our high frequency circuits, particularly in the tactical arena. NSA has developed some communications security equipment which is just outstanding and ———.

So the COMSAT and the AFSATCOM program are the two major increases in investment between 1976 and 1977, within the latter portion of the Air Force program I described. We seek your support, Mr. Chairman. Thank you very much.

AFSATCOM PROGRAM

Mr. SNODGRASS. You made frequent reference to the AFSATCOM program. GAO has given the committee some information that indicates that in April 1972 the Air Force made an estimate that this program would cost $154.9 million. The GAO tells us that the current estimates for cost of this program is $324 million. In other words, the cost of the program has almost doubled over what the Air Force originally told the Congress it was going to cost. The GAO also informs the committee that the initial launch date or the initial operation capability for the AFSATCOM program has to ———.

I was wondering if you could comment on why there have been such problems in terms of cost overruns and slippages and I suppose

first you should comment on whether or not the GAO figures are reasonably accurate in terms of order of magnitude, anyway.

General EDGE. Sir, I have not seen that GAO report. I think I would prefer to comment directly to it for the record if I may. Could you give me a reference to that report?

Mr. SNODGRASS. Would you at least concede there has been a significant cost overrun and schedule slippage in the AFSATCOM program? If so, why has this occurred and what is the Air Force going to do to bring this program under better control?

General EDGE. There have been program difficulties. I think the record is clear on that. We have done a number of things to get it under control. There have been changes in faces both on the Government side and on the contractor side. We have had to in some cases reschedule, in some cases we have had to reengineer. It is not always possible when you are being creative, to foresee all of the technical difficulties that one will run into. The AFSAT transponders going into space have no host vehicles of their own. They will either be riding on the FLTSATCOM, which is another tactical satellite system, or they will be on other host satellites.

The integration on the FLTSATCOM turned out to be much more difficult problem than had been anticipated initially and it is for that reason as much as anything that we have had a delay in the space segment of the AFSATCOM program.

Mr. SNODGRASS. When do your expect to achieve additional operational capability currently?

General EDGE. In fiscal year ———.

Mr. SNODGRASS. Are you now confident that these problems have been overcome and this schedule is going to be met?

General EDGE. Yes, sir, we have high confidence.

PREPARATION OF CONSOLIDATED TELECOMMUNICATIONS PROGRAM BUDGET

Mr. BURLISON. Mr. Shriver, how is the consolidated communications budget prepared?

Mr. SHRIVER. There is in my office a controller with a staff of five or perhaps more people who are responsible for pulling that budget together and they work very closely with their counterparts in the services to find out what the telecommunications and command and control program budgets should be.

This process was started in early 1970 and I would say it is still evolving.

Mr. BURLISON. Who are the principal reviewing officials?

General PASCHALL. I believe they are right here in front of you, sir. This group here.

Mr. SNODGRASS. Do you have some sort of an annual meeting where you get around a table and take votes or do you, as Director of the Office, have the final say? Who is the final decisionmaking authority when it comes to consolidated telecommunication program budget short of the Secretary of Defense?

Mr. SHRIVER. I believe that is a combination of people. I am the primary person. All of the military people here at the table and General Hoover comprise what is called the Telecommunications Council. We meet monthly; we discuss these problems—I am sorry. We meet every 6 weeks or thereabouts, and we discuss these problems as they come up

and that covers, in many respects, items that are in the communications side of the TTCP. The command and control side might also be discussed to some extent, but that might come through other channels, the JCS, or the WWMCCS Council.

Mr. BURLISON. What is the criteria for including funds in the consolidated telecommunications program?

Mr. SHRIVER. I am trying to get the answer to that question myself. That is why I phrased it that way. The criteria basically includes all of the manpower and equipment, R. & D., procurement, operations and maintenance, for telecommunications and command and control activities, short of tactical command and control.

Now, weapons systems, radios and so on, are not included in that budget today. It is not an easy line to define, but it is a very important question that you ask and I am as interested as you are in trying to clarify that position.

Mr. BURLISON. You may amplify that for the record if you choose to do so.

Mr. SHRIVER. I will try and do so.

[The information follows:]

CRITERIA FOR INCLUDING FUNDS IN THE CTP

The Director, Telecommunications and Command and Control Systems has responsibility for the functional fields of telecommunications, the national communications system, and command and control systems, including the WWMCCS.

The scope of telecommunications responsibility includes all DOD telecommunications except:

(*a*) Sensors for intelligence, warning and surveillance; electronic warfare systems except for those affecting telecommunications; satellite telemetry and command systems except those affecting telecommunications vulnerability.

(*b*) Telecommunications integral to weapons systems designed for and as a part of the airplane, missile complex, ship, tank, and so forth.

The scope of command and control systems responsibility includes all DOD command and control systems except:

(*a*) Command and control systems dedicated to the operation of surveillance, intelligence and warning systems.

(*b*) Command and control systems used for the tactical control of weapons.

(*c*) Command and control systems integral to weapons systems designed for and as a part of the airplane, missile complex, ship, tank, and so forth.

So, funds are included in the telecommunications and command control program if the resources fall within areas of responsibility identified above.

Mr. BURLISON. What internal justification materials are generated in support of this process?

Mr. SHRIVER. The process of determining telecommunications and command control program resource levels is the same process used in the determination of total Department of Defense resource requirements; that is, the planning programing and budget system. The Joint Chiefs of Staff studies and analyses as contained in the joint strategic objective plans, the joint research and development objectives document, and the joint forces memorandum are reviewed. The military services and defense agencies proposed programs, as expressed in their program objective memorandums and budget requests, are used. The Department of Defense components present their telecommunications and command control program requirements in an annex to the program objective memorandum. During budget review, we use the basic Office of the Assistant Secretary of Defense—Comptroller—required exhibits, and in addition the telecommunications

procurement line item exhibit, which separately identifies telecommunications procurement. When the DOD components update the 5-year defense program three times a year, they also update the 5-year defense program telecommunications subsystem, which breaks out the telecommunications and command control program in more detail than the 5-year defense program. That is, the subsystem identified telecommunications projects within program elements.

Mr. BURLISON. Could these internal justification materials be used to prepare a congressional budget justification in 1978?

Mr. SHRIVER. The documentation described above is the basis for the existing congressional budget justification. Unless the committee feels that additional data are required, we expect that the congressional budget justification in 1978 will be prepared, as in the past, from the documentation currently available.

Mr. BURLISON. Are any costs and personnel estimates available for the communications-related programs which are budgeted with weapons systems and similar activities?

Mr. SHRIVER. I don't believe so. Does anyone know of an exception?

Mr. SNODGRASS. The committee, for example, has understood that as much as half of the cost of a modern airplane may be in avionics and a considerable part of the avionics in one sense might be considered communications. Therefore, I guess the real question is, $4 billion is a very large number in and of itself, but in fact is the cost of communications much higher than that? Is anybody looking at those communications-related expenditures in a coherent fashion, or are they developing willy-nilly beyond the control of any one manager?

Mr. SHRIVER. I would say this is a topic of interest within OSD today and they are managed by the services, where they are not managed or do not fall into the telecommunications and command program.

CIVILIAN AND MILITARY MANPOWER

Mr. BURLISON. Why has civilian manpower increased from 24,000 persons in 1975 to 25,000 persons in 1977 while military manpower has decreased from 91,000 persons in 1975 to 86,000 in 1977, a drop of 5,000 in 3 years?

Mr. SHRIVER. The direct hire civilian manpower totals quoted in the question, and displayed on the chart, presented to the committee were rounded to the nearest 1,000. The actual figures were 23,951 for fiscal year 1975 and 24,672 for fiscal year 1977 or a net increase of 721 spaces. Approximately 60 percent of this increase results from a change in accounting of worldwide military command and control system automatic data processing spaces; 436 spaces included in the fiscal year 1977 totals were shown in other Army, Navy, and Air Force programs in fiscal year 1975. The remaining increases resulted from significant increases ——— in the Army program for satellites ——— and conversion of military to civilian spaces in the Air Force for their base communications function ———. There were some civilian space reductions in tactical and intelligence communications and worldwide military command and control system facilities.

Mr. BURLISON. What are the legal requirements on the use of military communications in lieu of buying communications from private carriers?

General PASCHALL. We use commercial leased communications to a very significant degree in our military services. For example, the defense communications system in the continental United States is over 90 percent from private carriers.

AFTERNOON SESSION

Mr. BURLISON. Mr. Tate, would you like to complete your presentation?

Mr. TATE. Yes, sir. Thank you very much, Mr. Chairman. I would like to do that, and I will just summarize briefly because of time constraints.

[CLERK'S NOTE.—The remainder of Mr. Tate's presentation was classified.]

"AN ASSESSMENT OF THE TECHNOLOGY FOR CONTROL OF FORCES AND WEAPONS ON THE BATTLEFIELD: INTERIM REPORT"

Mr. BURLISON. Mr. Edwards has led in very well to the next question that I had in mind. Let me refer to that, and then I think perhaps you can speak to the totality of it.

———. This study, which was prepared under contract to D.D.R. & E., was entitled "An Assessment of the Technology for Control of Forces and Weapons on the Battlefield: Interim Report."

———.

Do you repudiate the conclusions of this net assessment, which are more optomistic than today's testimony, or how do you respond to it?

Mr. SHRIVER. I would like Mr. Stenbit and General Rienzi to comment on that.

Mr. STENBIT. I am not familiar with the report you are referring to, but I think most of the contents of what you were describing were of Tactical Command Control Systems and in particular in the Air Defense and Air Strike Forces that perhaps General Edge can do a more specific job, but I would like to at least say I believe we are talking about two different generic kinds of problems.

The United States spends a lot of money in ——— systems. The aircraft are filled ——— that allow them to ——— and do their job, and that kind of ——— which is in fact the responsibility of D. D. R. & E. and not ourselves, I believe that your statements there are quite correct.

I think that what we are talking about here is a different type ——— and I think, in answer to your question about why is it that it is all sort of right now instead of have we been worried about this for a long time, ———.

——— sometimes, but I think we all recognize that the fact that the intelligence community has observed something doesn't always get into our thought process in the main line, ———.

I would like to make one other generalization. Our communications in the past have been basically concentrated in a microwave, in wires, in basically line of sight kinds of things, which it is ———. As you quite rightly pointed out, many of our investments for our communications systems of the future are in the ——— area.

We are making a major change in the way that our communications are distributed. ———. I think we should keep in mind some of these kinds of trends that are causing the jamming problem to be much more severe now than it was in the past. The kinds of problems we are talking about, which is how you have the commanders talking to each other and keeping control.

I think maybe General Edge can add some detail with respect to the aircraft.

General EDGE. Mr. Chairman, going directly to your question, it seems to me that the net assessment report talked to the technology that is available, which is quite a different thing from the technology which is implemented in the field with hardware, with people, and with procedures.

I think the state of the United States is that we do have the technology. We in the Air Force have Air Force Systems Command actually developing systems ——— systems as one example.

We are not aware that ———. It is not clear that ———. That is my take on the net assessment report.

I am not sure that it really hits directly to the question of ———.

Mr. BURLISON. The report indicates, in fact it is labeled, an "Interim Report."

Do you know when the final report will be available?

General EDGE. No, sir, I do not.

Mr. BURLISON. Will you provide that for the record then?

[The information follows:]

This report, "An Assessment of the Technology for Control of Forces—Weapons on the Battlefield," has been completed by D.D.R. & E., Office of the Assistant Director (Net Technical Assessment), and copies of the final report, are being distributed at this time.

Mr. SHRIVER. That is a D.D.R. & E. report.

Mr. STENBIT. Net technical assessment.

Mr. BURLISON. Mr. Snodgrass?

Mr. SNODGRASS. Could we follow up on that because I think it is important in response to Mr. Stenbit's remarks.

You said this net assessment deals with tactical communications and I inferred you were saying, "Therefore it is not my responsibility." I guess, one, I want to understand why it is not your responsibility, and two, this the only net assessment the staff could find in the communications area? Are there others, and they are not well known? Why aren't you familiar with a study like this if, in fact, as you testified this morning, your responsibility goes to tactical communications?

For example, General Rienzi was testifying for the INTACS program which is in the budget and the hearing we are having today. It is certainly a tactical communications program.

Mr. STENBIT. If I used the word "tactical communications," I apologize. I meant weapons delivery and the weapons control, almost weapon-by-weapon command and control kind of systems. Tactical communications for radios, for the tying together of the corps and divisions, as General Rienzi stated, are in fact our responsibilities and in fact a new version of the radio which just went through DSARC I about 2 months ago—Sincgars-V, counts several hundred thousand radios involved—specifically has in it capabilities ———.

Mr. SNODGRASS. Is your office doing more to encourage net assessments instead of the one-sided pictures we tend to get now?

General RIENZI. If I may speak for just a minute, we talked about the broad area, we talked about Bob Edge's air area, I am sure Jon Boyes can speak to the same thing. Let me talk to the battlefield, the Integrated Tactical Communications System. We got a net assessment of the other side, Mr. Edwards, what is done on that side ———.

We then have war gamed both sides, not just one side. We certainly must believe what Mr. Tate and the Intelligence folks tell us and I do very sincerely believe it, having watched it over many, many years, that it is ———.

We know in the ———.

Within the Army, not this year, but for the last 3 years, we have an electronic warfare steering group that reports directly to the Chief of Staff of the Army. We have a master plan which has short-term tasks of what we should do when we play both sides against each other.

Yes, we are behind in the Army's ———. In fact, in the 1977 budget, there is considerably over $150 million for jamming electronic warfare equipment to build within the tactical Army what we need to work against ———.

We have a management structure, a budgeted program, not all at once but over the 5 years, to answer this question. We do play both sides, not just one side and the other.

Mr. SNODGRASS. Have the Air Force and Navy conducted similar assessments against their Soviet counterparts in the communications area?

General EDGE. Yes, as a matter of fact we have. We had experience in Vietnam, particularly in the latter days of the campaigns up north. There was ——— in that time frame we think we understand the problem.

Mr. BURLISON. As I interpreted Mr. Shriver's statement, we seem to have made some vast advances at the evacuation at the latter stages of the Vietnam conflict, and the second item referred to is the *Mayaguez*.

What did we use then or what advances did we utilize then that we had not used during the time of the Vietnam? Is there anything unique in there?

General EDGE. I think in the case of both the *Mayaguez* and the evacuation of Saigon, the chief thing that we had, which we did not have in the case of the *Pueblo* or *Liberty* which would be more appropriate comparisons I believe was the satellite communications, specifically the defense satellite communications systems.

Mr. BURLISON. But we did have those defense satellite communications systems operational during the major part of the Vietnam War, didn't we?

General EDGE. Yes, sir, and we used it.

Admiral BOYES. I am not all that sanguine, Mr. Chairman. I am not disagreeing with my contemporaries here. I think that the problem of net assessment is one of essentiality that we have got to get on. The Navy has requested its own resources for the last year as to finding out such things as ———.

I do feel that there are other studies that have been done, private contractor studies.

Mr. SNODGRASS. Could we have for the record, for the Army, Navy, and Air Force, a bibliography of all the net assessments that you are aware of, and then in addition, could we have the amount of funds in 1976 and 1977 in each of the services which are provided to conduct ongoing net assessment programs?

[The information follows:]

NET ASSESSMENTS

As used within the Department of Defense, net assessment refers to studies of various aspects of the military programs of the United States and other nations, especially possible antagonists, to determine comparative advantage or disadvantage, the extent thereof, and the reasons therefor.

The Army has completed one such net assessment within the past year. It was the "Net Assessment of U.S.-Soviet Maintenance Practices." Funds expended totaled $44,415. Another study related to tank training is currently in progress. To date, $214,800 have been spent. Expected completion date is June 30, 1976. An additional assessment on combat performances also is in progress. It is a DOD/Service undertaking with $40,000 provided by the Army.

The Army does not maintain a separate biblography of net assessments.

In the case of the Navy, they conduct an annual net assessment of U.S. Navy and Soviet capabilities (NET–YR). This assessment is funded at $200,000 for 1976 and 1977.

The Air Force established a capability to develop net assessments in 1975. This responsibility was assigned to the Directorate of Doctrine, Concepts and Objectives (AF/XOD). To date, one net assessment product, titled "Soviet Vulnerabilities" has been produced. The manpower cost cannot be effectively derived because efforts are undertaken by ad hoc AF/XOD staff personnel based on the required expertise. There is no established budget for this function in the Air Force.

Mr. BURLISON. I will yield to Mr. Edwards for a few questions at this time.

AIR FORCE REQUESTS FOR DEFENSE SATELLITE COMMUNICATIONS SYSTEMS

Mr. EDWARDS. The 1977 Air Force budget includes $201,100,000 to buy six defense satellite communications systems, two satellites and four boosters. This is an increase of $149.4 million over 1976.

Why are six satellites needed since only two satellites were lost in the recent launch failure?

General PASCHALL. I believe that is my question sir.

At the time the two satellites failed to reach orbit last May, DCA reevaluated the planning criteria that was used in the past, to program replenishment satellites, and maintain an operational system. That review was further accelerated and had a greater degree of urgency attached to it when our Atlantic satellite began to experience difficulties in September of last year. The result of that review, and as subsequently evaluated and endorsed by the Office of Secretary of Defense, indicated that we had planned far too optimistically.

We had planned and purchased replenishment satellites on the basis that all of them would last their mean mission ———.

Mr. SNODGRASS. Excuse me, General for interrupting there. Shouldn't they last their mean mission duration? I thought that was the statistical average which says some may last more and some less.

Did you have a bad mean duration estimate?

General PASCHALL. No, that mean mission duration calculation is on a computer and it is very involved, but it really means statistically that some significant portion of the satellite will still be functioning beyond the 3 years, some significant portion will have failed before the 3 years.

We use the mean mission duration as a statistical planning factor, and we speak generally of a ——— life as a planning factor.

The principal point was that we did not predict or plan for unexpected failures of the type that we saw in the Atlantic satellite, and we did not plan on launch failures.

Mr. SNODGRASS. Is that because you had poor management of the program?

General PASCHALL. No, sir. We were overoptimistic, and too conservative fiscally in my view. DCA had in earlier years recommended heavier buys of satellities, but in the competition for resources, they were not endorsed at the OSD level.

Moreover, you know the Titan III had been a singularly successful launch vehicle. When we reexamined all of this, we concluded that we ought to look at the commercial experience, and we did. We found that Comsat spares heavily on orbit, one spare bird for each operating bird. We found that Comsat plans for one launch in four to fail, and in fact, their statistical averages tend to confirm that. They have a 22 percent launch failure.

Our own launch failure rate, counting the May failure, is approximately 1 in 4 for communications satellites.

Moreover, we had a growing population of earth terminals that made a fourth satellite no longer a luxury, but now a necessity.

The growing Earth terminal population ——— as a result of WWMCCS expansion as well as General Rienzi's battlefield activities.

The net result was that we proposed to OSD a program that said we should plan on four operational satellites plus two in orbit spares so that we can provide 100 percent assurance of communications.

Moreover, we should plan on one launch failure in four, and from that we arrived at a recommendation that we should buy seven more DSCS satellites.

OSD thought our recommendations were perhaps overreacting to the exigencies of the moment, so they reduced that number, with my subsequent concurrence, to six satellies for replenishment.

Additionally we shortened up the acquisition cycle so that they are now received on 6-month instead of 9-month centers. They are delivered in pairs.

What we found when the Atlantic satellite failed was that we could not rely on commercial alternatives totally. We have brought back people from overseas in the intelligence community as a case in point, and are serving them by satellite means rather than processing the data overseas. Those are located in places where commercial facilities are not available, and no manual backup existed overseas. The people have been brought back and taken out of the inventory.

Thus it is imperative that we provide a 100-percent space segment capability. It is for all of these reasons that we concluded, and OSD endorsed, a four operational with two on-orbit spare rather than the Comsat one spare per operating bird, and a launch failure rate not 1 in 4 but in combination with mean mission duration that is about a 1-in-6 launch failure calculation.

Mr. EDWARDS. Is the launch failure the result of the Titan or the satellite?

General PASCHALL. In the May case it was the launch vehicle, the Titan III–C itself. There was a failure in the third-stage inertial guidance system that caused it not to leave the parking orbit and go into its ultimate intended synchronous orbit.

Mr. EDWARDS. What about the second one, the second failure?

General PASCHALL. We launched these two at a time on one Titan III.

Mr. SNODGRASS. General, ——— about ———. Why do you do so much more poorly in your areas than they do in those other launch areas? Do they get the cream of the crop or something?

General PASCHALL. No, sir. I cannot give any good reason. I tend to get facetious sometimes, and I know it is improper to say that maybe I am just unlucky, but we had one launch failure in the DSCS I program, when the fairing came off of a launch vehicle. We had this other failure, and in fact it was a matter of schedule timing as to whether ——— the defense satellite communications program got the particular Titan III–C that was used as a launch vehicle.

We had problems to solve. Our priority was thus advanced ahead ———. Had it not been for our priority ——— would have been launched on that vehicle and they would have had the problem. It is just, if you will, perhaps the luck of the draw.

COST OF SATELLITES

Mr. EDWARDS. What would be the 1977 cost of two, four, and six satellites?

General PASCHALL. I had those numbers somewhere.

Mr. EDWARDS. You can put that in the record.

General PASCHALL. If I may, sir. I have them somewhere in this pile of papers.

[The information follows:]

The cost of two, four and six satellites would be:

[In millions of dollars]

Number of satellites	Fiscal year— 1976	1977	Total
2	7	28.7	35.7
4	9	49.1	58.1
6	11	64.6	75.8

Mr. EDWARDS. What would be the performance implications of two, four, and six satellites?

General PASCHALL. The performance implication of two satellites would mean that we would not be able to provide an operating system beyond the launch of the presently funded six satellites which will provide us an operating system in ———. We would have two satellites then to launch. That would extend the life of the system until about ———. We would then have a ——— gap before the phase III satellite comes along. We would have a ——— gap in coverage.

Four satellites, would, if all satellites lasted to their full life, and no launch failures occurred, reach to the ——— period when we expect to have the first development DSCS III satellites available in orbit for test, so in effect buying four would keep the system alive out until the time that the DSCS III program comes along, but again it provides no hedge against premature failure in orbit or launch failure.

Mr. EDWARDS. If boosters could be transferred from other discontinued programs, how much could the 1977 budget be reduced?

General EDGE. The fiscal year 1977 DSCS procurement budget could be reduced by $12 million. This reduction can be realized by continuing the procurement of a booster on contract for a canceled program.

DSCS III SATELLITE

Mr. EDWARDS. The 1977 budget contains $30.6 million for full-scale development of the DSCS III satellite. This is an increase of $18.7 million over 1976.

With all the problems of the DSCS II, and with the large buy of DSCS II satellites proposed in 1977, why should the Congress permit the DSCS III system to enter full-scale development?

General PASCHALL. The DSCS satellite for ——— deployment is a requirement if we are to be able to provide two major capabilities that we cannot do with the DSCS II. The first of these is a much improved ——— capability. Among the two main design goals are, first, a greatly improved ——— capability.

Mr. Stenbit earlier referred to the ———.

The second capability that the DSCS III will provide is that at that point in time we will be able to handle ——— the long distance point-to-point kinds of communications that we are currently able to satisfy.

The DSCS III will replace the DSCS II, and our expectation is that we will live, as does COMSAT with a mixed space segment population of phase II birds and phase III birds for the first few years ——— gradually phasing the phase II birds out, and replacing them with the new satellites.

Thus it is an important and urgent program.

Mr. EDWARDS. What would be the savings in 1977 if full-scale development were deferred for the DSCS III satellite?

General PASCHALL. In the fiscal year 1977 R.D.T. & E. Air Force request there is $29.5 million identified for full-scale development of the DSCS III satellites. Should the full-scale development be deferred from fiscal year 1977 to fiscal year 1978, the resultant reduction to the fiscal year 1977 budget would be $20 million. The $9.5 million remaining would be to support minimum R. & D. efforts at the selected contractor, so as to not lose his already developed expertise until full-scale development begins.

Mr. ADDABBO. Would the gentleman yield?

I have heard a good explanation of why we should have DSCS III but that doesn't answer the question. The question is since you are having so much trouble with DSCS II why should the Congress approve development money in this budget for the DSCS III program when you haven't even straightened out the problems of DSCS II? Isn't this sort of buy before fly instead of fly before buy?

General PASCHALL. Let me make a distinction here. We have solved we believe the DSCS II problems.

Mr. SNODGRASS. That is a theoretical belief.

General PASCHALL. I understand.

Mr. SNODGRASS. You have not yet successfully launched a DSCS II upgraded vehicle yet.

General PASCHALL. We have two DSCS's now in orbit. Those had fixes placed on them from the first two that prematurely failed in orbit.

Mr. SNODGRASS. But the Atlantic bird right now is sick.

General PASCHALL. The Atlantic satellite right now is experiencing a bearing difficulty that is giving us about 18 hours a day of service. The bearing is the same bearing that emerged from the INTELSAT III kind of failure. The fix for that has been used subsequently

on all spinning satellites, and this is the first one that has ever experienced that kind of difficulty.

Mr. SNODGRASS. Have you had any DSCS II satellite that has fully met its mean mission duration requirements?

General PASCHALL. The Pacific satellite right now runs at about ———. It has been in orbit since December of 1973. It will meet its 3 years in December of 1976. It looks as if it will have no problem.

The preliminary telementry that we had out of the DSCS II birds that had launch failure last May indicated that the satellites were good. We are confident, as confident as anyone can be, before putting it actually in orbit, that the DSCS II problems are fixed. DSCS III is not a DSCS II satellite. It is a completely new satellite, and in fact the two contractors are different contractors than the one who manufactured DSCS II. It is a new generation of satellite, and in many ways it can be compared to the INTELSAT IV and the INTELSAT V of commercial versions.

It is an upgraded rather than an improved DSCS II, so even though we are confident that we have the DSCS II fixed, it lacks the capability to satisfy the needs of the 1980's by its fundamental design, which was begun in the mid 1960's.

Mr. SHRIVER. Mr. Chairman, there are many of us who have very strong feelings about this program. We feel this procurement is very important in order to have a credible defense satellite communications system at all.

I spoke with some people, a gentleman at COMSAT, yesterday, about their inventory program and General Paschall is correct that if we followed their procedures we would be purchasing eight, to have a spare for each satellite in orbit, in operational orbit.

The six is satisfactory for our purposes. We do not need the uninterrupted type of capability.

As far as the management difficulties are concerned, I would like Mr. Stenbit to comment on the status of those in addition to what General Paschall has mentioned.

Mr. STENBIT. I think you have asked a very key question. What are we doing differently in this particular case than we did last time in the transition from DSCS I to DSCS II which in fact hasn't even occurred yet after 7 years of difficulties.

I think there are two key differences. First of all, we are requesting of you the funds to procure six additional DSCS II satellites which basically back up each of the satellites which we plan to launch over the period of the next 2 years, to establish our on-orbit goal of six satellites, two of which are spares.

That will leave us with six additional satellites on the ground. If you wish, a very conservative inventory unless we happen to experience our classical bad luck, that General Paschall talked about with respect to a launch failure here or there.

I would like to say all satellites on the average—we have been doing some investigations with respect to the statistics of all of this—satellites in general average one to two failures within the first month of their life on orbit.

Usually those failures occur in boxes that you can switch to a redundant system. This in fact occurred in the Pacific satellite where one of the transmitters did not work. We shifted it to the backup redundant

transmitter and it has been working fine for the last several years, and we have all expectations to have it go forward.

In our transition, however, to DSCS II we had trouble with our first launch where we launched two satellites simultaneously, both of which had fundamental design flaws. Those are in fact the kinds of things that fly before buy are all about.

In DSCS III we intend to launch them one at a time along with an operational DSCS II. We do not intend to have the dual launch strategy impact our fly before buy so that we can launch two things that don't work instead of one. That is a major change in our approach. We are going to launch an operational DSCS II along with an experimental DSCS III.

The second thing that happened in our DSCS II program is that we did not buy this inventory of satellites to keep ourselves in a conservative posture so that if we have difficulties with the development of DSCS III we will have some time available to fix them before having to launch the real production versions to replace the satellites.

I think that is the real key to the two differences in management that we are trying to get to. Buy enough, buy out from the present contractor and tell him he is out of business. As General Paschall indicated, there are two new contractors in competition for DSCS III. But don't buy satellites in such a way that we are all squeezed and everything has to work perfectly because we have learned through very sad experience that it doesn't. Secondly, we really do intend to test them one at a time, test it all out, make sure all the design flaws are out of those vehicles.

I would submit to Mr. Snodgrass that the DSCS II satellites that are up there now are rather typical. One had a transmitter failure almost in the first month it was on orbit, which we transferred over to the second transmitter and it has been working fine. It does not exhibit any of the technical design flaws that caused us to get into the trouble and the 3 years delay in the DSCS program in the first place. I think we are doing the DSCS III program with much more conservative techniques. It allows us to recover without catastrophic failure.

Mr. SNODGRASS. If we accept that you now finally have a successful DSCS II satellite system, why don't we run it for a number of years and get the full value for the taxpayers out of that system?

General PASCHALL. It simply does not have the capacity to handle the post-1980 requirements of a very large number of small terminals. It requires a fundamentally different configuration to do that job, what we call a multibeam antenna instead of the dual antenna currently on the DSCS II.

Mr. EDWARDS. Did you give any consideration to upgrading the DSCS II in lieu of building the new DSCS III?

General PASCHALL. Yes, sir. The Air Force and DCA have looked at upgrading the DSCS II satellites. DCA is convinced that it will not meet and cannot be made to meet the requirements short of virtually complete redesign of the present DSCS II satellite.

The Air Force has funded at our request some studies, small studies of what we could do to upgrade the DSCS II if the DSCS III satellite program were to be a total failure. Thus we have that hedge, but all of our examinations of the maximum that one can do to the DSCS II satellite still leave us far short of the requirement of the mid-eighties.

Mr. SNODGRASS. General Paschall, you talked earlier today about the various systems architects that you have. I understand there is a military satellite architect.

General PASCHALL. Yes.

Mr. SNODGRASS. I also understand this architect has issued a study of the DSCS program. The study indicates there could be a savings of as much as $237 million if DOD went to a DSCS II upgraded satellite versus a DSCS III satellite. Could you address yourself as to why if your own architect has made a statement of that type you have apparently overruled the architect? Does this mean these various architects you are talking about today are in fact figureheads, that you accept their advice if it is what you want and if it isn't what you want, you don't accept their advice? It is a two-phase question.

One, did your military satellite architect claim savings of $237 million? If he did and you didn't follow his advice, where does this leave the architects? What kind of authority do they have?

General PASCHALL. I do not remember the exact number. I will assume the accuracy of that number, but remember what the satellite architect is required to do. He is required to begin by addressing the total family of requirements. From that he then postulates several possible ways of meeting those requirements. He also is obligated in his studies to identify, by the charter I have given him, lower cost alternatives, and what the penalty would be in terms of satisfaction of requirements for a lower cost alternative.

The DSCS II upgrade was one of the alternatives he examined. I did not direct his conclusion. His conclusion, in the report that has been forwarded for staffing through the JCS, through OSD, was that, if we are to satisfy the validated requirements, then a DSCS III-type satellite is required as one element of the military communications satellite architecture——

Mr. SHRIVER. As I understand it, Mr. Chairman, this problem will be addressed at the next DSARC review of the DSCS III satellite, so this very question will be discussed. It will be looked at from all viewpoints.

General RIENZI. The Army does not have what the Navy and Air Force have for space segments. The Army requires that bird up there for about a thousand terminals and looks seriously at what we can get early on in DSCS II, but we are really looking forward to DSCS III to give us those channels that General Paschall discussed.

We haven't a bird up there and we really depend on that.

Mr. ADDABBO. There are no satellite communications available to the Army at the present time?

General RIENZI. Yes; there are. The birds that are up there provide us with what we need today and do it well, but the requirements for the future in the integrated tactical communications system, to have the redundancy and get away from a land-based system in a battle in Europe, we depend on the space segment and really look to DSCS III to provide the number of channels that we need in the eighties.

Mr. ADDABBO. You do have a space capability right now, do you not?

General RIENZI. We get our space segment from what is up there today.

BLOCK CHANGE STRATEGY

Mr. BURLISON. Is the block change strategy, which depends upon incremental increases in capability, applicable to DOD satellites? Isn't

this the strategy followed by the commercial satellite companies and by certain other components of DOD?

[The information follows:]

A block change strategy is applicable to DOD communications satellites. In effect block changes are being made to the DSCS II by widening the beam of one narrow coverage antenna to more effectively utilize available bandwidth and doubling the power of the traveling wave tubes (TWT's) to more effectively serve small terminals. The block change strategy has been followed to a degree by commercial satellite companies—the Intelsat IV and Intelsat IVA—however, to meet expanding requirements they move to a new generation of satellite, Intelsat V.

Advantages of the Shuttle for Communications Satellites

Mr. Burlison. The DSCS III satellite will be shuttle compatible, but it will not be designed from the ground up to take advantage of all the capabilities of the shuttle.

What are the potential advantages of the shuttle for communications satellites?

General Paschall. As we understand them, the advantages will primarily be in the area of how much volume that one can design the satellite to occupy. The Titan III launch vehicle means a volume and weight limited space satellite. The shuttle relaxes the requirements for volume and weight constraints, as we understand it today.

Mr. Burlison. Mechanically how will that shuttle work with the satellite system?

Mr. Stenbit. The shuttle is basically configured to boost satellites into a low-altitude orbit. It is like a dump truck with a cover over the top of it. What you put in are satellites.

VOLUME DIFFERENCE

I think the key volume difference that General Paschall is talking about is it has a diameter of 15 feet. Titans have a diameter of 10 feet. From a volume standpoint, we can work with larger cylinders. One could conceptually build satellites that were rounder and squatter.

Now, what happens is, the Air Force has to develop what they are calling an interim upper stage because our satellites go to 22,000 miles orbit, and they are over the Equator and that makes them appear to stay in the same place all the time. They go around the Earth just as fast as the Earth spins.

The shuttle only goes to a couple hundred miles orbit and an upper stage is another rocket that pops out of the shuttle, with satellite attached and ignites itself and carries the satellites that we are concerned with out of the shuttle at a couple hundred miles and up to the Equator, 22,000 miles high.

So, physically what we have is a truck that goes up a little ways, the lid opens, a new rocket comes out and shoots further up and that is where the satellite gets put into orbit.

Mr. Burlison. Excuse me for interrupting, General Paschall.

General Paschall. I became so fascinated with the description of that shuttle I have forgotten what the question was.

I believe that is the answer.

As I understand it, it is weight and volume limitations which are somewhat relaxed.

Mr. SNODGRASS. NASA has claimed with the space Shuttle it will be possible to deploy cheaper satellites; they wouldn't have to be as redundant; they could have larger antennas because there would be more room. There are a lot of alleged advantages. In a sense, you understand Congress has been sold the Space Shuttle with exactly these advantages. Now is the communications community denying these advantages so we should go back in the NASA appropriation and say, "The communications people tell us you sold us a bum deal in the shuttle because it is not cheaper to use the Shuttle"?

General PASCHALL. No; I don't say that and I don't believe Mr. Stenbit said that either, but I don't believe that cheap and dirty satellites, a nonredundant cheap and dirty satellite will be a product of the shuttle. I think what it does mean is that—most of the discussions I have seen indicate that, placing a pound in orbit it is considerably cheaper to do it by shuttle than it is by a nonrecoverable Titan III–C launch vehicle, for example. I am not the expert on the shuttle and I would prefer to elaborate for the record on that.

In no way have I said that NASA is not doing the right thing with the shuttle.

Mr. SNODGRASS. That is the point, General. You are supposed to be building communications satellites. The Space Shuttle is going to be available in 1981. You are asking the committee to build a new satellite—the DSCS III—which will become available in ——— and the question is, why haven't you intensively looked into whether or not the shuttle would have been cheaper and why haven't you decided whether or not the 2-year wait could be filled out by procuring a few more DSCS II satellites until you can take full advantage of the Space Shuttle?

General PASCHALL. SAMSO has studied this question. Our instructions at DSARC were to make it shuttle compatible and that we intend to do.

If we were to, say optimize for the shuttle, I don't know what the design changes might be. SAMSO has asked the two contractors what optimizing for the shuttle might mean in the way of increased capabilities, and they tend to so that you can have more capability.

The real issue is, can we afford to stop where we are, wait 2 or 3 years to redesign and I guess my perception of the answer to that question is, not in this generation of communications satellites.

We do intend to take advantage of the less cost per pound in launch. I think that a design study that says, what are the cost benefits of an optimized, as opposed to a compatible satellite for the shuttle, is something that is likely to take longer than just a year or two.

Mr. SHRIVER. Mr. Chairman, may I suggest we submit a statement for the record in the interests of your time as well as what is obviously a complex subject?

Mr. BURLISON. We would be glad for you to do that.

[The information follows:]

The DSCS III satellite is being designed from the ground up for compatible use with both the shuttle and the present Titan III–C type of launch vehicle. A delay in the DSCS III program would require the procurement of additional DSCS II satellites in order to assure continued availability of military satellite communications. However, the length of delay of the DSCS III program would determine the number of additional DSCS II satellites required to maintain the system until DSCS III satellites are available. The DSCS II will not satisfy the projected satellite communications requirements for the early 1980's.

As a part of the DSCS III validation effort the two spacecraft preliminary design contractors are now evaluating the potential economic benefits that may accrue to the DSCS III satellite design of existing weight and size constraints were relaxed to take advantage of space shuttle capabilities. A potential major modification to existing expendable launch vehicles (ELV) may be required to allow launch of spacecraft designed specifically for shuttle either as part of the payload transition phase or as a longer term backup capability. The results of the DSCS III studies and impact on cost, performance, and schedules will be available for consideration by the DSARC late in 1976. A decision will be made at that time whether or not to commence full scale engineering development of the DSCS III spacecraft and whether its design should be optimized for the shuttle or compatible with both the shuttle and existing expendable launch vehicles.

Mr. BURLISON. How many years would the DSCS III program have to be delayed to take full advantage of the shuttle?

General PASCHALL. The DSCS III program would have to be delayed 3 years as a minimum and longer if there is any delay in the shuttle schedule or in the development of an interim upper stage (IUS). This delay would affect our ability to satisfy the requirements for the early eighties that cannot be met with the DSCS II.

Mr. BURLISON. Why shouldn't the Congress delay the DSCS III program in order to more fully amortize the large investment in the DSCS II program and to take advantage of designing the DSCS III from the ground up for use with the shuttle?

General PASCHALL. The DSCS III satellite is being designed from the ground up for compatible use with both the shuttle and the present Titan III–C type of launch vehicle. A delay in the DSCS III program would require the procurement of additional DSCS II satellites in order to assure continued availability of military satellite communications. However, the length of delay of the DSCS III program would determine the number of additional DSCS II satellites required to maintain the system until DSCS III satellites are available. The DSCS II will not satisfy the projected satellite communications requirements for the early eighties.

Mr. BURLISON. If a DSCS II upgrade were programed, would a delay in DSCS III be more acceptable?

Mr. STENBIT. As part of the next DSARC, which is a review of the DSCS III program, a candidate system that is going to be examined by that review is an upgraded DSCS II. I think what you are asking is, if you bought upgraded DSCS II's, would you delay the new DSCS III's and the answer to that question is "yes." The real answer to that is, it would have to be upgraded and we have to spend the money to know how much it costs to upgrade it; we have to spend the money to know how much it costs to build a DSCS III so that at this DSARC review, which is scheduled at the end of this year we will have the facts available to make exactly the choice you are bringing up.

FISCAL YEAR 1977 COST FOR AN UPGRADE OF THE DSCS II SATELLITE

Mr. BURLISON. What would be the cost in 1977 of a DSCS II upgrade in lieu of full-scale development of DSCS III?

[The information follows:]

The fiscal year 1977 cost for an upgrade of the DSCS II satellite is $30 million.

Mr. ADDABBO. On that point, to make a decision at the end of this year could not the procurement funds for the DSCS III be put off until 1978 until the final decision has been made?

General PASCHALL. There are no procurement funds in 1977 for DSCS III.

Mr. ADDABBO. Development funds?

General PASCHALL. There's $30 million R. & D. If we are to have designs for the DSARC to compare, that is a required expenditure this year.

Mr. STENBIT. It would also be required to spend some money of that order to upgrade DSCS II. We are talking about which way we are going to spend the money.

Mr. ADDABBO. There are no funds in the 1977 budget for the upgrading of the DSCS II?

Geeneral PASCHALL. No, sir.

CONSOLIDATION OF COMMUNICATIONS CENTERS

Mr. ADDABBO. According to information provided to the staff, there are currently four communications centers in the Pentagon: One for each of the military services, plus one for the JCS. These centers require 625 persons to run them, and have an annual cost of $12.6 million. There is currently a plan to consolidate these centers ———. The 1977 budget includes $21 million for procurement related to the consolidation program. Why is such an elaborate procurement program needed?

General RIENZI. The Army is charged with this consolidation. This consolidation will bring the Navy and the Army together at one place and the JCS and the Air Force together in another place for general service consolidation, and then an alternate to this at Fort Ritchie, the National Military Command Center.

In moving toward this program and upgrading the computer requirements to bring all that information together, those funds in that budget are the programs for this consolidation that have been in the plan for the last 2 years. This is a continuum to arrive at the completion in 1980. We will see results in 1978 and 1979. The program to do that is at Mr. Shriver's level now for approval and I would believe that in the next short period it would be approved.

Mr. ADDABBO. That will still give us two centers. Why doesn't the plan call for the total consolidation? Why consolidate into two centers?

General RIENZI. A very good question. I am the implementer of that, but I know the answer. Again, it is redundancy. It is the feeling of this group at the table and also at the Defense level, if one was lost, like the fire at the Pentagon, you go to less good means to run a Western Union that I am involved in every day of delivering 25,000 messages. If you lose one, it is down to almost nothing immediately. It was for redundancy and that was agreed at Defense, that that is what we needed to be sure it operates in the crisis, in the conventional, and certainly in the total war.

Mr. ADDABBO. Why can't the equipment from the existing centers be used in the consolidated center? Why do we have to spend $21 million plus to go into the consolidation program?

General RIENZI. The size of the main frame computer to process the traffic——

Mr. SNODGRASS. That is the only thing that is being improved, is the computers? Are you moving a lot of existing equipment from other communications centers or are you junking all of it and starting from scratch?

General RIENZI. Much more than just the size of the main frame that will run all this. The services that will be provided, sir, will be significantly better for automation.

Mr. SNODGRASS. So it is more than just a consolidation. It is a consolidation improvement. If the committee were willing only to have a consolidation, we could do it for lesser amounts of money?

General RIENZI. I don't think so. The improvement comes with the requirement to upgrade two centers to do the volume of effort.

Mr. STENBIT. This problem has been attacked on two bases in the past: Consolidation and automation, and it is the combination of those two effects which effect the manpower savings that are projected in such projects. If you went to a consolidated all-manual system you would have more people walking more steps to go out of this manual place to all the places you would have to go to deliver messages, so you have to address the problem as a whole and I believe that is in fact imperative when you start to make tradeoffs between what you think you are going to do in terms of manpower and investment.

CONSOLIDATION SAVINGS

Mr. ADDABBO. What are the estimated personnel and O. & M. savings under the current consolidation program?

Mr. STENBIT. May we submit that for the record?

[The information follows:]

PENTAGON CONSOLIDATION SAVINGS

Completion of the current automation/consolidation program for the Pentagon will result in an estimated savings of 100 personnel and $2 million in annual O. & M. costs. The consolidated system, in addition to realizing personnel and operating economies, will provide improved system availability, survivability, flexibility, and significantly improve speed-of-service to many users both in the Pentagon and the Washington, D.C. area.

Mr. ADDABBO. Why can't the expanded National Military Command Center which was recently completed at a cost of almost $40 million serve as the Pentagon Communications Center?

Mr. SHRIVER. Very quickly, there are two very different purposes that are served and totally different abilities; they may draw on one another, but they are two totally different facilities with different types of personnel in fact.

Mr. SNODGRASS. At least to address yourself to the issue General Rienzi brought forward about redundancy, wouldn't that be adequate in an emergency for redundancy? We have been in that center and it is one of the largest communications centers in the United States. It has information coming in from all over the world. Why couldn't it at least serve as a backup so we would only have to have one additional center instead of having two additional centers?

Mr. SHRIVER. You have seen the number of centers that are over there and in fact the number you say is four. This is a very difficult

and expensive project to consolidate these command centers. For a great many reasons. We would be happy to submit progress reports for the record.

General RIENZI. In answer to your question, Mr. Snodgrass that, one you just discussed that is where the Air Force ties itself together into one of them and the redundancy is the other large one the Army has, where the Navy and the Army tie themselves together. So that is used, in answer to the way you posed the question.

SATELLITE TERMINAL PROCUREMENT

Mr. ADDABBO. The Army, Navy, and Air Force budgets all contain large sums for satellite terminals. How many terminals will these funds buy?

Mr. SHRIVER. I believe the number is close to 300. We will submit it for the record.

[The information follows:]

SATELLITE TERMINAL PROCUREMENT

In the fiscal year 1977 request, the following types of terminals will be procured when the funding is approved:

Type terminal	Number	Operational use	Satellite access	Fiscal year 1977 request (millions)
Medium AN/MSC-61	4	Strategic	DSCS	$15.8
Light transportable AN/TSC-86	4	do	DSCS	7.2
UHF—Mobile	72	Tactical	Gapfiller or FLTSAT	20.7
Navy 33109N:				
AN/WSC 2	2	Strategic	DSCS	6.0
LFT and Tacintel	10	Shore tactical	FLTSAT-com	3.4
WSC-3/OE 82 antennas	180/84	Ship tactical	FLTSAT-com	10.2
Air Force:				
PE 11113F—Airborne	123	SIOP	AF—Satcom/FLTSAT-com	24.5
PE 11115F—Airborne	45	SIOP	AF—Satcom/FLTSAT-com	7.0
PE 11142F—Airborne	36	SIOP	AF—Satcom/FLTSAT-com	51.5
PE 33601F—Ground	20	SIOP operational	AF—Satcom/FLTSAT-com	13.9
PE 11212 and 3F—Launch control.	66	SIOP	AF—Satcom/FLTSAT-com	15.2
Total				175.4

ACQUISITION OBJECTIVES

Mr. ADDABBO. What percentage of acquisition objectives will be obtained if these purchases are approved?

Mr. SHRIVER. We will submit that for the record.

Mr. ADDABBO. Who approves the satellite terminal acquisition objectives?

[The information follows:]

PERCENTAGE OF ACQUISITION OBJECTIVES ACHIEVED IF FISCAL YEAR 1977 SATELLITE TERMINAL PROCUREMENT FUNDING IS APPROVED

ARMY

The Army funds for all DSCS service terminal requirements in addition to their Army unique tactical terminals requirements.

DSCS TERMINALS

AN/MSC-61.—The present fiscal year 1977 request will procure 4 terminals of the 1975 planned buy of 16, or 25 percent. However, the AN/MSC-61 terminal is being considered as the replacement terminal for the aging AN/MSC-46 and

AN/TSC–54 terminals which will have to be replaced commencing in 1981–82 after 15 years of operation. Furthermore, DCA has been tasked to study what terrestrial communications system can be deactivated when the DSCS becomes full operational. This study will provide recommendations as to what existing tropo and LOS systems can be replaced in a very cost-effective manner utilizing AN/MSC–61 terminals. Therefore, the total buy of AN/MSC–61 could go as high as 40 to 50 terminals, thereby making the fiscal year 1977 procurement less than 10 percent of a 1985 operational system.

AN/TSC–86.—Fiscal year 1977 request will procure four terminals with one more terminal planned for procurement in fiscal year 1978 or 80 percent of the total DSCS buy. However, this terminal is also being procured by the Army and the Air Force for tactical requirements. A more realistic figure of total number of terminals should be available in 1978–79.

TACTICAL TERMINALS

UHF Mobile terminals.—The Army in fiscal year 1977 is procuring 72 UHF terminals. These terminals will be in support of the ground mobile forces—GMF—and special ammunitions storage—SAS—sites. To date the Army anticipates deploying approximately 307 UHF terminals for these purposes and, therefore, the fiscal year 1977 buy completes aproximately 25 percent of the present need. However, the total Army communication deployment concept is being reviewed to determine the most cost-effective manner to support contingencies, field army deployments and other command support needs. Upon completion of these reviews along with the possible SAS site reduction, a more realistic percentage will be projected.

NAVY

WSC–2.—The Navy in fiscal year 1977 is initiating the procurement of SHF shipborne terminals. Under the present planned concept, this two terminal buy is 10 percent of the presently identified needs. However, the need to provide AJ protection and high data rate links to ships at sea is being reviewed. Since the FLTSATCOM cannot support AJ and high data rate requirements, the need for a greater number of SHF shipborne terminals may be identified. A more realistic projection of total needs will be available in 1978.

WSC–3.—The Navy will procure a total of approximately 600 WSC–3. The fiscal year 1977 buy completes close to 75 percent.

Landing Force Terminal (LFT) and Tactical Intelligence Terminal (TACIN TEL) is presently under review and a more accurate projection of the total Navy and Marine Corps requirements will be available in 1977.

AIR FORCE

The fiscal year 1977 procurement aircraft completes the following percentage buy: B52's, approaching 80 percent; F111's, approaching 85 percent; EC 135's, approaching 90 percent.

The fiscal year 1977 PE 33601F procurement of ground terminals completes approximately 63 percent of planned procurement. However, this figure may change due to relocation of some headquarters elements and the determination that other command support could be more effective utilizing the satellite media.

The fiscal year 1977 PE 11212 and 11213F procurement for launch control centers (LCC) completes approximately 38 percent of the total need.

Mr. SHRIVER. There is one very important point I wanted to make based on this morning's discussion. Actually two points.

First of all, the budget that was submitted from the services and the agencies originally for fiscal year 1977 was $4.215 billion. The President's budget for those same activities was $3.983 billion. We are subject to the same normal gross budget constraints in telecommunications and command and control systems as any other activity within OSD.

Mr. SNODGRASS. In that regard, sir, could you provide for the record any other procurement appropriations which had 61-percent increases?

Mr. SHRIVER. Any other procurement?

Mr. SNODGRASS. Any place in DOD? I am not saying there aren't such appropriations, but to the best of my knowledge you have the

largest single percentage increase of any proeurement appropriations in DOD.

Mr. SHRIVER. I will try to find that out. I think the implication is because there is a DTACCS organization, therefore the budget may be larger. I would say the reverse is probably more accurate, that because of the problems that we are trying to solve, we must have the OSD advisability of this budget, which was the major objective.

I have one final point that relates to this morning's hearings, Mr. Chairman.

The real growth rate in constant 1977 dollars of the consolidated telecommunications program and the worldwide military command and control systems budget since 1974 to 1977 is 12 percent. That is an average of 3 percent of real growth per year. In a sense we are barely keeping up with inflation if you look at a longer period of time.

I think one of our difficulties here today is the fact that we are attempting to accomplish more this year than in any of the preceding 2 years, but we are really making up for lost time.

We need to spend this money to fix these problems now.

Admiral BOYES. I would like to add one thing.

The Navy has a unique difficulty, Mr. Chairman, as you probably know, in that some of this satellite equipment for example, or automation equipment that we have in the procurement schedule can only be installed when those ships go into restricted availabilities, or overhaul. We are trying to put as much on those ships when they are actually operating. Therefore, we are required in the Navy to buy a certain flow of equipment so that we can match overhaul schedules.

If we miss several ships, particularly in a satellite system, which is now becoming our primary communications system, then it could be that it would be as long as 2 or 3 years before those ships could even get into the satellite system. We are giving up high frequency shore stations so we can go to satellite communications and automated equipment aboard ship to save people.

REPROGRAMING OF FUNDS

Mr. ADDABBO. I have a general question first.

You have something you can supply for the record on this. Were any funds from the 1976 budget reprogramed out of your shop into other programs in the last year?

Mr. SHRIVER. We will supply that for the record.

[The information follows:]

REPROGRAMED FUNDS

The Army has reprogramed $2,181,000 out of the telecommunications and command and control program. No other fiscal year 1976 reprogramings have occurred to date which affect the movement of funds from telecommunications and command and control programs to other areas.

UNOBLIGATED/UNEXPENDED BALANCES

Mr. ADDABBO. Also supply for the record how much do you have in unobligated funds and how much you may have in unexpended funds, and will expect to have at the end of the fiscal year?

Mr. SHRIVER. We will supply that, sir.
[The information follows:]

UNOBLIGATED/UNEXPENDED BALANCES

The level of detail requested is not readily available at the departmental level of any of the services. This is due to the fact that the various accounting systems do not capture telecommunications and command and control items as a homogeneous package and, thus, each such line item or program element must be identified one by one. The Army and Navy will continue to work toward providing the committee with the information.

The data pertaining to Air Force, DCA, and NSA is as follows:

AIR FORCE

[In millions of dollars]

	Obligations, February 1976	Unobligated, February 1976	Estimated obligations, June 30, 1976 [1]	Unexpended [1] June 30, 1976
3600 (R.& D.)	94.0	45.3	139.3	42.5
3080 (OPAF)	25.4	2.5	27.9	25.8
3020 (MPAF)	12.6	37.1	49.7	38.8
3400 (O. & M.)	161.9	77.4	239.3	26.3

(a)	(b)	(c)
Organization/appropriation	Unexpended	Unobligated included in col. (b)
DCA:		
Defense Communications Agency:		
Feb. 29, 1976 (actual)	85,601	46,095
O.&. M	(50,591)	(27,895)
Procurement	(7,074)	(5,196)
R.D.T.& E	(27,936)	(13,814)
June 30, 1976 (estimate)	[1] 28,392	3,823
O. & M	(8,891)	(0)
Procurement	(6,203)	(1,523)
R.D.T. & E	(13,298)	(2,300)

	As of Feb. 29, 1976		Estimated June 30, 1976	
	Unobligated balance	Unexpended baance	Unobligated balance	Unexpended balance [1]
NSA:				
R.D.T. & E	____	____	____	____
Procurement	____	____	____	____
O. & M	____	____	____	____
Total	____	____	____	____

[1] Expenditure projections based upon standard factors for the appropriations involved.

COMPARISON OF FLTSAT AND MARISAT

Mr. ADDABBO. Information provided the staff by DOD indicates that the fleet satellite communications satellite has 60,000 piece parts as compared to 17,000 piece parts in the civilian Marisat program. First launch of FLTSAT will be 3 years late, as compared to a 17-month delay for Marisat. Cost on Marisat has increased from $72 million to $108 million, whereas Fleetsat costs have increased from $190 million to $410 million. The Marisat program is a fixed price program, whereas the FLTSAT program is a cost-plus contract.

Why is it necessary for the Navy satellite to be so much more complex than the civilian satellite? Will future satellites be simplified?

Admiral BOYLES. The difference between the FLTSAT communications satellite system and the Gapfiller is one of limited capability in the Gapfiller, only a few channels, and also it is ———. It is a limited system we purchased to cover the time between now and the delivery of the fleet satellite system. The fleet satellite system also includes the Air Force satellite requirements. It is a far more complicated system than the Gapfiller. I have the program manager here, Captain Pope. If I may, I will see if there is any point he wants to add to that.

Captain POPE. The principal reason for the greater cost of a fleet satellite as compared to the other, there are four times as many transmitters in the fleet Satcom satellite. The fleet Comsat satellite also has several special processors used for both Navy and Air Force signals which will provide some measure of antijam. The two signals which are processed through them, most of the channels in the FLTSAT satellite also have a substantially higher power than those same transmitters in the Marisat satellite. This higher power requires a great deal more weight in the satellite for solar cells and remaining power generating systems.

This higher power will permit higher data rates to be maintained at lower orbit and this will be required as the terminal population throughout the fleet and throughout the Air Force's aircraft fleet reaches planned levels.

Mr. STENBIT. I would like to add to that the number of channels available in the Marisat to the Navy is ———. The number available to the Navy and Air Force combined in the other is ———. If one does a comparison based on any kind of per-channel basis, per watt of transmitted power basis, particularly per watt of transmitted power for 10-year life on orbit, the Marisat works out to $120,000 and the FLTSAT works out to ———. Even given the cost-growth that you mentioned in your question.

Mr. SNODGRASS. Are you saying that is true if you include the large R. & D. cost?

Mr. STENBIT. Yes, sir.

The second point, Marisat has just been launched and half of it doesn't work. It is not only the DOD satellites—and I don't mean to throw stones at our commercial colleagues, but there are typical problems in all satellites. In fact, the parts the Navy is leasing fortunately are working very well. However, the other half of that satellite has just about been declared inoperable.

Mr. ADDABBO. Why was the original fixed price contract for the Navy satellite changed to a cost-plus contract?

Mr. STENBIT. It was actually the other way around. It was a cost-plus contract.

Mr. ADDABBO. The FLTSAT was a cost-plus contract or fixed price?

Captain POPE. The development cost, Mr. Addabbo, was at the very outset planned to be a fixed-price contract.

Prior to the initiation of the development, a reassessment of the risk seen in that test development led to a decision to make it into a cost-plus development contract. The cost-plus development contract was later transformed into effectively a fixed-price development contract. The production of these satellites is done with a fixed-price contract.

Mr. SNODGRASS. Captain Pope, that question was based upon information which you supplied in response to questions at an earlier hear-

ing. The facts stated were based upon your response for the record, so I am not clear now whether or not you want to retract your earlier statement for the record or whether you want to keep your current statement.

I am confused. I am willing to accept either one, but we need to be consistent.

Captain POPE. I need to make sure I understand your question but the answer I gave is consistent with the answers which we provided to you for the record.

Mr. SNODGRASS. Did you initially have a fixed-price contract that somebody had signed and then you let them out of it and went back to a cost-plus?

Captain POPE. We did not.

Mr. ADDABBO. Why were the percentage overruns and schedule slippages so much greater than the overruns and slippages on the civilian satellites?

Admiral BOYES. Do you mean on the civilian Gapfiller? I think the overrun simply—the complexity of the fleet satellite system. It is the most complicated satellite system I believe we have ever attempted to build. We are literally taking ——— different channels or circuits and trying to mix them in the same bowl and come out one antenna. The Gapfiller is a relatively simple system, sir, and it even faced the same kind of mixing problems in the frequencies that we found in the FLTSATCOM.

Mr. ADDABBO. From what I understand from the answer before, you are now going to the civilian sector fixed-price contract?

Admiral BOYES. Yes, sir.

Mr. SHRIVER. We have made a comparison of at least one military satellite versus a commercial satellite in terms of cost, life expectancy, and capabilities in a manner that might be useful to you. We will submit it for the record if you desire.

Mr. ADDABBO. Thank you.

[The information follows:]

	DSCS II (military)	Intelsat IV (owned by 91 nations—managed by Comsat)
Cost per satellite	$13,000,000 (1974 dollars)	$14,000,000 (1970 dollars).
Cost of placing a satellite in orbit	$18,000,000 (1976 dollars)	$24,000,000 (1976 dollars).
Expected years of use	———	5.
Secure command	———	No.
Ability to move the satellite for flexibility of area coverage.	———	No.
Flexibility in satisfying a family of users by serving a variety of satellite terminal sizes.	Yes. The DSCS satisfies both mobile and fixed installations ———	No. Requires large fixed installation (97 ft antenna).
Antijam communications capability and hardening against nuclear effects.	———	No.

Note: This comparison is very general and just hits on the highlights of both satellites. Although contracts for both satellites were awarded about the same time, the Intelsat IV used a newer technology (about 2 yr) based on the TACSATCOM military R. & D. satellite that was being readied for launch by Hughes Aircraft about the same time they were awarded the Intelsat IV contract.

MARISAT RENTAL COSTS

Mr. ADDABBO. What will the total rental costs for the MARISAT which will be used as an interim capacity until the FleetSat is available?

Mr. SHRIVER. Each MARISAT satellite consists of three UHF channels. The lease charges for the satellites are based upon the channel being leased as follows:

	Per year
One—500 KHz channel	$6, 978, 000
1st 25 KHz channel	2, 326, 000
2d 25 KHz channel	2, 326, 000
Total one year lease for one satellite	11, 630, 000
Total one year lease for two ocean coverage (two satellites)	23, 260, 000

These lease charges were the original MARISAT estimates. However, as early as March 1974 COMSAT General had estimated a program increase of approximately $6 million. In 1975 due to a new NASA launch cost arrangement directed by the GAO, COMSAT General incurred additional increased costs to the program. Since this is a leased service which is regulated by the FCC, it is anticipated that the yearly leased cost to the Government for the UHF portion of MARISAT will increase.

Mr. ADDABBO. Aren't these rental costs for MARISAT a legitimate charge against the FleetSat program, since they wouldn't have been required if the FleetSat had been launched on schedule?

Mr. SHRIVER. One could assume that there is a relationship between the FLTSATCOM program and the cost of the MARISAT lease due to the fact that both systems provide UHF satellite service. However, if the MARISAT cost is attributed to the FLTSATCOM program, the benefits we are receiving from a critically needed UHF satellite system capability during the interim period must be recognized as well.

Mr. ADDABBO. What savings can be made in 1977 and future years in the FleetSat Program?

Admiral BOYES. The objective of FLTSATCOM is to provide the fleet with reliable long haul communications—an essential prerequisite for carrying out modern naval warfare. Savings will be realized in terms of more effective, centralized control of all naval forces and from economies of scale from having uniform, modular terminal equipment and associated uniform logistics support throughout the fleet and shore stations.

Mr. ADDABBO. Have all of the FLTSAT problems been solved? When do you expect the first launch?

Admiral BOYES. During the extensive testing already conducted in the FLTSATCOM program several significant technical problems, including intermodulation, were detected. These problems have been corrected and we are not aware of any other significant problems at this time. Exposure of the spacecraft to additional environmental stresses will be accomplished to further confirm the design and to reveal any remaining deficiencies. Only after completion of such tests, correction of any deficiencies revealed, and accumulation of successful orbital experience, can it be said of a satellite of new design, such as FLTSATCOM, that all its technical problems have essentially been solved. The first launch is scheduled for the last quarter of calendar year 1977.

PROCUREMENT FUNDING

Mr. BURLISON. As noted previously, the most significant issues in 1977 are in the procurement appropriations. A 61-percent increase is proposed in 1977. This increase of $428 million will provide a total procurement appropriation of $1.132 billion in 1977, as compared to the 1976 appropriation of $704 million. Why are such large procurement increases required? Are these appropriations out of control?

Mr. SHRIVER. The large procurement funding increases in fiscal year 1977 over fiscal year 1976 are centered primarily in the satellite, communications security and tactical communications categories. These are major DOD C^3 priority areas, and it is considered that the increases involved are appropriate, consistent with OSD-approved plans, and represent a reasonable and timely investment considering established DOD operational objectives. The following details are pertinent:

a. *Satellites.*—The procurement increase in the satellite area amounts to $308.1 million; this by far represents the major increase between the fiscal year 1977 and fiscal year 1976 budgets. A significant part—$201.1 million—of the fiscal year 1977 satellite budget is for the procurement of six DSCS II satellites and four boosters. In major part, this requirement stems from prior satellite and launch failures, the urgent need to establish a fully operational system—four operational and two on-orbit spare satellites—as quickly as possible, and the need to insure full system availability into the early 1980's when the DOD will be heavily dependent on satellite telecommunications systems. A large part of the remaining dollar increases concern continuing procurements of airborne, ground and shipboard terminals which are consistent with requirement objectives for terminals and satellite availability of the DSCS, GAPFILLER, FLEETSATCOM and AFSATCOM satellite systems. The final increases, making up the total, are for the satellite data system—replenishment satellite/booster—and the fleet satellite communications, FLEETSAT, space segment, which represent approved program continuations. All of the above satellite programs are considered of major priority and the early availability of fully operational systems is urgently needed and essential to an effective C^3 posture.

b. *Communications security.*—The increase in this area ——— is due to a number of items, including funding for increased procurement of existing secure data and tactical link encryption equipments and for some new items, including an integrated crypto manpack radio and an HF radio COMSEC device. These items are considered essential for the voice, record/data, and bulk encryption needs of the tactical and nontactical communications areas. The proposed fiscal year 1977 procurement is in accordance with approved programs and is in consonance with the DOD objective of achieving major improvements in secure communications.

c. *Tactical Communications.*—The tactical communications procurement area had the third largest increase of $29.5 million. For the most part, this represented increases in the Army program for two new radio items and a new device which allows the efficient handling of data over the existing tactical communications system. These items, as well as other service tactical communications items, which total $120.6 million in fiscal year 1977 procurement funding, are consistent

with approved plans and programs and take into cognizance the TRI-TAC, SINGCARS, Navy architecture and other future program efforts.

In summary, it is believed that the increases for fiscal year 1977 are reasonable, in accordance with prior planning and programing, and represent a cost effective approach to achieving needed DOD C^3 objectives. In major part the fiscal year 1977 procurement budget is aimed at fulfilling urgent C^3 needs and to maintain the readiness of our worldwide systems to allow DOD to meet crises that may occur at any time.

European C^3 Procurements

Mr. Burlison. The Army budget includes $16 million for European C^3 procurements. Are these procurements consistent with the conclusions of the Corcoran study?

Mr. Shriver. The recommendations of an independent technical analysis/cost estimate to satisfy USCINCEUR ROC 16–72 would have cost $47.6 million. A joint Army/Air Force review of these recommendations adopted the recommendations of the Corcoran study group to reduce procurement costs by using terrestrial and NATO satellite systems in lieu of procuring dedicated satellite terminals; by testing a five- rather than eight-node system; and by conducting a single test in the operational environment rather than sequential testing first at United States then at NATO headquarters.

Fiscal Year 1976 General Reduction

Mr. Burlison. What were the principal items that were deferred or eliminated as a result of the 1976 congressional cuts?

Mr. Shriver. The fiscal year 1976 general reduction levied against the telecommunications and command and control programs by your committee came quite late in the fiscal year. This made the principal criteria for selecting which programs could be reduced a function of which had unobligated balances at that point in time more than anything else. I will provide details.

[The information follows:]

[In thousands of dollars]

Service/agency and item	R.D.T. & E.	Procurement
Army:		
Air Defense Communications		−300
Multiplex, TD–202		−500
Multiplex, TD–660		−1,000
Radio set, AN/GRC-103		−8,600
AUTOSEVOCOM		−500
Transmission media		−5,000
Compromising emanations		−900
Electric key gen., TSEC/KG-30		−2,400
Speech security eq., TSEC/KY-57		−2,200
Speech security eq., TSEC/KY-65		−1,600
Walburn		−800
Items under $500,000, COMSEC		−1,000
Spares, repair parts—COMSEC		−1,200
Army telecommunication, automation program		−800
Pentagon telecommunication center		−2,300
Satellite communication ground terminal	−2,600	
COMSEC equipment		
Electronics and electrical development	−1,860	
Communication development	−1,000	
Communication engineering development	−800	
Army, total		−29,100

Service/agency and item	R.D.T. & E.	Procurement
Navy:		
Precise timing and time interval		−600
HF sounders		−1,000
Ship automation		−500
AN/URC–82		−600
VERDIN		−1,300
Satellite communications shipboard terminals		−2,200
Satellite communications shore terminals		−1,800
Electrical power		−2,000
Worldwide wideband transmission improvement		−700
AN/FRT–80		−1,400
Shore automation		−2,100
TSEC/KIR–1A		−400
TSEC/KG–30		−4,200
TSEC/ST–51		−500
TSEC/KG–27		−600
COMSEC, items less than $500,000		−200
TSEC/KY–65/75		−600
TSEC/KY–57/68		−2,400
TRI–TAC	−600	
Navy support to DCS	−100	
COMSEC	−500	
Communications advance development	−275	
Submarine command	−375	
Command systems	−1,050	
Command and control technique	−500	
ELF command	−3,250	
Fleet satellite communications	−2,350	
Navy, total	−9,000	−23,100
Air Force:		
Defense satellite communications system		−10,600
Joint surveillance system		−5,800
Technical control expansion		−4,800
Autovon overseas		−1,000
Automated telecommunication program		−1,700
Wideband system upgrade		−2,500
WWMCCS internetting		−300
Keyboard/printers for SAC		−2,400
UHF/VHF conversion		−1,500
Initial spares		−3,200
Advance space communications	−3,500	
SAC communications	−3,000	
TRI–TAC	−4,000	
Defense satellite communications systems	−500	
AIRCOMM–DCS	−2,000	
MEECN	−1,000	
AFSATCOM	−1,000	
Air Force, total	−15,000	−33,800
NSA:		
Cryptologic communications		———
COMSEC equipment		———
Various COMSEC laboratory equipment		———
NSA, total		———
DCA:		
WWMCCS ADP equipment		160
Items less than $500,000		40
Defense communication system	−425	
DCS test and evaluation	−1,075	
MEECN	−500	
DCA, total	−2,000	200

Effects of Limited Nuclear Options Policy

Mr. Burlison. If the United States abandoned the "limited nuclear options" policy, would present communications systems in Europe be adequate?

Mr. Shriver. ———.

Mr. Burlison. "Final Report of the European Command, Control, and Communications Study Group"—This study, which is also known as the Cocoran study was completed on August 15, 1975. ———.

Why are U.S. communications systems in Europe so poor? Is this a real degradation of capability, or is it an increase in requirements because of the "limited nuclear options" policy?

Mr. SHRIVER. The study concluded that there were relative strengths and weaknesses between U.S. and NATO communications and command and control systems. ———.

The United States on the other hand has a high capacity ——— communications system, significant ADP resources, and timely intelligence. The thrust of the Corcoran study is to take advantage of the strengths in each system and to correct common weaknesses.

There are weaknesses common to both systems ———.

In a NATO context, part of the problem is derived from the change of strategy from the massive retaliation or "tripwire" strategy to the flexible response strategy. The former required a communications system that need be survivable only for a very short period of time. The latter requires a system that survives indefinitely or can be immediately restorable. ———.

However, NATO recognized the increased requirements associated with this change in strategy and is taking steps to satisfy these requirements. An example is the development of the NATO integrated communications system which will be a flexible, survivable and secure system. Phase I planning has been completed and initial procurement is underway. With regard to interoperability, interconnection between the U.S. and NATO backbone systems have been effected at nine ——— locations.

NATIONAL POLICY ON SECURING VOICE COMMUNICATIONS

Mr. BURLISON. The U.S. Communications Security Board on October 1, 1971, issued a national policy on securing voice communications. This policy stated:

> **In order to improve U.S. communications security, and specifically to reduce the vulnerability of governmental voice communications to exploitation, it is national policy that all military voice radio systems be secured.**

What is the authority of the U.S. Communications Board to issue such a policy?

Mr. SHRIVER. The authority of the U.S. Communications Security Board derives from the National Security Council. ——— the security of Federal telecommunications is a national responsibility, and the activities pertaining thereto must be so organized and managed as to insure maximum utilization of available resources, and to satisfy the requirements of the National Security Council and the departments and agencies of the Government. The U.S. Communications Security Board was established by the National Security Council to insure a coordinated and effective national communications security effort. Among the responsibilities assigned to the Board is the establishment of broad communications security objectives, policies, and procedures. The "National Policy on Securing Voice Communications," dated October 1, 1971, is one of the communications security policies established by the Board.

Mr. BURLISON. ———.

Who authorized this change in policy?

Mr. SHRIVER. ———. It is not a change in national policy. As you know, the Secretary of Defense is not authorized to arbitrarily change or modify national policy. ———.

Mr. BURLISON. How is ——— defined?

Mr. SHRIVER. ———.

Mr. BURLISON. Why was ——— selected as the target year?

Mr. SHRIVER. As I indicated earlier, the ——— date is a goal for achieving measurable progress toward compliance with the national policy, and represents a practical compromise between military needs and availability of resources and production capability.

TTC–39 SWITCH

Mr. BURLISON. The TTC–39 is a large communications switch which is being developed by the Army for use by all the military services. On April 16, 1974, the initial production contract was signed for 16 TTC–39 switches to be provided for a unit cost of $1.5 million per switch and a total cost of $24 million for the 16 switches.

Mr. SHRIVER. First, let me note that the above statement indicates that a contract award was made in April of 1974, for the initial production of AN/TTC–39 switches. This is incorrect in that the contract award was for full-scale development of the AN/TTC–39 switches. That contract included engineering design effort, a life cycle cost effort, and maintenance and contractor furnished information on integrated logistic support for the AN/TTC–39. In addition, contractor effort for testing and design to unit production cost for Government's use is to be furnished under the full-scale development contract. The approximate cost which is allocated for materials and manufacturing of 16 engineering development models is $24 million.

Mr. BURLISON. What is the test schedule for the TTC–39 switch, and when do you expect it to be certified for field use?

Mr. SHRIVER. Government testing is scheduled from October 1977 to July 1978. Development and operational testing of circuit and message switches in various operational configurations will occur during this 9-month period. The switch is scheduled to be type classified and thus certified for field use in March 1979.

Mr. BURLISON. Why were 16 TTC–39 switches bought?

Mr. SHRIVER. The switches were bought for operational testing. The requirement for 16 prototype TTC–39 switches for testing is based upon the fact that the TTC–39 is not a single switch. The program includes both circuit switches and message switches. Within these categories there are two types of circuit switches and two types of message switches being fabricated. To meet the testing requirements of the services in the various deployments envisioned for the four types of switches and provide training models and models in the contractor's plant for preproduction configuration control requires 16 switches.

Mr BURLISON. Would a smaller number of TTC–39 switches have been adequate for R. & D. purposes?

Mr. SHRIVER. For a single service development, a smaller number of equipments would suffice. Since the TTC–39 is a joint service development, and it must satisfy the requirements of the four military services and certain Defense Communications Agency requirements, it follows that a greater number of equipments must be subjected to testing. It should be emphasized that these switches are of four different basic types and in addition to testing requirements, provisions had to be made for training models and models to be retained in the contractor's plant for pre-production configuration control.

Mr. BUBLISON. The 1977 budget contains $38 million in R. & D. funds related to the TTC–39 program. Will any of these 1977 funds be used to purchase additional switches?

Mr. SHRIVER. The $38 million in the 1977 budget is for the Tri-Tac-managed equipment tasked to the Army. It contains funds for the development of the TTC–39 switch; funds for the operation of the Tri-Tac Office and the Joint Test Office, funds for the development of the SHF satellite modem, mobile subscriber equipment and net radio interface equipment as well as the development funds for the digital group multiplexer. Of the $38 million R.D.T. & E. funds identified, $16.7 million will be applied to the current TTC–39 FSO program; there are no plans to use fiscal year 1977 funds to purchase additional switches.

Mr. BURLISON. Was the purchase of 16 TTC–39 switches an unusual procurement or is this common practice in communications programs?

Mr. SHRIVER. The purpose of the 16 switches is to perform the initial operational acceptance tests prior to going into production. It is common practice to purchase an adequate quantity of engineering development models in order to perform the required tests for acceptance. Since this procurement requires the acceptance by four services as well as interface with the defense communications system, considerable and diverse testing is required. The joint testing plan establishes the quantity of switches needed. Considering these factors, the purchase of the 16 and the timing of this purchase are correct and appropriate.

Mr. BURLISON. How much of the 1977 budget is for procurement of equipment that has not been operationally accepted? Please provide a listing, by appropriation, of all such equipment.

Mr. SHRIVER. The fiscal year 1977 budget contains $3.7 million of procurement funds for the Tri-Tac-sponsored S8–3614 automatic switchboard. This automatic unit-level switchboard was initially developed by the USMC. The program was subsequently brought under Tri-Tac management when joint service requirements were established. The program is designed to satisfy an interim but urgently required need of both the Army and USMC. This equipment has been operationally tested and accepted. Fiscal year 1977 procurement funding for the SB–3614 is Army, $3 million; USMC, $700,000.

ARMY'S INTEGRATED TACTICAL COMMUNICATIONS SYSTEM

Mr. BURLISON. The Army's integrated tactical communications system is an initial attempt at an Army architecture.

The Army architecture claims to be able to identify the effect upon performance of various budgetary levels. How effective is this priority system? Will other architects have a similar capability?

General RIENZI. The Intacs study required the development of an implementation plan which would assure the timely transition from the current to the objective system. Included in this plan is a schedule of the year-by-year actions required to structure the total Army force with the personnel and equipment densities specified for the objective system. It became apparent that some automated procedure would serve best to address, evaluate, and analyze the many considerations attendant to transitioning. Accordingly, a major element of the implementation plan is a computer program designed to optimize the resource mix available in any given year given a specified funding level.

The Intacs automated implementation program contains the following principal parameters:

Budget constraint;
DA master priority list (DAMPL);
Initial operational capability (IOC) dates;

Equipment cost lists;
System equipment list (fiscal year 1976—start of objective system);
Objective system equipment list; and
Authorized acquisition objective (AAO) for Army.

These parameters are initially compared with each other in pairs, and the results paired in turn with other matched parameters. For example, the DAMPL and IOC dates (rank-ordered) are read and compared, and the result is used to select, by unit and by fiscal year, an increment of system equipment which is to be examined. Concurrently, the two system equipment lists are compared and the required quantity is determined. The line item quantity is then determined by comparison with the master equipment cost list, and the cost of the equipment buy is calculated. This element is then matched with the quantity of buy previously determined, and the result matched to the budget constraints. If the cost of the buy is not within the constraint, an iteration takes place, and the quantity of the buy is modified downward. If the cost of the buy is within constraints, it is compared with the percent AAO and the process continues. The results of these manipulations are stored and available for retrieval. Changes, for whatever reason, are merely processed into memory, and by an iterative process the entire run can be made repetitively until the output, modified, is again received. An update methodology, is, therefore, inherently provided through use of this procedure.

To summarize, the Intacs automated program can portray, by fiscal year, the contraction or extension to fielding the objective system that would occur should a change in funding level occur. At this time, the computer program cannot address a decrement's impact on speed and quality of service or upon readiness. We are looking at an automated procedure which might give us this capability. While we cannot state with unequivocal certainty that the approach described is perfect, considerable study leads us to believe it to be the best we have ever had and one that will very effectively guide the implementation of Intacs.

This automated capability should be used and refined prior to deciding whether other architects should have a similar capability.

Communications in the NATO Area

Mr. Burlison. The Corcoran study in effect recommends that the United States must take the initiative in improving communications in the NATO area. The study goes so far as to suggest that the United States may have to assume a greater share of the total costs of the European communications system. If NATO is not willing to assume its fair share of the cost burdens of any communications improvements in Europe, why should the United States increase its share of the costs?

Mr. Shriver. NATO is, in fact, paying its share of the costs of all NATO-approved projects. The study assumed that the U.S. cost of the recommended improvements would be the normal U.S. share of infrastructure funding. In some cases, the study recommended sharing the existing capability found in U.S. facilities in Europe, such as the WWMCCS, ADP, and Autodin. Offer of ADP sharing was only an initial step for which the United States would receive infrastructure funding credit in a NATO expansion of this capability.

Other recommendations were made to offer U.S. equipment for sale. There were some recommendations to move U.S. headquarters to less vulnerable locations which were unilaterally costed because these headquarters primarily serve unilateral U.S. needs.

STATUS OF ARCHITECTS

Mr. BURLISON. Since most of the systems architects have only been recently appointed, wouldn't it be prudent to delay major investments until 1978 and wait upon the initial plans of the "architects?"

Mr. SHRIVER. The joint tactical communications (TRI–TAC) office is actively engaged in current and planned programs.

The military satellite communications architecture and the WWMCCS architecture are nearing completion. Both of these rely on the current plans and programs to provide a substantial capability, with improvements being evolved to assure interoperability of WWMCCS components or to meet the evolving threat projected for the 1980's. Any modifications to existing programs would be downstream and there is sufficient time to influence them without loosing momentum. If programs are found to require major change, they must be considered individually with a clear understanding of what change is required, why it is needed, when and at what cost. All of this must be done before altering an existing program to assure that far more is not lost than can be gained by slowing down development.

Mr. BURLISON. Is cost effectiveness one of the criteria which will be used to judge the performance of architects?

Mr. SHRIVER. Yes.

Mr. BURLISON. Another result of all these studies has been the creation of a series of so-called architects. These architects are responsible for developing detailed technical plans for various communications systems.

How many different architects have been designated? For 1976 and 1977, please give detailed information on costs, personnel, and organizational location. Also give the dates when each was established and when each is expected to be fully effective.

Mr. SHRIVER. Four organizations with responsibilities to develop an architecture have been designated by the Secretary of Defense. They are:

1. The military satellite communication (MILSATCOM) systems organization was founded on October 9, 1973, reporting to the Director, Defense Communications Agency. The military communication satellite architecture is currently in the approval process within the Department of Defense. Costs and personnel are: fiscal year 1976: $1.8 million, 15 people; fiscal year 197T: $0.5 million, 18 people; fiscal year 1977: $2.4 million, 18 people.

2. The WWMCCS architecture effort was directed by the WWMCCS council. After competition, a contract beginning February 1, 1974, was awarded IBM Corp., under the technical supervision of DTACCS. Architect functions are to remain in DTACCS after expected council approval of the architectural plan by June 1976. Costs and personnel are: fiscal year 1976: $4.1 million, three people; fiscal year 197T: $0.2 million, two people; fiscal year 1977: $1.2 million, two people.

3. The joint tactical communications (TRI–TAC) office was founded on May 27, 1971, reporting to the Secretary of Defense under the primary staff supervision of DTACCS. The TRI–TAC Architec-

ture is in effect; the office is involved in its maintenance, evolution, and implementation. Approximately 15 percent of the TRI-TAC office staff is directly involved with the architecture. The costs and personnel associated with that function are: fiscal year 1976: $1.1 million, 23 people; fiscal year 197T: $0.3 million, 23 people; fiscal year 1977: $1.2 million, 23 people.

4. As the major portion of the world wide digital system architecture the world wide secure voice architecture is to be developed by the Defense Communications Agency as directed by the Secretary of Defense in his February 18, 1976, program planning guidance memorandum. Milestones, resources, and organization within DCA are in the process of definition.

In addition to the Defense Department-wide architects designated by the Secretary of Defense, the Services have embarked upon architectural efforts of their own focusing either upon their own service unique command and control systems or upon the interaction of those systems with the WWMCCS.

Mr. BURLISON. Why are separate architects needed? Can't the regular communications organizations do this work?

Mr. SHRIVER. The regular communications organizations have focused on the development and operation of systems to perform specific or groups of specific jobs. The role of the architect is to define and monitor implementation of an overall structure and plan to assure that these systems evolve and operate together in support of an overall mission. The use of an architect is an excellent management technique for supporting missions which involve multiple organizations and systems over long periods of time.

Mr. BURLISON. Who will coordinate the various architects to guard against suboptimization at the expense of overall system effectiveness?

Mr. SHRIVER. DTACCS.

Mr. BURLISON. How will DOD use the WWMCCS study after it is completed in June?

Mr. SHRIVER. The WWMCCS architecture plan will guide the normal fiscal and programing processes in DOD. It will serve as an approved context in which decisions by the WWMCCS Council can be made. It will be implemented by the WWMCCS system engineer and appropriate executive agents in the services. It will be maintained as a current plan as changes occur in the fiscal, organizational, force structure, and threat environment in which WWMCCS exists.

Mr. BURLISON. What are the incremental cost ranges identified in the preliminary drafts of the study? Will this study recommend a multibillion dollar improvement program?

Mr. SHRIVER. In order to insure that the WWMCCS Council had available the widest range of alternative cost and capability data, cost bounds were not imposed on decision alternatives presented to the Council. This allowed the Council to examine a range of architectural alternatives costing from approximately the baseline cost to $6.9 billion over the baseline. The study has not, nor will it, make recommendations per se. Rather it provides decision alternatives for the Council, together with the cost and capability implications of each alternative. The final plan will not include a multibillion dollar improvement program. Present indications are that the most probable selected 1985 architecture will require no more than a 9.3-percent increase over projected baseline costs throughout 1985.

Mr. BURLISON. What input did NATO have to the study?

Mr. SHRIVER. NATO provided access to all headquarters and documents requested. At each headquarters, communications facility, or nuclear custodial site visited, briefings were provided and interviews with general officers and staff officers, both United States and allied, were conducted. There was free discusssion of NATO studies, exercises, current actions, and future plans. U.S. officers in NATO headquarters also reviewed the draft recommendations and provided comments.

REAL GROWTH IN 1977 BUDGET

Mr. BURLISON. Of the procurement increase requested in 1977, how much is for real growth and how much is for inflation?

Mr. SHRIVER. The procurement increase requested in 1977 was $428 million. Of this $428 million, $381 million is for real growth and $47 million is for inflation.

Mr. BURLISON. Does the 1977 budget include any funds to implement the recommendations of the Corcoran study?

Mr. SHRIVER. Yes; program element 33145A, European C^3, provides $1.2 million in R.D.T. & E. and $16 million in procurement to implement some study recommendations. Many of the study recommendations have already been implemented or are being addresssed in-house at zero cost.

Mr. BURLISON. Has cost been made a greater criterion as a result of last year's congressional reductions of the 1976 communications budget?

Mr. SHRIVER. Cost has always been and will continue to be one of the most important criteria in our decisionmaking for the DOD communications budget.

"MULTIPLIER EFFECT" OF COMMUNICATIONS SYSTEMS

Mr. BURLISON. Frequent reference is made to the multiplier effect of communications system. The theory contends that secure, dependable communications will make any given weapon system more effective. Is there any hard evidence supporting this multiplier effect theory?

Mr. SHRIVER. ———.

There were two notable battles in World War II which demonstrated the multiplier effect of command and control. During the Battle of Britain, the RAF was able to perform as though it had about twice as many aircraft through advance warning of the raids, the ability to detect and track attacking aircraft and the ability to concentrate and control friendly aircraft. In the Battle of Midway, the U.S. Fleet was able to defeat a numerically superior fleet because of our having broken the Japanese code and the ability to concentrate available resources at the decisive point.

In all of the examples cited above there are obviously other factors which influenced the results attained so that there is no precise measurement or mathematical relationship derived. The essence of the multiplier theory is that command and control permits the concentration of forces at the desired place and time in lieu of a uniform deployment of larger numbers of units. At the tactical level the simultaneous application of firepower of several units is more effective than an equivalent amount of firepower delivered sequentially due to the "surprised" or softer posture of the target.

Mr. BURLISON. Do U.S. field exercises attempt to test this "multiplier effect"? What are the results?

Mr. SHRIVER. As I mentioned, this multiplier effect is dynamic and varies depending on the environment, forces involved, and weapons systems employed. Though it may not be listed specifically by this title, as an exercise objective, it is a factor that is considered. Our field exercises have a wide and varied list of objectives. For example, testing of new equipment, weapon systems, effectiveness of training, tactics, organization structures of units to include span of control. The results of our field exercises are evaluated using the predetermined objectives and depending on the exercise objective this "multiplier effect" may be interwoven throughout the results.

Mr. BURLISON. If the multiplier effect theory is valid, couldn't tradeoffs be made between communications systems and weapons systems? Is this ever done?

Mr. SHRIVER. Any funding of a communications or command and control system in a fiscally constrained budget represents a tradeoff. Every year there are unfunded requirements for additional forces or weapons systems. The balance achieved in any budget request is based on collective judgment rather than precise mathematical relationships. As indicated previously, the multiplier effect is a variable. It changes with different environments, different enemies, and different weapon systems. However, rough mathematical approximations and simulations do serve as aids to intuitive decisionmaking.

WWMCCS STUDY

Mr. BURLISON. Why was IBM picked to do the WWMCCS study? Is this an indication that DOD is lacking internal management competence in the communications field?

Mr. SHRIVER. IBM was selected as the result of a competition conducted under the direction of the WWMCCS Council. This should not be perceived as an indication that DOD is lacking internal management competence in the communications field. The Council carefully considered seven alternative approaches to accomplish the required analytic effort which would be independent of day-to-day staff problems and special interests of existing organizations. This independence was felt to be necessary to allow the perspective of mid- and long-range planning to be maintained and to achieve a proper balance among the operational, developmental, technical and financial aspects of WWMCCS. The wisdom of this decision is clearly demonstrated in the results of the effort.

Mr. BURLISON. $11 million is an exceptionally large amount of money for a study contract. Why was this large contract necessary? Is the Government getting its money's worth?

Mr. SHRIVER. The size of the contract was determined by the Council after weighing the expected results of alternative approaches versus the cost. The Government is getting its money's worth. The value of the effort is demonstrated by the Council's determination of an increased award fee at each of, to date, three award fee periods. It is also subjectively verified by the general acceptance of the effort by users of the WWMCCS; that is, the JCS and the commanders in chief of the unified and specified commands.

Mr. BURLISON. What will be the principal products of the study?

Mr. SHRIVER. The principal product of the study is the WWMCCS architecture plan which will, when approved by the WWMCCS Council, provide guidance for the development and integration of WWM CCS capabilities through the 1980's.

INTERFACE WITH CIA

Mr. BURLISON. How do DOD communications programs interface with CIA communications programs ———?

Mr. SHRIVER. DOD works very closely with CIA—and State Department—in all aspects of their respective communications programs, that is, coordinated planning of new facilities and services, interconnection of networks, allocation of facilities, long and short term support, et cetera.

———. The ——— is interconnected with the defense communications system in a number of locations around the world which allows free flow of messages between the networks on an automatic basis.

Mr. BURLISON. Could DOD perform any of the ——— communications functions in a more cost-effective manner?

Mr. SHRIVER. ——— the DTS ——— serves various categories of users at diplomatic posts including diplomatic, ——— attaché and other types of users. DTS communications facilities are manned by personnel cleared for special categories of information ——— and it is ——— considered that the required ——— clearances of the operators would preclude assumption of such functions by the DOD. ———.

VALIDATION OF REQUIREMENTS

Mr. BURLISON. What office or offices are responsible for validating communications requirements?

Mr. SHRIVER. Validation—approval of operational needs—of communications requirements are generally the responsibility of the Services for Service requirements, the JCS for Unified/Specified Command requirements and OSD for non-DOD requirements. The level of validation within the DOD is dependent on the category of the requirement, the time frame for implementation and the dollar costs. Each organizational element has detailed procedures on how requirements are validated.

Mr. BURLISON. What are the principal documents specifying requirements?

Mr. SHRIVER. There are a number of different documents again depending on the type of communications and the source of the requirement. Requirements associated with strategic command and control are forwarded in the annual updates of the Command and Control System master plans submitted by the commanders in chief of the Unified and Specified Commands and in the annual updates of the Command and Control System summary plans forwarded by the Services and DOD agencies. Strategic communications requirements are identified in the Minimum Essential Emergency Communications Network (MEECN) master plan, the National Military Command System (NMCS) 5 year master objectives program and the DCA 5-year program. Other joint requirements are identified in individual documents known as joint operational requirements. Many of the above requirements are consolidated in JCS publications 11, 12, 17, and 19.

Tactical communications, base communications, and other service unique communications requirements are usually included in master plans and found in the annual POM submissions.

Mr. BURLISON. How are requirements related to R. & D. programs and procurement objectives?

Mr. SHRIVER. Requirements dictate the need for R. & D. as well as the procurement objectives which must be adopted to satisfy any new DOD needs for equipment or system capabilities. The requirements are stated in terms of qualitative and quantitative needs and specify when the capability is needed. These aspects plus the urgency of the requirement will dictate the R. & D. approach and procurement strategies for acquiring the material subject to the aspects of fiscal constraints and optimum procurement buy strategies.

Mr. BURLISON. What impact has the intelligence community had upon communications requirements?

Mr. SHRIVER. The intelligence community is one of the organizational elements of the DOD submitting requirements. Requirements may be submitted through Service or NSA channels using existing requirements submission policies and procedures. These requirements are considered, along with other requirements based on need, justification and availability of resources. In the last few years, there has been a significant increase in intelligence communications requirements caused by personnel reductions in overseas areas. In this connection, intelligence processing previously conducted overseas have been consolidated in CONUS requiring extensive communication capacity to move raw data to the centralized facilities.

Mr. BURLISON. Does the communications community consider the communications requirements of the intelligence community a primary or a secondary requirement? For example, are communications satellites sized to reflect the needs of the intelligence community or does the intelligence community take advantage of excess capacity programed for other purposes?

Mr. SHRIVER. The intelligence community is not singled out as a unique organization in developing communications systems. Total validated requirements are the basis of communication system design whether it be for satellite or terrestrial systems. All requirements are prioritized based on the justifications submitted to support DOD objectives rather than on the basis of identifying any agency being identified as having primary or secondary importance.

USE OF PRIVATE CARRIERS

Mr. BURLISON. Has any analysis been made as to the costs or savings of the current policy which requires, wherever feasible, the use of private carriers rather than DOD systems?

Mr. SHRIVER. With regard to DOD communications in the United States—the area to which the policy applies—the DOD has not performed such analysis with respect to the major networks of the DOD since heretofore it has been economically infeasible to attempt to duplicate the nationwide trunking network, with its inherent redundancy, that is provided by the common carriers. However, selected buy/lease studies have been made on local and specialized needs when Government-owned options appeared plausible. In one case—the Washington wideband transmission system—a procurement will be issued to

allow selection of the most cost-effective bid from alternatives which include Government ownership, Government lease, and tariffed services.

The rising costs of interstate and intrastate leased services and the emergence of domestic satellite capabilities may make Government ownership of some portions of the major U.S. defense systems in the United States more feasible in the future.

TRAFFIC DISCIPLINE

Mr. BURLISON. Rules or regulations to reduce the use of communications—which is sometimes called "traffic discipline"—is another way to cut communications costs. What is being done to enforce "traffic discipline" throughout DOD?

Mr. SHRIVER. There are two JCS memorandums of policy (MOP), "Communications Economy and Discipline" and "Policy for Autodin, Autovon and Autosevocom" which provide communication discipline policies to all DOD agencies. The enforcement of traffic discipline is a function of command with the policies and traffic data evaluation provided by communications. Discipline of record traffic is effective because reliable detailed traffic data is available for analysis. This is not the case with voice traffic where access into the Autovon system is widely available, capabilities to develop traffic data are limited, and the extent of monitoring is restricted by the Privacy Act. The communications economy and discipline MOP also directs the inspector generals of the DOD components to specifically look into the area of telecommunications discipline compliance.

A major worldwide reemphasis of Autovon procedures for discipline was initiated by Dtaccs and JCS in late 1975. Traffic evaluation of subscribed use, their calling patterns, holding times and precedence usage is currently limited, yet, this is the type of information required to determine whether the use of the system is in compliance with policies and to identify abuses. Traffic data collection systems are currently being installed at all overseas Autovon switch localities to provide the information needed. A DCA request for similar capabilities for selected Conus Autovon switches is currently being evaluated. The information which will be available is expected to provide factual data to strengthen the ability of commanders to exercise discipline in the use of Autovon. However, the prohibition in monitoring actual conversation precludes positive identification of official versus unofficial calls, a typically alleged abuse.

ANTI-JAM AND COMSEC ENVIRONMENT

Mr. BURLISON. With the increasing emphasis upon antijam and communications security equipment—both of which require large capacity, sophisticated, and expensive technology—will the DOD communciations needs tend to become more unique?

Mr. SHRIVER. There is very little difference in the basic communication needs of users in DOD and in the civil/private sectors. Each requires acceptable voice quality from his telephone system, certain minimum error performance from his data terminal, et cetera. The technology and means for satisfying these needs are identical. It is in the system application of this technology and means, however, that

we find differences because of situational considerations. While civil system planners can—and do—assume a benign environment, military system planners cannot. We must be able to sustain our operations by maintaining communications during periods involving hostile system exploitation—communications intercept and direction finding—and denial—jammings. These threats require the incorporation of communications security, antijam, and other unique capabilities into our systems. Now, the thrust of your question is whether our needs are becoming more unique, and this impression is apparently gained from observing our increasing emphasis upon antijam and communications security equipment. My answer is no because needs in this regard have always been unique. What you are really seeing is our reaction to a growing threat—exploitation and denial—at a time when we are fortunately beginning to acquire the technology to deal with this threat at a relatively affordable cost.

Network Review Panel

Mr. Burlison. What is the Network Review Panel, and why have dedicated networks increased rather than decreased since its inception in 1968?

Mr. Shriver. In the mid-1960's, the JCS conducted a study of circuits to determine what might be feasible for integration into the DCS switched system. A Network Review Panel composed of members from the JCS, DCA and the Services was established to coordinate the review of circuits. The membership was increased later to include NSA and the DOD agencies having communications systems. Initially, 96 networks were reviewed, however, this was expanded in 1974 to all reportable networks.

The dedicated networks have increased in total numbers since 1968 due in large part to the process of network refinement which has led to increased network numbers. Another major contributor has been the computer-to-computer data communications systems, a capability which is not yet available as a major DCS switched system. This increase of networks, however, does not imply that total numbers of circuits have increased or decreased, which as indicated above, is the key factor to consider.

Mr. Burlison. Could the Network Review Panel be more effective if it were given budgetary powers?

Mr. Shriver. The review of circuits for possible integration or discontinuance is based on operational requirements, technical alternatives, and cost effectiveness. It would not be appropriate nor would it serve any major purpose to authorize the ad hoc Network Review Panel with budgetary powers.

Mr. Burlison. What would be the impact of a general provision in the 1977 Appropriations Act requiring a 10-percent yearly reduction in dedicated networks with the goal of phasing out all dedicated networks by 1987?

Mr. Shriver. A 10-percent yearly reduction of funds for dedicated networks with the goal of phasing out the 221 dedicated networks by 1987 would either destroy the ability of the services and agencies to perform their missions or it would create a significantly inefficient DCS costing far more than the total expenditures for the current DCS switched systems and deciated networks together.

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Mr. BURLISON. Would a more rapid phaseout of dedicated networks be possible?

Mr. SHRIVER. It is impractical to phaseout dedicated networks; instead the emphasis should be on keeping dedicated circuits to a minimum. Reviews of circuit requirements are continually being conducted in addition to the annual JCS directed review. The Army, for example, has recently developed a centralized organization for circuit validation using a management information system which appears to be providing an effective means for integrating circuits into the DCS and in properly allocating new requirements into the DCS or dedicated networks based on operational, technical, and fiscal criteria.

Mr. BURLISON. The GAO attributes the proliferation of dedicated networks to the poor quality of the common user networks. What is being done to improve the performance of the common user networks?

Mr. SHRIVER. The DCS switched systems are actually high quality systems, and for the purposes of handling command and control requirements, perform very satisfactorily. These systems, however, have inherent limitations and cannot satisfy all DOD communications requirements; to do so would make them prohibitively expensive. Accordingly, total DOD requirements must be met by several capabilities which are mutually compatible. In order to satisfy new and expanding command and control requirements and to maintain the DCS common user systems in total readiness, system quality is continually checked and maintained through enhancements and upgrades.

Mr. BURLISON. The intelligence community is a heavy user of dedicated networks. What activities are being undertaken to reduce this need for dedicated networks?

Mr. SHRIVER. The intelligence community is one of the authorized users of the DCS. Intelligence requirements are considered along with those of other users to influence the design of the DCS. Significant progress has been made in adapting the intelligence community's record traffic security requirements by modification to the Autodin. This allowed the integration of many dedicated networks into Autodin. Similar designs are being considered for Autodin II, the DCS data communications network which will be implemented in Conus in 1979. The intelligence community makes extensive use of Autovon and Autosevocom for voice requirements. However, as with other users, many requirements cannot be satisfied cost effectively or technically by the DCS switched systems.

Mr. BURLISON. Please provide, by appropriation, the cost of all dedicated networks in 1976 and 1977.

Mr. SHRIVER. The O. & M. costs identified for dedicated networks are $114 million in fiscal year 1976 and $117 million in fiscal year 1977. It should be noted that these costs include approximately $40 million annual costs for leased terminal equipments which would be a continuing charge even if the dedicated networks could be folded into the DCS switched systems.

JAMMING THREAT

Mr. BURLISON. The jamming threat is frequently cited as a justification for very elaborate and expensive countermeasures. What is the jamming threat?

Mr. SHRIVER. ———.

Mr. BURLISON. Will use of jamming deny any enemy signals intelligence information?

Mr. SHRIVER. ———.

Mr. BURLISON. Do the Soviets give priority to jamming or to signals intelligence collection?

Mr. SHRIVER. ———.

Mr. BURLISON. What are the major deficiencies in the threat estimates, and what is being done to overcome these deficiencies?

Mr. SHRIVER. We feel confident that our estimates of the physical (ICBM, SLBM and bomber) threats are highly credible. ———.

DIA has recently established a small group ——— to collect all available data, analyze it thoroughly, and determine the gaps. ———.

PROJECT BAND STAND B

Mr. BURLISON. What is Project Band Stand B? Is this a valid estimate of Soviet capabilities?

Mr. SHRIVER. ———.

COMMUNICATIONS SECURITY ARCHITECT

Mr. BURLISON. What will be the principal duties of the Communications Security Architect, and when is an initial architecture expected?

Mr. SHRIVER. In the program planning guidance memorandum dated February 1976, the Defense Communications Agency was assigned the responsibility as the Worldwide Secure Digital System Architect as well as the Worldwide Secure Voice Architect. The National Security Agency, TRI–TAC, JCS and the MilDeps will assist the Defense Communications Agency in the development of these architectures. We expect that the Defense Communications Agency will have a useful product by mid-1977. These architectures will include both near-term as well as long-term specifications. The near-term will reflect ongoing programs and their proper interface. WWMCCS requirements as well as tactical interfaces will be part of this architecture.

In the broad sense the words "communications security" apply to many aspects of security which include antijam, low probability of intercept, OPSEC, EMSEC, et cetera. Message security is only one aspect of communication security. Communication security techniques based upon the graphic principles are used to insure the invulnerability of our communications to message exploitation by the enemy. As such, communications security architecture is written in support of communications command and control C^3 architecture. Therefore, the National Security Agency will support the Defense Communications Agency and provide COMSEC inputs for the Worldwide Secure Digital and Worldwide Secure Voice architectures.

Mr. BURLISON. Why are communications security expenditures increasing so rapidly?

Mr. SHRIVER. Communications security expenditures are rising in response to national and DOD policies published in the early 1970's on the need for improved voice security ———.

Our Comsec expenditures are also rising due to the emergence of ——— advanced technology. This new technology has resulted in the microminiaturization of Comsec equipment allowing a degree of utilization heretofore not considered possible ——.

It must also be noted that Comsec is primarily a supporting element of major communications systems and not a stand alone cost which can be evaluated without consideration of the total communications system.

Mr. BURLISON. What would be the implications for expenditures during the next 5 years if the Congress accepts the communications security program proposed in the 1977 budget?

Mr. SHRIVER. ———.

Congressional approval would permit the procurement of ——— communications security equipment in fiscal year 1977, primarily for voice and record and data communications systems. Approval of the R.D.T. & E. levels being requested would permit the continued development of major communications security systems that are planned to be procured over the next 5 years ———.

Mr. BURLISON. Are the 1977 communications security proposals part of a comprehensive plan, or are they just an ad hoc response to a serious problem? If part of a comprehensive plan, please provide a copy of the plan to the committee.

Mr. SHRIVER. The U.S. Communications Security Board (USCSB) establishes a broad range of communications security policies and objectives which are promulgated in the form of board policy statements and national planning documents. All military departments and agencies are responsible for implementing national Comsec plans within their organizations and for taking action to meet Comsec needs and objectives in consonance with these policies and plans.

A single plan, supporting all communications security objectives, is not published but, instead a comprehensive set of specific individual plans are developed and promulgated by USCSB which cover major areas of communications which need to be secured. ———. These plans can be provided for the committee's information.

Our fiscal year 1977 communications security requirements have been developed in consonance with this planning system and represented a coordinated response to both short-range and long-range communications security objectives.

Mr. BURLISON. Last year the committee, at the special urging of the National Security Council, added ——— above the budget ———. How effectively are these special funds being used? ———?

Mr. SHRIVER. The ——— funds added to the fiscal year 1976 communications security budget ——— is being utilized to achieve the most immediate project objectives. ———.

REPROGRAMINGS—FLEETSAT AND DSCS II

Mr. SNODGRASS. Before we dismiss the gentlemen at the table now, we would like to ask about two reprogramings. One is for the FleetSat and the other is for the acceleration of long lead procurement for DSCS II satellites.

In both instances the question is, have you gentlemen at the table—are you the ones who made these reprograming decisions and if so, why is it that the Air Force and Navy have chosen to have other witnesses to defend these reprograming requests for these two satellites? The committee did not specify the witnesses. We said we wanted to have a hearing on the reprogramings for the acceleration of DSCS II and we wanted to have a hearing on the incentive payments, et cetera, for FleetSat and the witnesses who were suggested to us were Admiral Fine and General Stelling.

Mr. SHRIVER. Our office did not plan for this, but for DCA General Paschall can comment.

Mr. SNODGRASS. What input did your office have in these two requests? Did you make the decision they should be forwarded?

General PASCHALL. Let me try to answer that. When we had the difficulties with the Atlantic satellite and, as I previously referred to, the launch failure, I made a set of recommendations to the Secretary of the Air Force and to OSD for acceleration of the procurement of the remaining DSCS II satellites.

The Secretary of the Air Force commented on that, endorsed it and the final decision was made in the Office, Secretary of Defense, to accelerate it.

The program budget decision, or the decision paper which agreed to that acceleration then called upon the Secretary of the Air Force to take the necessary reprograming action to accelerate long leadtime items. It was the Air Force who had indicated, in order to meet my accelerated schedule for replenishment that they would have to acquire long leadtime items early. So it was their recommendations, endorsed by OSD.

The Air Force then is the one who has to determine from what resources available to the Air Force it will take that money to apply against this new program. General Stelling, whom I will backup in the subsequent reprograming hearings, is the individual who has that responsibility within the Air Force.

Mr. SNODGRASS. The reprograming request you are referring to now did not come to the committee until March 12. When was the decision made within the Pentagon and how long did it take to get to the committee and, if there was a significant delay, why was there that delay?

Mr. STENBIT. The decision with respect to DSCS was a PBD decision on the 24th of November. Why it took so long to get to the committee I will have to ask my administrative colleague in the Comptroller's shop.

Mr. SNODGRASS. It took 4 months. Can the committee have 4 months to make up its mind?

Mr. STENBIT. One of the problems is, we cannot submit it until Congress has enacted the bill under which we are reprograming and that was in fact in February by the time the President had signed it, as I recall.

Mr. SNODGRASS. February 9.

Mr. STENBIT. We are now talking about a month delay and why that occurred we can submit for the record if you like, but it was a normal administrative problem.

Mr. SNODGRASS. Do you think it would be reasonable for the committee to take 4 months to make up its mind since it was 4 months before you made up your mind, whatever the reason?

Mr. SHRIVER. Of course not. I hope the answer Mr. Stenbit gave you is satisfactory, that this was not a last-minute decision to spring upon you by any means.

Admiral BOYES. In the case of FLT SATCOM, the situation I believe is related to the incentives in the contract, approximately $9.75 million, with about $2.9 million for cost growth. It was brought to my attention that the problem existed because of an interpretation within the DOD that the incentives money that we had programed had to be literally backed up 1 year.

At that point I went to our very capable comptroller, Admiral Fine, and indicated to him that we had, it seemed to me, a comptroller's decision to be rendered.

I said that we ought to go back to the Congress to request reprograming to shift the money into the year, as established by the interpretation of full funding and incentives. Therefore, the decision to come before the committee on a reprograming action of the $12 million required by the Navy to pay the incentives for the spacecraft in 1976 would then be between Admiral Fine, supported by my program manager, Captain Pope, and myself.

I believe, sir, we attempted to be as direct and as quick as we could in this instance.

TUESDAY, MARCH 30, 1976.

DEPARTMENT OF THE AIR FORCE

DEFENSE SATELLITE COMMUNICATIONS SYSTEM

Reprograming Hearing

(Request No. 76–20 P/A)

WITNESSES

MAJ. GEN. HENRY B. STELLING, JR., DIRECTOR OF SPACE, DEPUTY CHIEF OF STAFF, RESEARCH AND DEVELOPMENT

COL. WILLIAM D. BATHURST, DEPUTY CHIEF, BUDGET MANAGEMENT DIVISION, DIRECTORATE OF BUDGET, COMPTROLLER OF THE AIR FORCE

LT. GEN. LEE M. PASCHALL, DIRECTOR, DEFENSE COMMUNICATIONS AGENCY

Mr. BURLISON. This is a hearing on the proposed fiscal year 1976 reprograming action, for advance procurement for the defense satellite communications system. We will insert the reprograming action into the record at this point.

[Reprograming action follows:]

REPROGRAMMING ACTION

APPROPRIATION ACCOUNT TITLE	DOD SERIAL NUMBER
MISSILE PROCUREMENT, AIR FORCE	FY 76-20 P/A

APPROPRIATION SERIAL NUMBER: FY 76 - 3

(Amounts in Thousands of Dollars)

LINE ITEM	PROGRAM BASE REFLECTING CONGRESSIONAL ACTION		PROGRAM PREVIOUSLY APPROVED BY SEC DEF		REPROGRAMMING ACTION		REVISED PROGRAM	
	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
a	b	c	d	e	f	g	h	i

PRIOR APPROVAL ACTION

The purpose of this reprogramming action is to realign funds within the Missile Procurement AF Appropriation to maintain a viable Defense Satellite Communications System (DSCS) Space Segment. This action is submitted for prior approval as it involves an increase in funds based on additional requirements than those for which originally appropriated. This item has not been previously denied by the Congress and the action meets all administrative and legal requirements of Congress. This item is in the FY 1976 column of the FY 1977 Budget.

REPROGRAMMING INCREASE

FY 1976 Program

Other Support

1. Defense Satellite Communications System (CY)	XX	36,700	XX	36,700	XX	+13,000	XX	49,700

Explanation - The increase is necessary in order to meet the launch schedule specified to maintain a viable DSCS space segment. The funds are for the acceleration of delivery schedules for satellite flight models 9 through 12 to six month centers (these satellites are now on contract at TRW); the procurement of long lead parts for flight models F13 and F14 and critical high reliability components for flight models F13 through F18 (procurement of those satellites will be initiated in FY 1977).

TOTAL FY 1976 PROGRAM INCREASE						+13,000		

REPROGRAMMING DECREASE

FY 1976 Program

Other Missiles

1. AGM-65A/B Maverick Advance Procurement (CY)	XX	33,300	XX	19,600	XX	-13,000	XX	6,600

CLASSIFICATION

Page 2 of 2

REPROGRAMMING ACTION

APPROPRIATION ACCOUNT TITLE	DOD SERIAL NUMBER
MISSILE PROCUREMENT, AIR FORCE	FY 76-20 P/A

APPROPRIATION SERIAL NUMBER: FY 76 - 3

(Amounts in Thousands of Dollars)

LINE ITEM	PROGRAM BASE REFLECTING CONGRESSIONAL ACTION		PROGRAM PREVIOUSLY APPROVED BY SEC DEF		REPROGRAMMING ACTION		REVISED PROGRAM	
	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
a	b	c	d	e	f	g	h	i

Explanation - These funds became available as the result of a decision to close down the TV Maverick Production Line at the end of the FY 1976 funded delivery period. Funds previously dedicated to the procurement of Long Lead items to support FY 1977 production are no longer required. Previous Missile Procurement Reprogramming DD 1415-1, 13 December 1975, reduced AGM-65A/B Advance Procurement (CY) by $13.7 million. These funds were transferred to Other Procurement, FY 1976, Selected Activities.

TOTAL FY 1976 PROGRAM DECREASE -13,000

NET CHANGE TO FY 1976 PROGRAM -0-

REQUESTED (Signature and Date): 3 MAR

Acting Assistant Secretary of the Air Force

APPROVED (Signature and Date): MAR 12 1976

DEPUTY SECRETARY OF DEFENSE

REPORT CONTROL SYMBOL

DD Form 1415 Material Management

UNCLASSIFIED

CLASSIFICATION

General, would you like to proceed?

General STELLING. Yes, sir, Mr. Chairman and members of the committee.

We are here this afternoon to support the Air Force request for emergency reprograming which is urgently needed to assure availability of satellites for the Defense Satellite Communications System.

Colonel Bathurst on my right is from the Air Staff Budget Office and Lieutenant General Paschall, of course, is the Director of Defense Communications Agency, which has the overall responsibility for the Defense communication program, while the Air Force is responsible for the space segment of this program.

My prepared statement, which I propose to submit for the record without reading provides detailed justification.

Mr. BURLISON. It will be included in the record in full at this point.

[The statement follows:]

STATEMENT OF MAJ. GEN. HENRY B. STELLING, JR., DIRECTOR OF SPACE, DEPUTY CHIEF OF STAFF, R. & D., HEADQUARTERS, USAF

Mr. Chairman and members of the committee: The Defense Satellite Communications System is a maturing system with the prime mission of providing connectivity for command and control, intelligence, early warning and surveillance traffic. Major commitments have been made for its ground terminal segment and for replenishment of the space segment.

The Defense Communications Agency (DCA), as executive manager, is responsible for overall program management and system engineering with the military departments responsible for elements of the system. The Air Force is responsible for development and acquisition of the space segment and airborne terminals with the Army responsible for earth terminals and the Navy responsible for shipborne terminals.

The first two DSCS Phase II satellites, which were launched in November 1971, developed a number of operational anomalies and are no longer usable. After a concerted redesign effort, the next two satellites were launched in December 1973 and are now operational over the West Pacific and Atlantic Ocean areas. The third pair of DSCS II satellites failed to achieve orbit (May 1975) because of a malfunction in the third stage guidance system of the Titan IIIC Launch Vehicle. In September 1975 the Atlantic satellite failed, disrupting all military and diplomatic service provided by this satellite. The problem was subsequently corrected and the satellite was returned to operational service in October 1975, however it continues to display problems and the extent of its future life is not predictable. Additional satellites are required to provide worldwide coverage and inorbit spares to minimize any communications disruption caused by an operational satellite failure. These problems, together with the May 1975 launch failure, remphasized the need to have spare satellites onorbit and sufficient replenishment spacecraft available for launch to maintain uninterrupted communications.

There are currently six replenishment satellites under contract, but none of these will be available for launch until March 1977. The procurement of the replenishment satellites was delayed to assure that the problems associated with the first two satellites were corrected and demonstrated onorbit before we bought any more. The second pair of satellites were launched in December 1973 and, after appropriate testing onorbit was completed, the replenishment contract was awarded in mid-1974. In order to establish a viable space segment by 1979 with six satellites onorbit including onorbit spares and to maintain near 100 percent system availability through 1982, we plan to accelerate the delivery of the satellites on contract and to procure six additional spacecraft and associated launch vehicles.

Our request for reprograming fiscal year 1976 missile procurement funds include $2 million to reduce the interval between deliveries of the replenishment spacecraft from 9 to 6 months. Previously, we were able to accelerate the delivery of the first two spacecraft under this contract from a June 1977 launch to a March 1977 launch. The remaining $11 million of our reprograming request is to procure critical high-reliability and long-lead components for six satellites requested in the fiscal year 1977 budget. With this advanced procurement authorization, we can assure availability of these satellites early in 1979. Your approval of this request will allow us to establish a viable system at the earliest possible time and to maintain the system through 1982. By that time, the recently approved DSCS phase III satellites should be available to replace the onorbit satellites as necessary.

The Senate Appropriations Committee held a hearing on this request on March 29, 1976.

I will be pleased to respond to any questions you may have.

General STELLING. To summarize, $2 million reprograming is needed in fiscal year 1976 to accelerate the delivery of satellites on contract, primarily to fill the gap left when two satellites were lost last May because of a booster failure; $11 million is needed for long-lead efforts to support the procurement of the replacement satellites requested in fiscal year 1977. Our primary objective is to achieve and maintain a fully operational system with greatly improved system availability.

I believe we have established the most effective and economical approach to reach this objective. I would like to add that the intent of the DOD to request this reprograming was included in the President's budget submitted January 20 and included under fiscal year 1976 funding.

Mr. SNODGRASS. Could you provide for the record that information you just referred to, a copy of it?

General STELLING. Yes, sir.

[The information follows:]

Copies of the 1977 and 1976 exhibits applicable to defense satellite communications system follow:

DEPARTMENT OF THE AIR FORCE
FY 1977 PROCUREMENT PROGRAM

APPROPRIATION: 3020 F MISSILE PROCUREMENT, AIR FORCE

DATE: 01 JAN 1976

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 1977 UNIT COST	MILLIONS OF DOLLARS FY 1975 QUANTITY	FY 1975 COST	FY 1976 QUANTITY	FY 1976 COST	TRANSITION QUANTITY	TRANSITION COST	FY 1977 QUANTITY	FY 1977 COST	FY 1978 QUANTITY	FY 1978 COST
	BUDGET ACTIVITY 4: SPARES AND REPAIR PARTS												
	MISSILE SPARES & REPAIR PARTS												
21	SPARES AND REPAIR PARTS	A			43.3		63.1		5.8		60.9		66.3
	BUDGET ACTIVITY 5: OTHER SUPPORT												
	SPACE PROGRAMS												
22	GLOBAL POSITIONING	A											33.6
23	NUDETS DETECTION SYSTEM (IONDS)	A											1.4
24	SATELLITE DATA SYSTEM	A			42.9		9.6		13.4		59.4		54.7
25	DEF METEOROLOGICAL SAT PROG	A			20.1		30.1		2.7		43.2		47.1
26	DEFENSE SUPPORT PROGRAM	A			79.5		39.1		3.8		19.2		77.7
27	DEFENSE SATELLITE COMM SYSTEM	A			49.6		49.7		3.0		200.1		104.5
28	AF SATELLITE COMM SYSTEM	A			2.9		1.7				3.6		10.0
29	SPACE SHUTTLE	A											8.6
30	SPACE SUPPORT (JOHNSON ISLAND)	A									.6		
	INDUSTRIAL FACILITIES												
31	INDUSTRIAL FACILITIES				9.3		5.5		1.9		11.3		12.1
	CLASSIFIED DRONES												
32	CLASSIFIED DRONES	A			7.0		1.2		.5		4.3		10.5
	SPECIAL PROGRAMS												
33	SPECIAL PROGRAMS	A			517.7		482.7		119.3		450.1		602.0
	TOTAL OTHER SUPPORT				729.0		619.6		144.6		791.8		962.2
	TOTAL MISSILE PROCUREMENT, AIR FORCE				1542.7		1712.2		233.0		1599.4		1885.9

* ITEMS UNDER $50,000

DEPARTMENT OF THE AIR FORCE
FY 1976 PROCUREMENT PROGRAM

APPROPRIATION: 3020 F MISSILE PROCUREMENT, AIR FORCE

DATE: 15 JAN 1975

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 1976 UNIT COST	MILLIONS OF DOLLARS FY 1974 QUANTITY	FY 1974 COST	FY 1975 QUANTITY	FY 1975 COST	FY 1976 QUANTITY	FY 1976 COST	TRANSITION QUANTITY	TRANSITION COST	FY 1977 QUANTITY	FY 1977 COST
BUDGET ACTIVITY 4: SPARES AND REPAIR PARTS													
MISSILE SPARES + REPAIR PARTS													
25	MISSILE SPARES AND REPAIR PARTS				37.9		43.3		85.6		6.2		67.9
BUDGET ACTIVITY 5: OTHER SUPPORT													
SPACE PROGRAMS													
26	SATELLITE DATA SYSTEM	A			39.6		42.9		9.6		13.4		9.6
27	DEF METEOROLOGICAL SAT PROG	A			15.8		20.1		38.1		2.0		27.4
28	DEFENSE SUPPORT PROGRAM	A			20.1		79.5		39.1		3.8		31.8
29	DEFENSE SATELLITE COMM SYSTEM	A			33.1		46.6		36.7		1.1		63.5
30	AF SATELLITE COMM SYSTEM	A			3.2		2.0		1.7				34.1
INDUSTRIAL FACILITIES													
31	INDUSTRIAL FACILITIES				3.2		8.1		5.5		1.9		8.3
CLASSIFIED DRONES													
32	CLASSIFIED DRONES	A			3.6		10.0		7.8		3.1		24.5
SPECIAL PROGRAMS													
33	SPECIAL PROGRAMS	A			335.2		517.7		517.1		138.3		524.8
TOTAL	OTHER SUPPORT				461.8		727.8		647.6		163.6		724.1
TOTAL	MISSILE PROCUREMENT, AIR FORCE				1416.3		1542.7		1791.4		277.4		1605.8

REPORT OF PROGRAMS

APPROPRIATION ACCOUNT TITLE: MISSILE PROCUREMENT, AIR FORCE 1976/1978

AS OF: DECEMBER 31, 1975

(Amounts in thousands of dollars)

LINE ITEM	PROGRAM BASE REFLECTING CONGRESSIONAL ACTION		PROGRAM APPROVED BY SECRETARY OF DEFENSE				CHANGES NOT REQUIRING PRIOR APPROVAL BY SECRETARY OF DEFENSE		PROGRAM, INCLUDING CHANGES NOT REQUIRING APPROVAL BY SECRETARY OF DEFENSE	
			AS OF DATE OF LAST REPORT		AS OF DATE OF THIS REPORT					
	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
a	b	c	d	e	f	g	h	i	j	k
FY 1976 PROGRAM (Cont'd)										
Modification of In-Service Missiles (Cont'd)										
Class IV		15,200				15,200		- 1,500		13,700
MINUTEMAN Update		5,900				5,900				5,900
Total Modification of In-Service Missiles		(45,600)				(45,600)				(45,600)
Missile Spares and Repair Parts		85,800				a/ 62,200		+ 900		63,100
** AIM-9H SIDEWINDER (Initial Spares)		(-0-)				(-0-)				(-0-)
** Intelligence Activities (Replenishment Spares)		(-0-)				(-0-)				(-0-)
Other Support Equipment and Facilities										
Satellite Data System		9,600				9,600				9,600
Defense Meteorological Satellite Program		30,100				30,100				30,100
Defense Support Program		39,100				39,100				39,100
Defense Satellite Communications System		36,700				a/ 49,700				49,700
Air Force Satellite Communications System		1,700				1,700				1,700
Industrial Facilities		5,500				5,500				5,500
* Classified Drones		3,700				3,700		- 2,500		1,200
* Special Programs		482,700				482,700				482,700
Total Other Support Equipment and Facilities		(609,100)				(622,100)		(- 2,500)		(619,600)
Sub-Total Direct Program		1,725,900				1,712,200				1,712,200
Reimbursable Program		38,000				38,000				38,000
TOTAL FISCAL YEAR 1976 PROGRAM		1,763,900				1,750,200				1,750,200

* Requires Committee approval prior to implementation of a reprogramming increase in funding.
a/ Includes reprogramming action pending approval of one or more Congressional committees.
** This item has been denied by the Congress and is not subject to reprogramming.

General STELLING. This reprograming request was presented to the Senate Appropriations Committee, Subcommittee on Defense yesterday.

Mr. Chairman, we are at this time prepared to respond to your questions.

IMPACT OF FAILURE TO PROVIDE FUNDING

Mr. SNODGRASS. Two questions, General Stelling:

One of the major decisions in the 1977 budget is whether or not to fund all 12 DSCS II satellites. What would be the consequence if the Congress were to deny this reprograming at this time and make the decision in the 1977 budget?

General STELLING. We would experience both schedule and dollar impact. A failure to provide the approval of advance procurement funding would delay the delivery of the six satellites by 6 months and would also increase the costs of procuring the six satellites by $5 million.

Mr. SNODGRASS. In the interests of time, could you provide additional information for the record substantiating the statement you have just made?

General STELLING. Yes, sir.

[The information follows:]

If the request for reprograming is not approved there will be a 6-month delay in availability of the requested satellites because contractual action could not be completed until October 1976 rather than April 1976. This would delay the availability of replenishment satellites to assure support of the space segment. Additionally, we would require an increase of $16 million to the fiscal year 1977 budget request to procure the six satellites without the requested fiscal year 1976 advance procurement. The $5 million increase over the $11 million in this reprograming request is the price of inflation in the cost of parts, stretchout of the satellite contractor's management and overhead costs for the additional 6 months, reacquiring the skills and continuity lost in the production of critical components. Also included are startup costs, new hires, and requalification for subcontractors and vendors.

Mr. SNODGRASS. If the committee were to decide, in connection with the 1977 budget, to fund less than the six satellites requested—for example, either two or four satellites—should they then in addition reduce the amount of the reprograming request?

General STELLING. Yes, sir; it would be possible to reduce the amount of reprograming that we would require to support a smaller number of vehicles funded in fiscal year 1977.

Mr. SNODGRASS. Could you provide information for the record how much the reprograming request could be reduced if two satellites were provided in 1977, four satellites, and six satellites?

General STELLING. I can do that for the record, or I can do it now.

Mr. SNODGRASS. If you have it readily available.

General STELLING. Right now we are asking for $11 million to support six satellites.

If the number of satellites was reduced to five, we would require $10.5 million to cover long lead.

If the number was reduced to four, the dollar reprograming required in 1976 would be $9 million.

If the total was reduced to two, $7 million would be required in 1976 to support the 1977 requirement.

Mr. SNODGRASS. Is there a possibility there will be boosters available from other Air Force programs which were canceled and, if so, could

the savings from using those boosters be applied against the $200 million request in 1977 so the committee could reduce the amount of money required? If that is so, by how much can we reduce the 1977 budget to reflect the use of these surplus boosters?

General STELLING. Yes, sir; there is the possibility and we have discussed it with the program that is responsible for one Titan III–C, which can be made available to the DSCS program. The availability of this vehicle to the DSCS program would allow us to reduce our 1977 request by $12 million.

USE OF REMAINING MAVERICK FUNDS

Mr. BURLISON. The source of the DSCS reprograming is $134 million from the fiscal year 1976 AGM–65A/B Maverick advance procurement line made available as a result of terminating the TV Maverick production line. For what purpose will the remaining $6.6 million be used?

Colonel BATHURST. In mid-October 1975, under the provisions of continuing resolution authority, the Air Force initiated the advance buy contract for the continued procurement of the E/O, Maverick in fiscal year 1977. At that time $6 million was released to the program office and $5.1 million was obligated for longlead items. During review of fiscal year 1977 Air Force requirements, the decision was made to terminate procurement of the TV Maverick upon completion of the fiscal year 1976 buy of 6,000 missiles. The Air Force plans to reidentify the longlead contract from a planned USAF buy to one which supports FMS procurements to "buyback" the missiles being sold to our Allies from Air Force inventory stocks. It is anticipated that the reidentification of the FMS case "buyback" contracts will be accomplished by mid-April 1976, thus recouping to the Air Force the longlead funds. Of the remaining funds, $0.9 million has been placed in a hold status by the Maverick SPO, $0.3 million has been reprogramed into the target drone program for BQM–34A, and $0.3 million is being held by HQ USAF.

LASER MAVERICK BUY

Mr. BURLISON. You are proposing to buy 100 Laser Maverick missiles in fiscal year 1977 at a cost of $48.1 million. What will you buy for $48.1 million other than missiles?

Colonel BATHURST. The fiscal year 1977 budget includes $48.1 million authorization request for the initial production of 100 laser Mavericks. The $48.1 million includes $19 million for laser Maverick missile recurring and nonrecurring flyaway costs and $2.6 million for laser Maverick peculiar support costs. The remaining $26.5 million is for nonrecurring production line restart costs to implement the laser Maverick production, requalify vendors, and rehire and train personnel.

CLOSING TV MAVERICK LINE

Mr. BURLISON. What is involved in closing down the TV Maverick line?

Colonel BATHURST. Closing down the TV Maverick line stops all production deliveries of Maverick missiles for 22 months, until laser

Maverick production deliveries begin in January 1979. The procurement of TV Mavericks for the USAF will be completed with the fiscal year 1976 missile buy. Closing down the TV Maverick production line will also stop all Maverick missile production and assembly at the Hughes Aircraft Co., Tuscon, Ariz., facility and may result in the loss of key component vendors; that is, rocket motor, thermal battery, and hydraulic actuation system subcontractors. The Air Force is attempting to minimize the impact of this production line gap by programing foreign military sales, FMS, missile buyback deliveries during this gap period. This approach is heavily dependent upon timely consummation of potential and existing FMS in sufficient quantities to sustain an economical production rate for 22 months. Such an FMS buyback program has the potential of maintaining Maverick missile production continuity while avoiding the nonrecurring and recurring production costs estimated at $96.6 million for the total laser and imaging IR Maverick programs, including $25.6 million required in fiscal year 1976 to restart the laser production line. Until sufficient FMS are consummated, the Air Force must program the $26.5 million required in fiscal year 1977.

Commonality Between TV and Laser Maverick

Mr. Burlison. How much commonality is there between the TV and laser Maverick?

Colonel Bathurst. The laser Maverick is a modular expansion of the TV Maverick and will use the same center-aft section, from the guidance unit aft, and the TV Maverick missile now in production. Only the seeker head/guidance unit differs between the TV and laser Mavericks. The TV Maverick uses a televsion vidicon camera seeker and the laser Maverick will use the Tri-Service laser seeker being developed by the Air Force. The center-aft section of the missile will use the common missile airframe, warhead, rocket motor, hydraulic actuation system, and thermal battery. Regarding support equipment, the missile container will be common to both types of missiles and the laser Maverick will use the TV Maverick launcher and test equipment. The test equipment will require an adapter which simulates a laser target signal for missile checkout.

IIR Maverick/Requirement for Laser Maverick

Mr. Burlison. If you are going to buy the Imaging IR Maverick missile, why buy any Laser Maverick's at all?

Colonel Bathurst. The laser Maverick has a unique capability in the close air support environment against targets positively identified by ground or airborne laser designators. Further, it will expand the Air Force's operational capability from the day only TV Maverick

to a 24-hour capable Maverick weapon system. The 24-hour capability is available against any target which the laser designator can acquire and designate. The use of night sights on ground designators and PAVE TACK as an airborne designator is expected to make Laser Maverick an effective close air support weapon system. This capability will be extended to an unlimited 24-hour capability with the introduction of the Air Force's imaging infrared, IIR Maverick. The IIR Maverick retains the launch and leave capability of the basic TV Maverick, is not dependent upon a target designator, and overcomes the basic visual limitation of TV and laser Maverick. The laser Maverick is being procured in fiscal year 1977 to provide the needed 24-hour capability until the USAF can bring the IIR into the procurement program in fiscal year 1979.

Laser Maverick Program and Buy

Mr. Burlison. How many laser Mavericks did the Air Force originally propose to buy and what is the current program at what total cost?

Colonel Bathurst. The President's fiscal year 1976 budget, January 1975, showed 8,000 laser Maverick's at a total weapon system cost of $306.8 million. The President's fiscal year 1977 budget, January 1976. showed 4,700 laser Maverick's at a total weapon system cost of $256.6 million. The fiscal year 1977 request includes $26.5 million nonrecurring production line restart costs and attendant increases in recurring weapon system costs because of a production line break between the E/O Maverick and laser Maverick. The decrease in laser Maverick quantity reflects the Air Force shift in emphasis to the expanded capability and operational flexibility of the imaging infrared Maverick.

IIR Maverick Program and Cost

Mr. Burlison. How many imaging infrared Maverick's do you propose to buy at what total cost?

Colonel Bathurst. The President's fiscal year 1977 budget, January 1976, includes ——— imaging infrared Maverick missiles through fiscal year ——— at a total weapon systems cost of $761.3 million.

Budget for IIR Maverick

Mr. Burlison. When will you begin budgeting for the imaging infrared Maverick missile and in what quantity?

Colonel Bathurst. The President's fiscal year 1977 budget, January 1976, reflects an initial buy of ——— imaging infrared Maverick missiles planned for fiscal year ——— at a total weapon systems cost of $90.7 million.

70-508 O - 76 - 10

TUESDAY, MARCH 30, 1976.

FLEET SATELLITE COMMUNICATIONS (FLTSATCOM) PROGRAM

Reprograming Hearing

(Request No. 76–10 N)

WITNESSES

REAR ADM. S. S. FINE, DIRECTOR OF BUDGET AND REPORTS, DEPARTMENT OF THE NAVY
VICE ADM. JOHN L. BOYES, DIRECTOR FOR COMMAND AND CONTROL AND COMMUNICATIONS (C–3) PROGRAMS, DEPARTMENT OF THE NAVY
CAPT. W. R. POPE, JR., U.S. NAVY, ASSISTANT PROJECT MANAGER, SATELLITE COMMUNICATIONS, NAVAL ELECTRONICS SYSTEMS COMMAND

FLEET SATELLITE COMMUNICATIONS (FLTSATCOM) PROGRAM

Mr. BURLISON. We will go into the second and final reprograming titled WPN fiscal year 76–10 N; appropriations account: "Weapons procurement, Navy; subject: Fleet satellite communications program." We will insert the reprograming action into the record at this point.

[Reprograming action follows:]

UNCLASSIFIED
CLASSIFICATION

REPROGRAMMING ACTION

APPROPRIATION ACCOUNT TITLE	DOD SERIAL NUMBER
Weapons Procurement, Navy 1976/1978	FY 76-10 N
APPROPRIATION SERIAL NUMBER	
FY 76 - 3N	

(Amounts in Thousands of Dollars)

LINE ITEM	PROGRAM BASE REFLECTING CONGRESSIONAL ACTION		PROGRAM PREVIOUSLY APPROVED BY SEC DEF		REPROGRAMMING ACTION		REVISED PROGRAM	
	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
a	b	c	d	e	f	g	h	i

NOTIFICATION ACTION

The purpose of this reprogramming action is to provide additional funds ($12.650 million) due to cost increases on the Fleet Satellite Communications Satellite. This program has not been previously denied by the Congress, is of a higher priority and will be funded by transfer of funds from a lower priority items. The current budget reflects $4.9 million of this increase. The remaining growth of $7.8 million is not reflected in the current budget.

REPROGRAMMING INCREASE								
FY 1976 Program								
Budget Activity 2: Other Missiles								
1. Fleet Satellite Communications		60,500		60,500		+12,650		73,150

Explanation: It has now become evident that additional funding is required to fully fund the procurement of two Fleet Satellite Communications satellites thru FY 1976. This cost growth of $12.7 million is caused by the necessity to fully fund contingent liabilities (contract incentives) for delivering on schedule ($3.15M) and in orbit performance ($6.6M). Additionally, $2.9 million is required to fund expected contract growth above target.

TOTAL PROGRAM INCREASE						+12,650		
REPROGRAMMING DECREASES								
FY 1976 Program								
Budget Activity 2: Other Missiles								
1. Classified Project		12,200		12,200		-4,800		7,400

Explanation: Reexamination of the phasing of this project has indicated that the above funding is excess to current needs. Additional details are of a higher classification.

UNCLASSIFIED

CLASSIFICATION

REPROGRAMMING ACTION

APPROPRIATION ACCOUNT TITLE	DOD SERIAL NUMBER
Weapons Procurement, Navy 1976/1978	FY 76-10 N

APPROPRIATION SERIAL NUMBER	(Amounts in Thousands of Dollars)
FY 76 - 3N	

LINE ITEM	PROGRAM BASE REFLECTING CONGRESSIONAL ACTION		PROGRAM PREVIOUSLY APPROVED BY SEC DEF		REPROGRAMMING ACTION		REVISED PROGRAM	
	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
a	b	c	d	e	f	g	h	i
			NOTIFICATION ACTION					
REPROGRAMMING DECREASES (Cont'd)								
Budget Activity 3: Torpedoes and Related Equipment								
2. Mobile Target MK-30	9	16,600	9	16,600	-9	-7,850		8,750
TOTAL PROGRAM DECREASE						-12,650		

Explanation: Subsequent to budget submission the planned contract date for the FY 1976 procurement of the MK-30 has slipped to December 1976. Since this is within FY 1977 and FY 1977 procurement funds have been budgeted, the FY 1976 funds are available for reprogramming. It is not planned to reprocure these targets in a future year. However, if reprocurement is necessary they will be included in a subsequent budget submission.

REQUESTED (Signature and Date)
G. D. PENISTEN 26 FEB 1976
ASSISTANT SECRETARY OF THE NAVY
(FINANCIAL MANAGEMENT)

APPROVED (Signature and Date)
MAR 4 1976
DEPUTY SECRETARY OF DEFENSE

DD FORM 1415 -2

REPORT CONTROL SYMBOL

Mr. BURLISON. Who will lead off on that; Admiral Fine?

STATEMENT OF REAR ADM. S. S. FINE, DIRECTOR OF BUDGET AND REPORTS, DEPARTMENT OF THE NAVY

Admiral FINE. Yes, sir, this is our reprograming.

I have a short statement which I will read.

As a result of a recent program review, $12.65 million is being requested to assure full funding of all aspects of this program to include expected cost growth above target—$2.9 million—and contingent liabilities for incentives relative to these two satellites which will accrue in fiscal year 1977 and fiscal year 1978—$9.75 million.

The sources available to fund this requirement are found in the MK-30 mobile target program—$7.85 million—which has incurred a procurement slippage into fiscal year 1977 and a reduced level of effort in a classified project which has freed $4.8 million for higher priorities.

This reprograming request will be acted upon by the armed services and the Appropriation Committees of both houses of Congress. This was discussed with this committee at the hearings of March 9. It has been formally heard by the Senate Appropriations Committee.

Mr. SNODGRASS. Admiral Fine, as I understand it, you are saying a substantial part of this reprograming is for "incentive payments."

Testimony earlier today established that the Fltsatcom program originally was intended to cost $313 million, and the current estimates are somewhere in the neighborhood of $866 million, at least a 2½-time increase in the costs of the program. The schedule has also slipped by about 3 years.

How can people earn incentives when they have that kind of performance? That seems almost a contradiction in terms. If it costs 2½ times what you predicted to build it and you are 3 years late, you are still going to pay them incentives?

Admiral FINE. I will have to defer to the project manager the reason for the structure of the current procurement contract, but basically after all the smoke has cleared, the current procurement contract which we went ahead with for F-1 and F-2, the first two birds, has built into it, based on the current schedule in the contract, incentives both for performance and for delivery.

Do you wish to amplify?

Captain POPE. Yes, sir.

First of all, to comment on the cost growth, the cost growth which Mr. Snodgrass referred to is that bottom line total for the entire program including the space segment for Fltsatcom as well as the terminals.

The question of which terminals are included in the FLTSATCOM program has changed since the program was initially begun, and the total therefore does not represent a cost growth per se in our view, but rather a change in scope of the entire program.

It is true that, as we have provided for the record, there has been a substantial cost growth in the space segment itself, and we have provided for the record an explanation of the principal reasons that we have seen for that cost growth.

Mr. SNODGRASS. I think the essential question though is: How can you earn incentives after you have had such poor performance, by whatever measuring point you use? I don't think anybody disagrees

that there has been poor performance. I believe in the hearing of March 9, that the Navy admitted on the record that this has been a program in trouble. Are we rewarding a contractor who has done a bad job, by giving him incentive payments at this late date?

Captain POPE. There have been no incentive payments as I testified previously on the development contract which is where the delays in this program have arisen. Rather, as I indicated previously, there has been a loss to the contractor of some $24 million or more.

On the procurement contract, the question of incentives is interwoven throughout the negotiations with the question of the total cost of the satellites, and we have included in our figures to you the incentives in the total cost of the satellites, but the incentives are employed first on schedule to insure that the contractor has a strong motivation to produce the spacecraft in the time which we have agreed to with him, and in a time in which the remaining parts of the entire program schedule are keyed to.

The incentive payments for performance are included for a number of reasons. Prime among them is an incentive for him to insure that no corners are cut in the production of that spacecraft, and in its careful testing, so that he has an incentive for that spacecraft to function for a long period of time successfully in orbit.

Mr. SNODGRASS. If the committee feels that the contractor should not be rewarded, given the very bad problems we have had with this program, would deleting this money be an appropriate way to show that concern about how badly the program has been managed?

Admiral FINE. The funds that are in this reprograming, with the exception of the $2.9 million, are for future incentives to be earned, in order to fully fund the contractor's contract.

I believe we would probably have to renegotiate the contract to wipe out the incentives in the contract in order to respond to that action by the committee. Otherwise, given the contract status as it stands now, the way it is written, we would some day be required to pay the contractor, or else he would have a claim against the Government for not performing our responsibility in accordance with the terms of the contract.

Mr. SNODGRASS. Could you provide for the record a legal brief about the implications of what would happen if the committee deleted these funds?

Admiral FINE. Yes, sir.

[The information follows:]

REAR ADMIRAL FINE

Under the terms of the FLTSATCOM contract, if the contractor meets the schedule and/or orbital incentive provisions of the contract, he becomes legally entitled to payment of up to $3,150,020 and $6,590,000 respectively. The entitlement to such funds vests automatically upon achievement of incentive goals and is not at all dependent upon any Government action whatsoever.

While the requirement for funds to cover the contract incentive arrangements is contingent upon the contractor's meeting the incentive provisions, the deletion of the requested funds at this time would mean that the program would not be fully funded. The full funding policy set forth in DOD Directive 7200.4 embodies the principle applied by the Congress in providing funds for DOD procurement programs which, in practice, provides that appropriation requests must contain the funds estimated to be required to cover the total cost to be incurred in completing delivery of the end items being procured. Such policy is also a requirement found in OMB Circular No. A–11, "Preparation and submission of annual budget estimates."

In addition to policy considerations, a serious legal problem could arise if funds are not committed to cover the contingent liability of estimated incentive payments. If, in fact, the contingent liability ripens into an obligation, and insufficient funds have been committed to provide the required funding, we might be faced with a violation of the Antideficiency Act, R.S. 3679.

Mr. SNODGRASS. A final question.

The statement indicates that the incentives won't be paid until after the satellite is launched and in orbit. That is not going to occur until late 1977, which under the new budget structure would actually be fiscal 1978. In other words, it is a long time from now, and yet you are asking us to reprogram in 1976.

Why couldn't the committee wait until it considers the 1978 budget, and put the money in at that time, if it felt this were an appropriate thing to do?

Admiral FINE. I think that this is an issue with many, many other issues that we see in the way we provide a budget to Congress. We try to come forward with essentially a fully funded program, even if the funds will not be obligated or expended for years to come.

I think we see this in the shipbuilding program mainly, where it is a big number, but in other programs we have the same issue, that ultimately the rules that we in DOD try to live with in our relationship with the Congress is to present a fully funded program, and where the program is not fully funded, to try to fund it as soon as we know that it is not fully funded. This current reprograming is a case where the Navy is attempting to fully fund this program, even though in fact the dollars may not be obligated or expended until future years.

Mr. SNODGRASS. If the contractor fails to earn the right to the incentive, then the money would be available for the Navy to reprogram into other programs?

Admiral FINE. It would either become available as a source to be used for reprograming, or as a source for cost growth within this program if in fact other things occurred and these incentives were not paid, or it would lapse for obligation when the appropriation lapsed for obligation at the end of 1978.

Mr. SNODGRASS. Previous testimony was that this program is now under "control." Your remarks just now about it being available for future cost growths in this program worry me some.

Are we now starting to retract on your earlier statements?

Admiral FINE. No, sir, we are not, but I will never ever predict that in the future something couldn't occur that will generate increased costs within a particular program.

Admiral BOYES. Mr. Chairman, I think it might be useful for the record if we would submit exactly what the incentive payment is all about and the scheduling of it, and the fact that it does require the contractor to pay back. He earns money over a 120-day period on a specific rate, which our manager negotiated with him.

Failing in meeting that orbital schedule, he then has to put that money back into the program. The incentive as provided is for the production spacecraft, and in my view has nothing to do with the previous research and development problems, and I feel that there is a very distinct difference between providing a contractor incentives for a production model to get into operation versus previous problems that we had in the development of this most complicated satellite system.

[Additional information follows:]

The negotiated spacecraft production contract includes an incentive provision under which a maximum increase to the contract price, in the amount of $9.75 million, will be paid to the contractor if and when the full schedule and on-orbit performance incentives are earned.

An incentive totaling $2,491,020 shall be awarded and paid upon delivery of the first flight model spacecraft on or before the delivery date specified in the contract schedule.

In the event the Government exercises its option for a second flight model spacecraft, an incentive totaling $659,000 shall be awarded and paid upon delivery of such second spacecraft on or before the delivery date specified in the contract schedule.

In the event of late delivery of the first spacecraft, the incentive to be awarded and paid shall be an amount equal to $2,491,020 less $10,379 for each day's delay in delivery beyond the contractually specified delivery date, up to 60 days. Thereafter, the remaining incentive shall be reduced by $31,138 for each day's delay in contract specified delivery over 60 days up to 120 days. No schedule incentive shall be paid where delay in delivery of the first spacecraft is 120 days or more, and no penalty shall be exacted for such delay.

The incentive for the second spacecraft shall be $659,000 less $2,746 for each day's delay in delivery beyond the contractually specified delivery date, up to 60 days. Thereafter, the remaining incentive shall be reduced by $8,237 for each day's delay in contract specified delivery over 60 days, up to 120 days. No schedule incentive shall be paid where delay in delivery of the second spacecraft is 120 days or more, and no penalty shall be exacted for such delay.

Following 60-day initial test period, with a nonfailed satellite, the Government shall award and pay the contractor an incentive of $3,295,000 for the first flight model spacecraft, and $3,295,000 for the second flight model spacecraft, if the option for such second spacecraft is exercised. If such option is not exercised, the incentive for the first spacecraft shall be $3,295,000. In the event the contractor has been paid this initial award but the satellite fails during the ensuing 18 bimonthly performance periods, the contractor shall return to the Government that portion of the initial award allocable to the number of those performance periods for which the satellite is failed. This payback shall be made by the contractor within 20 calendar days after the purchasing contracting officer notifies the contractor that a spacecraft was failed during the period(s) identified and shall be equal to the following amount per period affected:

Flight model 1, $183,056.

Flight model 2, $183.056.

In the event a satellite fails in such a manner that recovery is not possible, the contractor shall immediately pay back to the Government all unearned incentives. In the event a satellite is in a potentially recoverable but failed condition which continues for an entire 6-month period, the contractor shall immediately pay back to the Government all unearned incentives; however, if the satellite returns to nonfailed status prior to the end of the original 18 bimonthly performance periods, the Government shall repay to the contractor the amount of the incentive paid to the Government less the unearned portion thereof attributable to the period of failed condition.

Mr. SNODGRASS. Was it the same contractor who had the problems in the development area?

Admiral BOYES. Yes, sir.

Mr. CHAPPELL. On the development and production contract, are they one and the same people?

Captain POPE. Yes, sir.

Admiral BOYES. TRW, sir.

Mr. CHAPPELL. If so, are you using incentive payments to make up for losses in development?

Captain POPE. Absolutely not, sir.

Mr. SNODGRASS. It is all the same company. I don't know how you can say that. You are saying that money comes in to TRW here and it goes out there but they file a consolidated profit and loss statement.

Captain POPE. It is not a unique problem to this particular program to have loss, cost growth and delay. Circumstances occur on the devel-

opment, and then to have for the same contractor at least an initial procurement award, and it is always an open question, as you say.

To what degree may the contractor be getting well on his procurement, on his first procurement?

Mr. CHAPPELL. Recouping his loss.

Captain POPE. Yes, sir. The best one can do, we think, is to make a very good Government estimate of what the program should cost, to make as thorough audits as we can on the contractor's claimed costs and his proposal, and to bargain very hard with him during negotiations.

Mr. CHAPPELL. Captain, is the production on a bid basis or is it strictly negotiated?

Captain POPE. It was a sole-source negotiation, sir. The contractor who developed this spacecraft is essentially the only contractor who could have a chance at producing it.

Mr. BURLISON. Who is that, sir?

Captain POPE. TRW Corp.

Mr. BURLISON. Any further questions?

Mr. EDWARDS. Isn't the theory of reprograming sort of a transfer of funds from one program to another? Isn't that basically what it is?

Admiral FINE. I guess if you look at the history of reprograming, it started out as a financial document, and has wended its way throughout the years to be the sort of document that you are indicating.

Mr. EDWARDS. You don't use the money here so you use it over here.

Admiral FINE. Yes, sir.

Mr. EDWARDS. You are using $7.8 million from the MK–30 program because there has been slippage, is that right?

Admiral FINE. Yes, sir.

Mr. EDWARDS. Aren't we going to have to make that money up later?

Admiral FINE. The rules we try to follow as much as possible in these reprogramings, to the extent we can, is not to use sources which require rebudgeting at later times. This is not always the case. In a continuous program where we have a program slippage in a particular fiscal year, but it is a program that is going to extend out over a period of years, it is awfully hard to say we are not going to rebudget for these targets because these targets are going to be bought out in the future once we get a target that has got reliability built into it.

The problem with this particular program is that the target doesn't now meet reliability goals, and we therefore have to slip the procurement until 1977. We would not be therefore using these funds appropriated for this particular item in fiscal year 1976.

Mr. EDWARDS. But in 1977 or 1978 or somewhere along in there you are going to need $7.8 million to buy targets.

Admiral FINE. We are going to need more than that to buy targets on the annual buy.

Mr. EDWARDS. You are going to need this $7.8 million at some point along the way.

Admiral FINE. For this particular item we have rebudgeted in 1977, so to the extent that we live under fiscal guidance from OSD, and with a restricted budget, we have sort of accepted that in fiscal year 1977 we have had to give up something else to accommodate the necessity to program for these dollars. But, yes, you are right. As I indicated, as much as we attempt to insure that we don't have to rebudget for program funds used in a particular reprograming, for the

continuous programs where we have out-year buys that are almost like, I won't say on a repetitive basis but a continuous basis to keep inventory filled, to one extent that we use funds in a particular fiscal year for reprograming purposes, there is a rebudgeting in the out-years. It is particularly difficult at times to identify whether we do or do not rebudget for a particular reprogramed item.

Mr. EDWARDS But that might be the case in this instance.

Admiral FINE. Yes, sir, to the extent that we are continuing the buy in the out-years. The fact that we are not buying them this year means that somewhere along the way we will be buying things we are not buying this year as a replacement item for what we are doing.

Mr. EDWARDS. So you are playing musical chairs, is what you are doing?

Admiral FINE. I think in many cases or most cases, Mr. Edwards, we try not to do this.

Mr. EDWARDS. I know you try not to. I am talking about in this case.

Admiral FINE. In this case, yes, sir, you can say that in this case we will be rebudgeting in future years to buy MK–30 targets to the extent that we do and haven't bought them with the 1976 funds, it is a rebudgeting.

Mr. SNODGRASS. We will have some additional questions for the record, both for Admiral Fine and for General Stelling.

Mr. BURLISON. Thank you, gentlemen.

[Additional questions and answers follow:]

MK–30 MOBILE TARGETS

Mr. BURLISON. The source of funds for the FLTSATCOM reprograming is the fiscal year 1976 program for MK–30 mobile targets. Through fiscal year 1974, Congress had funded 11 MK–30 Mod O mobile targets and 22 MK–30 Mod 1 mobile targets. All of the Mod O targets have been delivered and 17 Mod 1's were scheduled for delivery by June 1974. When were these 17 targets actually delivered?

Admiral FINE. Through fiscal year 1973, 18 MK–30 Mod 1 targets were authorized and procured. The remaining four targets, authorized for procurement in fiscal year 1974, were not procured due to reliability problems. The 18 MK–30 Mod 1 targets were delivered to the Naval Torpedo Station, Keyport for proof and acceptance purposes commencing July 1973 and ending in June 1974.

Mr. BURLISON. Were the five in the fiscal year 1974 budget placed on contract? If so, when will they be delivered? If not, why not?

Admiral FINE. The MK–30 Mod 1 targets in the fiscal year 1974 budget were not placed on contract. $4.3 million of the available fiscal year 1974 funding was reprogramed within Navy to partially offset the congressionally directed recoupment of $10.0 million for overall Navy WPN programs in fiscal year 1974.

Mr. BURLISON. All operational performance objectives were to be demonstrated on Mod 1 targets by July 31, 1974, through a comprehensive series of in-water tests at the Keyport range in Washington. Were these tests completed at that time? If not, when were they completed?

Admiral FINE. No. All operational performance objectives were not demonstrated by July 1974. The table below provides a summary listing of those operational performance objectives that were met through December 1975. Since then, surface tube launch, helo launch and 30 knots top speed have been demonstrated.

TEST AND EVALUATION DATA—I. DEVELOPMENT TEST AND EVALUATION: (D.T. & E.

Three MK–30 Mod O targets were used as test vehicles to demonstrate the product improvements which brought about the MK–30 Mod 1. Testing commenced in December 1971 and completed in December 1972.

The Naval Sea Systems Command (NAVSEASYSCOM) in conjunction with Commander, Operational Test and Evaluation Force (COMOPTEVFOR) has structured a D.T. & E./O.T. & E. test plan consisting of three phases. The following D.T. & E. has been or will be conducted as part of the CNO assigned Project X/S 13.

1. Phase I—Engineering Phase.—This phase was required by contract and was for the contractual purpose of performing nonrecurring engineering tests and adjustments not possible out of water and to assure the Government and the contractor that the target is ready to commence proof testing. The engineering phase was conducted between August 1973 and July 1974. A total of 64 in-water runs were made during this period. Results of testing indicated that the MK–30 Mod 1 was ready to proceed into the proof phase.

2. Phase II—Proof Phase—This phase was required by the contract for the purpose of formally accepting the targets from the contractors. The targets were tested to measure dynamics, acoustics, MAD exerciseability, reliability, maintainability, and ancilliary equipment adequacy. In addition, corrective action to target performance resulting from the tests conducted during the engineering phase was evalued. Even though the target MK–30 Mod 1 was essentially capable of meeting CNO operational performance requirements, reliability proved to be lower than anticipated. A reliability improvement program was implemented. Completion is scheduled for December 1976.

II. OPERATIONAL TEST AND EVALUATION: (O.T. & E.)

I.O.T. & E. commenced in July 1973, using production targets. COMOPTEVFOR's test plan for the operational assist was implemented by monitoring COMNAVSEASYCOM tests during engineering and proofing, phases I and II. The plan included the requirement for at least two tests of the target prosecuted by each type fleet ASW unit (air, surface, submarine) and Fleet acoustic torpedoes (MK–48, MK–46, MK–37, MK–44). The engineering phase lasted until July 1974. Material problems, primarily water leakage into the target, and MAD wire breakage, resulting in 13 successful target runs in 62 valid attempts (21 percent).

Phase III—Operational Phase—The operational phase was implemented by assessing the target's capabilities during fleet training exercises. These exercises have been conducted at BARSTUR (Barking Sands Tactical Underwater Range, Kauai, Hawaii) and at the acoustic ranges in the vicinity of the U.S. Torpedo Station at Keyport, Wash. The targets have been maintained and operated by COMNAVSEASYSCOM representatives at each test site. Continued low target reliability in the period December 1974 through February 1975 resulted in COMNAVSEASYSCOM's decision to initiate a 2-year reliability improvement program. As of September 1975, COMOPTEVFOR's review of target runs made since initiation of the reliability improvement program has indicated achievement of reliability of about 0.64. The goal of 0.90 for five consecutive runs is undergoing reexamination for being unrealistically high. A more realistic mission success goal between 0.80 and 0.90 is anticipated in the near future. The status of operational tests are:

(a) The test hours the target has substituted for an actual submarine during ASW training is: 24 hours with submarines; 35 hours with surface ships; 13 hours with fixed-wing aircraft using sonobuoys.

(b) The target has been tracked by active surface ships sonars, passive submarine sonars, and aircraft, using active and passive sonobuoys. Awaiting demonstration are: passive tracking by surface ships, active tracking by submarine sonars; simultaneous multiple ship tracking using active sonars; and tests involving helicopters using MAD equipment.

(c) Torpedoes MK–48, MK–46, MK–37, and MK–44 have been launched against and have attacked the target.

(d) The target has been programed to turn, dive, and climb, with the characteristics of an SSN and has been operated to 2,000 feet in depth. The target has not yet been programed to run at its maximum depth of 2,500 feet. It is to demonstrate its full capabilities in the presence of fleet units.

COMOPTEVFOR/COMNAVSEASYSCOM are concurrently pursuing testings to obtain data for assessing those target characteristics not yet demonstrated. Target reliability data will continue to be assessed during reliability improvement program tests scheduled to be completed in December 1976. COMOPTEVFOR will submit an independent report of I.O.T. & E. prior to major target procurements.

III. SYSTEM CHARACTERISTICS

Characteristic	Objective	Demonstrated performance
Routine operating depth	2,000 ft	Demonstrated during operational phase of test and evaluation.
Speed/endurance:		
Minimum	7 kts/240 min	Demonstrated during operational phase of test and evaluation.
Maximum	30 kts/30 min	To be demonstrated during operational phase of test and evaluation.
Target dynamics phases	———	Demonstrated during all of test and evaluation with exception of 30 kts top speed (up to 26 kts demonstrated).
Guidance: Predicted end-of-run accuracy.	1 mi for 1-hr run; 2 mi for 2-hr run; 2.5 mi for 4-hr run.	Demonstrated.
Acoustics:		
Sonars	Respond to any active U.S. sonar any mode, any time (ASAT).	Demonstrated during operational phase of test and evaluation with exception of active submarine sonar.
Torpedoes	———	Demonstrated during operational phase of test and evluation.
———	———	Demonstrated during all phases of test and evaluation.
MAD	0.5 gamma at 1,500 ft	Demonstrated during phase I and operational phase of test and evaluation.
Acoustic command link	Control depth, course, speed and shutdown to max of 5,000 yds.	Demonstrated in all phases. False alarm rate problem under investigation.
Central control system	Operational controlled by central programable system; control and monitor of 6 critical subsystems, data recorder for run reconstruction and performance analysis; single point access for adjustments and maintenance.	Demonstrated during all phases of test and evaluation.
Launching/recovery	Launch capability from any 21-in. torpedo tube, rack launch from ACR, ATF, or WRB. Helo launch/recovery desirable.	Demonstrated in all phases with exceptions of surface tube launch and helo launch/recovery.
Security/scuttling	Self-destruct of acoustic subsections, scuttling device.	Self-destruct of acoustic programer demonstrated during phase I as 100 percent reliable in 10 consecutive runs in water. Scuttling device on dummy vehicle has been demonstrated. Scuttling of actual vehicle not planned.
Turnaround	5 times without maintenance (goal 0.90).	To be demonstrated.
	3 hr without battery charge	Demonstrated.

Mr. BURLISON. What problems, deficiencies, and anomalies were identified during these tests?

Admiral FINE. The engineering run phase of the MK–30 program served to uncover a number of problems inherent in the target and its associated equipment which only became evident when the systems were assembled and tested against the requirements of the acceptance process. Three major problems remained to be solved. These were the wet-shelf life of the high-speed battery, loss of the towed arrays at high speed and lack of demonstrated reliability. There was concern at the conclusion of the engineering phase that reliability had not been properly demonstrated and in order to examine the reliability of the equipment realistically it would be necessary to obtain results from users in the true operational environment.

Mr. BURLISON. What were the results of phase II proof and phase III operational testing and when were these tests completed?

Admiral FINE. Phase II "proof" testing was conducted during the period of August 1974 through March 1975. The results (static-acoustic and in-water runs) indicated that the MK–30 Mod 1 target was essentially, but not totally, capable of meeting the operational performance requirements. The reliability for target mission success of 32 percent proved to be lower than anticipated. A reliability improvement program was implemented. Completion of the reliability improvement program is scheduled for December 1976.

Phase III "operational" testing was implemented to assess the target's capabilities during fleet training exercises. Results are:

(a) The target has substituted for an actual submarine during ASW training

exercises with submarines, surface ships, fixed-wing aircraft and helicopters. In more than 150 runs, the MK–30 has shown its capability to support the fleet.

(b) Torpedoes MK–48, MK–46, MK–37 and MK–44 have been launched against and have attacked the target. A total of 161 torpedoes have been fired in fleet exercises against the MK–30 Mod 1 target.

(c) The target has shown during actual performance its ability to turn, dive, and climb, with the characteristics of an SSN and has been operated to 2,000 feet in depth. The target has run at its maximum speed of 30 knots.

(d) Continued low target reliability during the period December 1974 through February 1975 caused the Navy to instigate a reliability improvement program which was started in May 1975 and will end in December 1976. Results to date are encouraging. Mission success scores have risen from a low of about 32 percent to 65 percent.

Target reliability data and data for assessing those few target characteristics not yet demonstrated on a sufficient data base will continue to be evaluated during the reliability improvement program.

Mr. BURLISON. What problems, deficiencies, and anomalies identified during those tests?

Admiral FINE. In addition to low reliability, material problems such as leakage, and towed array/MAD wire breakage were identified. In subsequent tests, an unacceptable false alarm rate in the acoustic command link was noted.

The reliability improvement program has been successful in providing solutions for those problems. Additional operational runs for towed array and acoustical command link fixes are being conducted to achieve a level of confidence and demonstrate reliability success.

Mr. BURLISON. Congress provided $9.8 million in fiscal year 1975 for three MK–30 Mod 1 mobile targets at $2.9 million and support at $6.9 million. Were these three targets purchased? If not, why not

Admiral FINE. The three targets in fiscal year 1975 were not procured. Release of the combined fiscal year 1974–75 procurement was contingent on demonstrated satisfactory performance during the proofing/operational test and evaluation phase. A review of the MK–30 reliability indicated that the Navy would need to conduct a reliability improvement program and to proceed to future procurements based on success of this effort and demonstrated performance/reliability.

Mr. BURLISON. If the three targets were not purchased in fiscal year 1975, how was the approximately $3 million used?

Admiral FINE. The $3 million was used to initiate the reliability program. The total fiscal year 1975 WPN funding of $9.8 million was spent as follows:

	Millions
Production support	$2.3
Fleet support	1.6
Reliability improvement program	5.9
Total	9.8

Mr. BURLISON. Of the $16.6 million appropriated in fiscal year 1976 for nine additional MK–30 mobile targets, the Navy proposes to reprogram $7.9 million and not buy the nine targets. Did the contract award date slip?

Admiral FINE. The contract award date was changed from April 1976 to January 1977 to insure that full advantage was taken of the reliability improvement program and to insure that procurement is keyed to demonstrated target reliability and performance.

Mr. BURLISON. What do you propose to do with the remaining $8.7 million?

Admiral FINE. The $8.7 million in fiscal year 1976 will provide for conduct of the reliability improvement program and continuation of fleet support and production preparation as follows:

	Millions
Production preparation	$2.4
Production support	.5
Fleet support	2.5
Reliability improvement program	3.3
Total	8.7

Mr. BURLISON. You have budgeted $17.9 million for seven more MK–30 mobile targets in fiscal year 1977 and you plan to budget $23.4 million in fiscal year 1978 for 12 more. How much of the $17.9 million will buy the seven targets and what will the remaining funds be used for?

Admiral FINE. $9.642 million is planned for contract of the seven targets and batteries, contractor support for the acceptance program, product assurance, and data. The remaining funds are planned for production support, $1.113 million; support equipment, $1.478 million; fleet support, $2.675 million; and reliability improvement program, $2.992 million.

Mr. BURLISON. When you initiated the MK–30 program how many in total did the Navy propose to buy and what is the total program quantity today?

Admiral FINE. As reflected in the fiscal year 1972 congressional budget request the initial program inventory objective was 200 MK–30 targets. This inventory objective was to provide mobile targets for ships and submarines in open ocean and underwater ranges.

In August 1973 the Navy reevaluated its ASW position and established a policy for mobile ASW targets use. The position taken was that:

A sophisticated target is required for underwater tracking ranges, MK–30 Mod 1.

An extensive program for offrange use of the MK–30 Mod 1 would not be cost effective except for special firings when required.

An inventory objective of 15 MK–30 Mod 1 targets at each of four underwater ranges will accommodate about 2,400 runs per year.

The total program quantity for the fiscal year 1977 congressional budget is 84 MK–30 mobile targets. This quantity allows for loss and wearout rates. The total program inventory objective is to achieve and maintain 60 MK–30 Mod 1 targets.

Mr. BURLISON. The reprograming document indicates that the Navy does not plan to procure the nine MK–30 targets in future years. How can you now live with fewer targets than the quantity originally projected when the program began?

Admiral FINE. The Navy has not changed its position on need for this target nor achievement of its inventory objective of a total of 60 MK–30 Mod 1 targets, on four underwater ranges to provide 2,400 ASW runs annually. Reprograming of fiscal year 1976 funds and thereby precluding procurement of nine targets means slowing down the acquisition rate and in so doing providing less runs and delaying activation of the Atlantic coast site. The nine targets given up in fiscal year 1976 will ultimately be required to replace wornout targets now in operation and achieve the inventory objective.

Mr. BURLISON. Has the Navy been using procurement funds to correct deficiencies in these targets and to conduct the development testing of them? If so, how much has been expended on these efforts.

Admiral FINE. Correction of deficiencies found during the proof and acceptance phase of MK–30 Mod 1 targets were and are funded with WPN funds since the improvements are for purposes of increasing reliability of specific components and do not increase the performance envelope of the vehicle. The reliability improvement program funding with WPN dollars also provides for testing of solutions through in-water runs. The total cost of the reliability improvement program is $12.7 million.

Mr. BURLISON. How much has the Navy budgeted in each of the last 3 fiscal years in the R.D.T. & E. budget for the MK–30 program and for what purposes?

Admiral FINE. The Navy has not budgeted R.D.T. & E. funds for this program in the last 3 fiscal years.

Mr. BURLISON. How much is in the fiscal year 1977 R.D.T. & E. budget for the MK–30 program and for what purposes?

Admiral FINE. There are no R.D.T. & E. funds requested in the fiscal year 1977 budget for this program.

Mr. BURLISON. What would be the impact of the Congress denying fiscal year 1977 procurement funding and terminating the program?

OPERATIONAL NEED

Admiral FINE. There continues to be an urgent need for ASW weapon systems to effectively counter the threat posed by high-performance submarines. The MK–30 Mod 1 mobile ASW target, when available in its inventory objective of 60 total targets distributed on four underwater ranges—two Atlantic, two Pacific—will provide for the Navy's needs of 2,400 ASW runs per year. Objectively these training exercises provide for:

Search, detection, classification, tracking, and finally, attacking with all of the Navy's existing homing torpedoes.

Task force operations involving surface, submarine, and naval air ASW units.

Comprehensive performance assessment of all ASW systems, including active and passive sonars, sonobuoys, and aircraft magnetic anomaly detectors (MAD).

Comprehensive performance assessment of homing torpedo performance under condition of deep depth and high speed and responsiveness to stringent acoustic settings.

The need for the unique features of the sophisticated MK–30 Mod 1 target vis-a-vis operational submarines as ASW targets is as follows:

Shortage of operational submarines to provide the required ASW exercises for training and weapon evaluation.

Safety considerations which preclude use of high-speed homing torpedoes against manned submarines under all dynamic conditions—max depth, high speed, and so forth.

Higher cost of bringing a submarine to an underwater range for a day's service in comparison to ready availability and lower cost of a target run.

The MK–30 Mod 1 has the capability to provide for the range of required ASW exercises, representative of the threat. Preprogramed prior to each run, as requested by the user to measure his ASW suit, the target provides for considerable variation in acoustic target size, speed and deep depth. During the exercise, the run geometry can be changed from its programed plan via acoustic command link. These features are only available in the MK–30 Mod 1 mobile ASW target.

PROPOSED FUNDING CUT

Cut in fiscal year 1977 funding and termination of the program would have the following impact:

Severe impact on present and future ASW readiness.

Present inventory of targets would be concentrated on only one vice four sites. The Atlantic Fleet would never see the services of the MK–30 mobile target.

Of the 25 existing targets at the end of fiscal year 1975, 7 are of the prototype and Mod 0 type. These are less capable and considerably older than the 18 Mod 1 type. Eighteen Mod 1 targets would support 720 ASW runs per year in the future at one site. This total is only 30 percent of the Navy's annual needs.

The projected life of a target is 200 runs. Existing targets, without replacements, would decrease rapidly. Submarine services, now only available in limited quantity and restricted in use during torpedo exercises, would have to be increased.

Termination of the program would eliminate—via eventual attrition—the MK–30 target, which has been evaluated as the best and most cost-effective approach in providing for ASW training.

WEDNESDAY, MARCH 31, 1976.

DEPLOYMENT OF TACTICAL NUCLEAR WEAPONS

WITNESSES

HON. DONALD R. COTTER, ASSISTANT TO THE SECRETARY OF DEFENSE (ATOMIC ENERGY)
COL. EDWARD J. ZABOROWSKI, OATSD (AE)
COL. EDGAR L. STEPHENSON, J–3/OJCS
COL. FREDERICK M. GALLOWAY, J–5/OJCS
THOMAS J. O'BRIEN, OSD/SECURITY POLICY
LT. COL. ROBERT JONES, OSD/SECURITY POLICY

NUCLEAR WEAPONS

INTRODUCTION

Mr. MAHON. This afternoon the committee will undertake to cover some matters relating to the deployment and security of nuclear weapons which were left outstanding from hearings held last October on this same subject. Appearing before the committee will be Mr. Donald Cotter, who is the Assistant Secretary of Defense for Atomic Energy. Mr. Cotter proved to be a cooperative and knowledgeable witness in our hearings last October. We welcome you back, Mr. Cotter, and hope that the information which you can provide today will be of assistance to the subcommittee in any decisions it may desire to make with respect to this particular aspect of our defense strategy.

The staff has reviewed your prepared statement in advance and indicates that the statement covers those items which are of most interest to the subcommittee at this time. Therefore, I suggest that you present your prepared statement to include that special section relating to ———. We realize that this is an extremely sensitive subject and that you may desire to go off the record on this matter.

Each member also has available to him a copy of a March 30, 1976, memorandum (Top Secret) from the Chief of the Surveys and Investigations Staff containing deployment, manpower and financial information to be discussed as part of this hearing.

You go ahead with your statement and we will proceed from there.

[CLERK'S NOTE.—The hearings held in October 1975 have not been printed because of the classified nature of the information discussed.]

Mr. COTTER. Mr. Chairman, thank you for the kind words about our last appearance. I certainly appreciate those, and I appreciate again the opportunity to appear before this subcommittee. It has been 5 months to the day since we last were here to discuss these matters.

I would like to mention that the interim report provided by this subcommittee last October was a valuable analysis and gave us important inputs to our continuing security studies. The work of the surveys and investigations team and the considerations of this subcommittee provided a most important contribution to the security program.

From my discussion earlier with Mr. Vander Schaaf, I thought I would submit this statement to the committee and then get on to the substantive items here and cover them as informally as possible.

Mr. MAHON. That is good.

[The statement follows:]

STATEMENT OF HON. DONALD R. COTTER, ASSISTANT TO THE SECRETARY OF DEFENSE (ATOMIC ENERGY)

I appreciate the opportunity to appear before this subcommittee to continue our dialog concerning the physical security of deployed nuclear weapons. The interim report provided by this subcommittee last October was a valuable analysis and gave us important inputs to our continuing security studies. The work of the surveys and investigations team and the considerations of this subcommittee provided a most important contribution to the security program.

The interim report and the October hearings focused on four areas where the subcommittee believed that insufficient data were provided to the surveys and investigations staff. These areas were identified as:

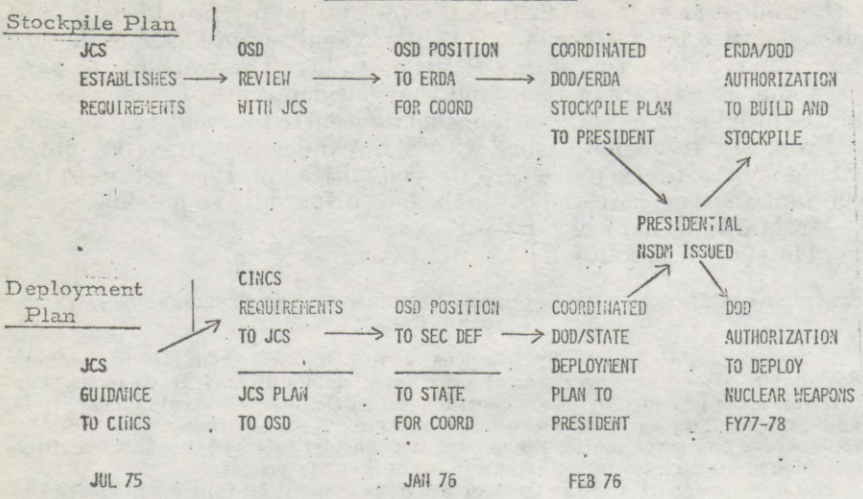
Rationale for deployment; nuclear release procedures; ——— and international agreements—programs of cooperation.

Today, I would like to discuss the general rationale used in developing the deployment plan which eventually will become the authorization by the President for the Defense Department to deploy nuclear weapons in fiscal year 1977–78. This will be followed by an informal presentation on nuclear release. A member of the JCS will provide this briefing which emphasizes the two-man rule and use of authenticators as it leads you through a mock release of nuclear weapons. Third, I will cover some aspects requested by the subcommittee during our October 30, 1975, discussions of ——— (as one of the committee members referred to it). During these two discussions, Mr. Chairman, I would propose that the discussion be off the record and only with interested members and that no observers be present. Fourth, I would like to discuss the programs of cooperation. Last, I would like to bring you up to date in the physical security area; that is, changes that have occurred since last October, including personnel requirements associated with the storage of nuclear weapons.

DEPLOYMENT RATIONALE

Prior to providing the rationale for the deployment plan, I believe it would be beneficial to explain the process in the formulation of both the stockpile plan and the deployment plan. These receive a great deal of scrutiny within the executive branch. Issues are debated and resolved at each level of review. The services and the JCS resolve their issues prior to forwarding to the Secretary of Defense. Issues within OSD are resolved prior to coordination with the Department of State (or Energy Research and Development Administration for the stockpile plan) and last, issues between the Department of Defense and Department of State are resolved prior to submission to the President. This annual review follows the process shown on the chart, culminating in the President issuing a national security decision memorandum (NSDM) to provide the appropriate authorization.

NUCLEAR WEAPON PLANNING CYCLE



This next chart summarizes the general rationale we used in developing the plan:

GENERAL RATIONALE

NUCLEAR WEAPONS DEPLOYMENT AUTHORIZATION PLAN

Plan represents the synthesis of many elements bearing on our nuclear posture which has been under examination for several years.

Analysis included:

- Revised military planning
  - Advent of new NUWEP (NSDM 242)
  - Increases in strategic nuclear forces capability.
- Restructuring and modernization of our military forces
  - Increased flexibility due to modernization of the strategic and tactical nuclear stockpile.
  - Improvements in conventional forces
- Nunn amendment (Public Law 93–365) and other congressional concerns
- Security aspects of current deployments
- Ongoing MBFR negotiations.

Additionally, the Secretary of Defense guidance dated February 18, 1976, directed the DOD to ———.

The plan submitted to the President this year is not unlike the one provided last year which I summarized for you in October. Any plans for implementing significant reductions would, of course, be considered in the light of the then prevailing political and military circumstances. The overall summary of this year's plan is provided in the next chart. The authorization proposed for Europe includes the warheads ———.

NUCLEAR RELEASE

A member of the Joint Staff will now present an informal briefing on nuclear release. This will describe what is required on nuclear release and may answer some of the many questions the committee members raised during the October 29–30, 1975 hearings.

——— presentation off the record.

FOR THE RECORD—INTERNATIONAL AGREEMENTS (PROGRAMS OF COOPERATION)

As stated in my previous testimony, the bilateral agreements are the responsibility of the Department of State and our service-to-service technical arrange-

ments as well as the stockpiling agreements are subsets of the bilaterals. The agreements are generally along the lines that each party will communicate to or exchange with the other party such classified information as is jointly determined to be necessary to:

The development of defense plans;

The training of personnel in the employment of any defense against atomic weapons and other military applications of atomic energy;

The evaluation of the capabilities of potential enemies in the employment of atomic weapons and other military applications of atomic energy; and

The development of delivery systems compatible with atomic weapons which they carry.

The stockpiling agreement allows for the storage in the individual host country of atomic weapons under U.S. custody. These are provided by the United States to meet the requirements of forces assigned to NATO. When the weapons are released for use, by the President, they will be employed in accordance with procedures established by SACEUR. Delineation of responsibilities as to safeguarding of classified material and weapons, their maintenance, surveillance and assembly, and financial arrangements are also covered in the agreements.

The service-to-service technical arrangements provide for the details of the general areas governed by the bilateral agreements.

PHYSICAL SECURITY UPDATE

The program to upgrade security at our nuclear storage and alert areas has progressed considerably since my appearance before you last October.

At that time, I indicated the services were surveying each site to determine what needed to be done in order for that site to meet the standards set forth in our Nuclear Weapons Security Manual, published July 1, 1975. These surveys have now been completed and each service has reported to us what projects they consider necessary at each site, the cost of these projects, and the fiscal year in which these projects are programed. We are currently estimating the expenditure of just over $300 million on the security upgrade program in the fiscal year 1976–78 time frame.

Major items in this upgrade program include hardened structures for the response force, hardened guard towers and entry positions, dual sensor detection systems for those sites lacking them, more fencing and lighting, and protection for emergency backup electrical power.

Approximately 31 Army sites, 4 Navy sites and 19 alert storage areas located on 11 Air Force bases will begin upgrade projects with fiscal year 1976 appropriated moneys. Changing situations effecting deployments, site closures and consolidations may cause a revision in these amounts or additional outyear programing beyond fiscal year 1978.

An important consideration in regard to the overall cost of this program is the recoupment of the majority of U.S. expended funds in NATO. The physical security requirements dictated by our Nuclear Weapon Security Manual have been translated into a proposed NATO nuclear site criteria document which has been submitted to SACEUR for submission to NATO for approval. If this document is approved by NATO as submitted, it will be the basis for eventual recoupment of approximately 70 percent of U.S. prefinanced facility upgrading costs.

The security upgrading is progressing as expeditiously as possible while insuring that the funds authorized are being programed for use in the most efficient manner. Construction contracts for the first sites involving fiscal year 1976 moneys are expected to be advertised in May of this year with award in June. The program has high level DOD and service management interest to assure the most cost-effective security for these weapons.

Along with security upgrading, the DOD has been reviewing the total number of nuclear storage sites, with a view toward consolidation of weapons and a reduction of sites. There has been much concern through the years on the numbers of nuclear storage sites. In 1971, there were a total of ——— storage sites worldwide, today there are ———. Since the issuance of the committee's interim report, we have had only one site closure—that at ———. The Joint Chiefs of Staff have identified ——— additional sites which might be closed. This figure does not include any ——— as this problem is being studied separately in the context of alliance considerations. It is difficult to associate a specific number of manpower

savings with closure of sites. Manpower savings in host countries are possible only if the nuclear operational capability is removed from the country. Security manpower (external security guards, security alert teams, and backup alert forces), especially that with U.S. Army delivery units, is difficult to identify because most of it is not authorized or assigned for the specific purpose of guarding storage sites. Instead, the manpower is shared with other functions. In these cases, elimination of a security requirement will not permit a reduction in manpower unless the function from which the manpower was borrowed can also be eliminated. Nevertheless, some manpower savings can be attributed to consolidation, as well as site upgrading costs, site operating and maintenance costs, transportation costs and some overhead costs.

We believe that should we close all ——— sites identified by the Joint Chiefs of Staff, we will have probably reached the minimum number of sites for the following reasons:

Fewer sites lower survivability in a preemptive attack.

Fewer sites make dispersal more difficult.

Fewer sites lower the deterrent value of nuclear weapons.

Fewer sites provide greater vulnerability to enemy agent teams.

Given treaty commitments on stockpiling, further reductions may be difficult.

Gentlemen, I have provided you a brief overview of our deployment rationale, nuclear release procedures, ——— and information concerning international agreements. I have also updated you on our physical security program since my last appearance. This concludes my statement and I would be pleased to answer your questions.

Summary Remarks

Mr. Cotter. As we agreed earlier, we will cover the rationale for the deployment of nuclear weapons, some aspects of the international programs of cooperation, and the physical security aspects of the program and then, Mr. Chairman, with your agreement, in order to cover the release procedure information and the ——— matter, we would like to go off the record.

Mr. Mahon. We will do that later in the hearing.

Mr. Vander Schaaf. At that point in the hearing we will ask the recorder to leave and we will clear the room.

Mr. Cotter. Yes; and certain of the Defense team that came along will have to leave here also. I think we will just have my immediate office and Colonel Stephenson.

I would like to also mention the number of backup witnesses that are here.

Colonel Ed Zaborowski who was here last October from my staff; Colonel Edgar Stephenson from the J–3 of the Joint Chiefs of Staff, who will cover the release procedure matters later on; Colonel Galloway from the J–5 of the Joint Chiefs of Staff is seated behind me here; and we have two people from the Security Police Office of the Office of the Secretary of Defense, Mr. O'Brien and Colonel Jones.

Sir, to get into the rationale for deployment, I would like to call your attention starting at the bottom of page 2, and on page 3 of the statement I gave you, you will find a copy of this Vugraph. It talks about the stockpile plan and the deployment plan, and I just thought it would be interesting to cover both of these papers since these are the key papers in the Department of Defense, asking the President for authority to have ERDA build nuclear weapons and then to have

those weapons transferred to the custody of the Defense Department, and then the authority to deploy these weapons in accordance with the President's approval.

Let me just briefly point out that the stockpile plan you see at the top of the chart, the Joint Chiefs of Staff establish requirements in accordance with the war plans as to the numbers and types of nuclear weapons they desire to have in the inventory. This is then reviewed with the Office of the Secretary of Defense, and the Secretary of Defense actually approves the paper, sends it over to Dr. Seamans in the Energy Research and Development Agency, to coordinate on that, and a coordinated DOD–ERDA plan is presented to the President for the authority to build weapons and retire weapons.

Retirement, I might point out, is an important part of this process, because we need to retire old weapons, to reclaim material for the production of new weapons.

Once the President issues a decision memorandum on that, then ERDA goes ahead and builds the weapons. That is just a very quick overview of that.

Now on the deployment plan, one of the major subjects for today, again the JCS, working with the services, prepares the guidance, asks for the guidance of the commanders around the world, CINCEUR, CINCPAC, and so on, asks for their requirements. The JCS then sends this paper forward to the Secretary of Defense, where it is reviewed, and the Secretary makes decisions on what he would like to see in the way of deployments of nuclear weapons, and it is then sent to the State Department for coordination.

The coordination having occurred, being reviewed with the programs of cooperation which I covered last October this joint DOD–State paper is then forwarded to the President for decision. He then makes up his mind as to whether or not he is going to go along with the two departments, and sends us back an authorization to deploy nuclear weapons.

As I mentioned last October, in the 1976 deployment plan, some proposals were made ———, and this plan was submitted by the Defense Department. The President at that time decided ———.

If you turn to page 4 and look at the chart there, this in essence gives the rationale as to how we arrived at the deployment plan. The analysis that the Chiefs of staff and services go through and the OSD in its review comments on the proposed deployments is a composite of a number of requirements. The most important, of course, is the military planning that goes in for the proposed use of these weapons if such use would be necessary.

I mentioned to you last time that there was a new nuclear weapons deployment policy promulgated in early 1974 which essentially changed the targeting doctrine for some of our weapons, primarily the strategic weapons, but also required the CINCEUR, for example, to go and look at the targeting policies and the target structure in Europe and in support of the NATO alliance.

That new targeting philosophy did have an impact on the numbers of weapons and the types of weapons that were forward deployed, and thus was an important aspect of generating the deployment possibilities.

Along with that, we had been building up our strategic forces and putting more strategic forces into reserve, ———, and I covered that for you in terms of the possibility of providing more ———. This increase in the strategic force nuclear capability allowed us to lean less on some of the forward deployed weapons that we had around the world.

There were other things that came into play, the technology of the weapons systems. We were able to provide increased flexibility for some of our weapons. I mentioned ———, the capability for one weapon, by the simple expedient ———. So the technology had an effect on the numbers of weapons forward deployed.

A very important aspect was the improvement in conventional force capability. For example, in Europe the Air Force went through their target lists, determined that there were a number of targets that previously required the larger yields of nuclear weapons because the accuracy was not as great. In doing so we found that we could attack some fixed targets such as bridges and point targets with precision guided weapons, such as the Maverick, for example, which is a very effective conventional weapon. Looking at these new capabilities in conventional forces we were able to say that perhaps we didn't need—it was not a significant impact, I don't want to leave you with that idea, but there were some changes in conventional forces that allowed us to draw down a few percent in the numbers of nuclear weapons.

The other aspects that came in, points that were raised, both by the so-called Nunn amendment report which we furnished you last year, and the security aspects of current deployment which this committee and the S. & I. staff put their finger on, and which we looked very seriously at was the question of the security of forward deployments. We had to make a choice as to whether or not we wanted to pay to upgrade the security of some sites, or rather could we consolidate some weapons, close out some sites, and save some money there.

All of these factors came into play. There is another aspect that applied to the central front in Europe, and that had to do with the mutual and balanced force reduction negotiations that were going on with the Warsaw Pact.

I mentioned last year that there was one option that would be tabled as soon as we had alliance concurrence. That was to put into the negotiation an option for withdrawing a number of weapons from the central region of Europe, and that of course bore on the plans for the deployment plan.

———.

You heard Secretary Schlesinger say this last year, and Secretary Rumsfeld picked up on that point, and that is the guidance now to the military departments.

The Department of Defense is very serious about this matter of improving the peacetime security, and we appreciate the added attention that Congress gave us in helping us to coalesce and focus the Department of Defense in this aspect.

On the next chart, at the top of page 5, is an overall summary of what is in the projected fiscal year 1978 plan. I mentioned last year—excuse me, this is the proposed 1977 and 1978 plan. You can see in the first column what was authorized last year, fiscal year 1976.

As I mentioned in the October hearings, the numbers are not all that different. There were some minor changes, minor withdrawals from 1975 to 1976, and of course the 1977–78 plan shows that essentially the same plan was resubmitted to the President for action this year.

I can comment on a number of these things. If you look at the top line, the European numbers, there are only about ———, but as I pointed out last year, there was some number, like around ———.

Mr. VANDER SCHAAF. Mr. Cotter, I don't think we want to dwell on this very long because I think our questions will get into this in far greater detail.

Mr. COTTER. Very good.

Let me ask if there are any specific questions about these numbers up here I will cover them. The point I wanted to make is, ——— but I know your questions will address that later.

Mr. VANDER SCHAAF. Mr. Cotter, if I may ask one question, How much time do you need to present the portion of the hearing that will be off the record and not recorded?

Mr. COTTER. I would say 10 or 15 minutes.

CURRENT DEPLOYMENTS OF NUCLEAR WEAPONS

Mr. EDWARDS. Current deployments.

Mr. Cotter, in your testimony last year you indicated that the Department of Defense's fiscal year 1976 deployment plan proposed ———, and provided the investigative staff with some of the alternatives proposed. ———.

What is the situation with respect to the fiscal year 1976 tactical nuclear weapons deployment plan? Have there been any significant reductions or changes from fiscal year 1975?

Mr. COTTER. There were ———, sir.

Mr. EDWARDS. What was the reason given by the administration for ———?

Mr. COTTER. You recall that the President's decision was made in early August I believe. We submitted the plan in April. This was about the time that Vietnam collapsed, you will recall, ———.

Mr. EDWARDS. One of the reasons given for ———.

What additional weapons do you propose to add to the ———?

Mr. COTTER. ———. The number for the ——— was ——.—. I mentioned that there were about ———.

Mr. EDWARDS. Bring us from ———.

[Classified discussion deleted.]

Mr. EDWARDS. If you only need ———, then will you be ———.

Mr. COTTER. We would like to do that for reasons I mentioned earlier, sir. We need to ———.

Mr. EDWARDS. But that is the main thing that is holding you up right now?

Mr. COTTER. ———.

Mr. EDWARDS. I know we are not talking about the election.

Mr. COTTER. That is right. Thank you.

Mr. EDWARDS. Do all of the ———? In other words, how can the enemy be certain that we have actually withdrawn the nuclear warheads if the system has both a nuclear and conventional capability?

Mr. COTTER. The launchers are the most verifiable thing, ———.

———, so it is not all that easy to verify, no, sir. That is one of the problems with verification. That is one of the problems here in the assumption.

Mr. EDWARDS. There is some question as to whether all the launchers are going to go.

Mr. VANDER SCHAAF. Are the launchers in the proposal you laid on the ——— included in that proposal or is it just weapons?

Mr. COTTER. The weapons are what is proposed in there ———.

Now there was an additional ———.

I would have to check that for the record.

Mr. VANDER SCHAAF. Then the ———?

Mr. COTTER. Actually the ———. In answer to your specific question, the verification problem is difficult, to verify that we have withdrawn bombs and warheads.

Mr. EDWARDS. I guess what I would wonder is what do the Russians understand is on the ———?

Mr. COTTER. They understand that we would be pulling out nuclear warheads. I believe those are the words that are used, nuclear warheads.

Colonel Zaborowski points out we have not ———.

Mr. EDWARDS. Have you got anything ——— would accept, based on the ability to verify or the visibility of the systems we are talking about, if the whole situation were reversed?

Mr. COTTER. If I were a Russian and asking that question?

Mr. EDWARDS. If you were recommending, if you said OK, the ——— would you recommend that our country accept that kind of a proposal?

Mr. COTTER. I am really not qualified to answer that in that context. I would probably note the difficulty of verification though.

Mr. EDWARDS. I just wonder if we have laid something on the ———.

Mr. COTTER. That is a political judgment, and I am not really competent to answer that question.

Mr. EDWARDS. But you at least confess that there is some problem with it. I shouldn't say "confess."

Mr. COTTER. I pointed out that there is a verification problem.

Mr. VANDER SCHAAF. One additional problem that is arising, I understand the Army has now requested funds to take the ———?

Mr. COTTER. You are talking about the ———?

Mr. VANDER SCHAAF. Yes, sir.

Mr. COTTER. Yes, ———.

Mr. VANDER SCHAAF. What is the advantage ———?

Mr. COTTER. ———. They are looking at it from the standpoint of trying to get a better conventional capability all around, and ———, would be a special conventional warhead that would be used to attack runways with conventional explosives.

Mr. EDWARDS. At one time the fiscal year 1976 deployment plan proposed ———. Included in this plan were ———?

Mr. COTTER. I would have to check the actual detailed number. I think overall the answer is, "No." ———. That action I feel sure will be authorized by that particular time, and we would hope that other movement can occur by that time.

Mr. EDWARDS. But the delay is in working out documents in detail, is that the problem?

Mr. COTTER. The only problem now is the President has not yet received the new deployment plan. It should go to him in a matter of weeks, and hopefully we would have that decision very shortly thereafter. If he does approve this year, the movements we have suggested, I think we could accomplish those some time by the end of this year.

The only caveat on that, of course, is those weapons that are in ———.

Mr. EDWARDS. The deployment of nuclear weapons to ——— is particularly interesting since this deployment has been described as "dangerous" and was originally made at a time in which the United States did not have ——— for that purpose. In many respects, the requirement for this particular deployment has vanished. In view of this, why do we continue to operate a nuclear weapons storage site in the ———?

Mr. COTTER. The ——— deployment is one that we would want to move on fairly rapidly, and again that is held up for some political judgment. I would hope that that is one of the actions that we can take very quickly.

Mr. EDWARDS. Do you know what the political judgment is that we are concerned with?

Mr. COTTER. Again it is tied up, and I would have to ask the State Department this question for a more competent answer, but it is tied up again with ———. That is where those things are stored.

Mr. EDWARDS. In our previous hearing on this subject we discussed the "problem" of storing nuclear weapons in ———. What are your current views with respect to nuclear weapons storage in that nation? Also, would you comment with respect to your plans for ———?

Mr. COTTER. With the action recently taken on ———, we then would be able to open up those discussions again about some site consolidation, site consolidation of those storage sites in support of NATO. That would be an alliance consultation matter. Some of the weapons that are there for U.S. forces only we could move on independent of NATO consultation, and I would hope that we would be able to go ahead on some of that rather quickly also. The same holds true for ———. As her forces are ———, we would then be able to open up discussions on some site consolidations. As with ———, that would also be an alliance consultation matter.

Mr. EDWARDS. The recent actions, you are talking about ———.

Mr. COTTER. Yes, and ———.

Mr. EDWARDS. I trust there is more involved in that ——— don't want in the first place.

Mr. COTTER. I am sure there are. As you know, there are other significant operations, ———.

Mr. EDWARDS. In your view, how many nuclear weapons currently deployed overseas have ———?

Mr. COTTER. This is a tough question———. For example, I mentioned we can carry some targets with conventional weapons, we can carry some targets with strategic nuclear weapons, and we would rather do that for purposes of survivability of nuclear forces. ———, so overall the weapons have less utility to us than others. ———.

I would say there is a few percent of the stockpile that I would put very low down on the list as having lesser utility than others.

Mr. EDWARDS. But you really haven't given us a number.

Mr. COTTER. You are asking for a judgment on my part. I am sure that would be a different judgment than you would get if you asked say the Chairman of the Joint Chiefs of Staff.

Mr. EDWARDS. You are the only witness we have sitting here though.

Mr. COTTER. The number in Europe is ——— out of 7,000.

Mr. EDWARDS. Do you agree to that number?

Mr. COTTER. Yes, sir. We reviewed that number and concurred with it.

Mr. EDWARDS. The ——— have already gone on in excess of 1 year and will probably go on for a number of additional years if they are ever in fact completed.

Mr. COTTER. The numbers that we are worried about have to do with the ——— that is in the specific proposal. As we ———.

Mr. EDWARDS. When you appeared before this committee last October, Mr. Cotter, you acknowledged that there should be and that there would be ———.

[The information provided was classified.]

NUMBER OF WEAPONS DEPLOYED

Mr. BURLISON. On page 5 of your statement, the top of the page, this chart, the grand total figure for 1976, ——— that is atomic warheads that we have distributed around the world?

Mr. COTTER. That is a mixture of warheads and bombs; yes, sir.

Mr. BURLISON. Warheads and atomic bombs?

Mr. COTTER. Atomic bombs.

Mr. BURLISON. How many do the Russians have? What is our estimate of how many the Russians have in the same place?

Mr. COTTER. In forward deployed?

Mr. BURLISON. Yes.

Mr. COTTER. Forward deployed weapons? There is a wide variance to that number. For example, in the central region of Europe———

Mr. BURLISON. Forward deployed?

Mr. COTTER. That means outside of the Soviet Union. You would have to add up all of those that are on submarines that they have similar to our Poseidon-Polaris submarines. I could provide that number for the record.

The other location that we think they have significant numbers of nuclear weapons is in the Warsaw Pact region, and that estimate varies between about ——. I would say forces opposing pact and NATO, central Europe, are probably ———. I would say that is a fairly reasonable number.

Mr. BURLISON. Do we have any bombs or warheads deployed in ———?

Mr. COTTER. No, we don't.

Mr. BURLISON. The reports I have seen in the paper in the last couple of days about this ——— says or indicates that the ——— whatever that means. I am wondering if this means any atomic bombs or warheads that we have deployed there are technically or untechnically under ———.

Mr. COTTER. No, sir. The agreements with these countries for storage stipulates that the U.S. nuclear weapons will remain in the custody of the United States, and actually we have custodial teams in areas on these bases where the ——— are not allowed to enter, even though they may have control of the overall air base, their flag is flying from the staff, and our flag is flying from the staff inside our own areas. That is under this program of cooperation and service-to-service agreements.

Mr. EDWARDS. Do the Russians have a similar package on the table?

Mr. COTTER. Of nuclear weapons?

Mr. EDWARDS. Yes.

Mr. COTTER. No, sir. The proposal was made by the United States. It was made by NATO, I should say to the pact, to trade certain numbers of stationed forces and nuclear weapons for a tank army. I don't know the precise numbers. They are available. I can get them for you, but I don't know the precise numbers. It is weapons and some stationed forces for some of their stationed forces and a tank army I think is the best way to describe it.

Mr. EDWARDS. I don't want to do ———.

Mr. COTTER. ———.

Mr. EDWARDS. ———.

Are they putting the same kinds of things on the table, ———?

Mr. COTTER. Perhaps I could ask one of the Army people here as to the ———.

Mr. EDWARDS. Let the record show that Colonel Galloway shook his head "yes." We are not going to let you escape that easy.

Mr. VANDER SCHAAF. Mr. Cotter, you seem a lot more sure of your numbers with respect to the pact nuclear weapons than we have been able to establish in some conversations with people from the Defense Intelligence Agency. Last October, when you were here, you also indicated that the Soviets have improved their capability for tactical nuclear war with ———, et cetera. We were very interested in that. We asked for a separate briefing from the Defense Intelligence Agency.

Mr. COTTER. I don't believe I said ——— weapons.

Mr. VANDER SCHAAF. You didn't say it this time.

Mr. COTTER. I don't think I said it last time.

Mr. VANDER SCHAAF. You indicated that and some aspects, numbers, et cetera.

Mr. EDWARDS. At least he inferred that.

Mr. VANDER SCHAAF. I inferred that, but we couldn't get any numbers out of the Defense Intelligence Agency, and everything they talked about was very, very iffy.

Now you come out here and tell the Members that we are ———.

Mr. COTTER. I said the numbers are very speculative. If you want my judgment on it, and I just went through an exercise on this with the Defense Intelligence Agency, in the central region we have about ——— and I think you would get an estimate out of DIA that they had about ——— there. I would say that from my analysis that we have just gone through would show is that that number could vary between about ———, and I would say if you want a rule of thumb,

we are ——— in the central region. I would be happy to show you the derivation of those numbers.

[The information is classified and was provided separately to the committee.]

Mr. VANDER SCHAAF. When you use the term central region, do you refer to the Russian soil itself as part of the central region, or are you referring to only East Germany and Poland and Czechoslovakia, let's say?

Mr. COTTER. You remember the number we talked about last time was that the estimate was that we had about 7,000 nuclear weapons in Europe and they probably had about ——— in Eastern Europe. Then I said you had to look at what is in the central region, and that is a number like ———. I would say there is some variation in that number, and ———.

NIKE HERCULES SITES

Mr. EDWARDS. The United States currently has ——— Nike Hercules sites in Europe capable of utilizing nuclear weapons. ——— of these are U.S. custodial sites and ——— are U.S. only sites. In our previous hearing we questioned the utility of Nike Hercules in its nuclear role. In response to these questions you indicated that ———. Have any other further steps been taken to implement this plan? If not, why not?

Mr. COTTER. No, sir. When we proposed to NATO that the Nike Hercules deployments be reviewed, we agreed recently, the Secretary of Defense agreed recently, to study the matter again with NATO. SACEUR is now commenting on this report which I provided to Chairman Mahon, and we expect to have the military assessment next month on that. Secretary Rumsfeld wants to have NATO study that question. We have not yet negotiated with the ——— on the issue.

Mr. EDWARDS. We understand that this plan is being evaluated by Supreme Allied Commander Europe and others. What are the views of the European Command with respect to ———?

Mr. COTTER. Of course there was an earlier decision made by Secretary of Defense that was made about a year ago ———. The numbers in your question were accurate. Since that time we have gone back and asked, or Secretary Rumsfeld has asked, for that to be reviewed. That is the reason no action is being taken at this moment. We expect that we will have a plan in hand this summer that the Secretary can then make a new decision on this.

Mr. EDWARDS. In your professional judgment, are we ever likely to get any action, unless the Congress kind of puts it to you?

Mr. COTTER. Get action on what, sir?

Mr. EDWARDS. ———.

Mr. COTTER. I think the United States is serious about trying to do this, and save some money and some manpower spaces, and that is one of the proposals in this modernization study.

Mr. EDWARDS. That is where I got those numbers.

Mr. COTTER. That is exactly right.

Mr. EDWARDS. We had to do a lot of fast reading since noon.

Mr. COTTER. I think the whole process with NATO is one of consultation, and trying to get these things done. I think we can get it done. We have to bring them along. I think it would be better for us

to go ahead and try to do it with their concurrence, rather than to have legislated action, which would cause a lot of turmoil.

Mr. EDWARDS. I certainly agree that that is the better rout to travel.

Has anybody got any questions on the Nike Hercules before we move on?

STORAGE SITE CLOSURES AND CONSOLIDATIONS (EUROPE)

The withdrawal of ——— weapons from Europe would reportedly result in the closure of the ——— at a savings of ——— personnel and at least $2.8 million annually, as well as closures of two direct support storage sites. The investigative staff visited ——— in November 1974 and found significant security deficiencies, mainly because of its poor configuration and location. How many and what sites could be closed if ——— from Europe?

Mr. COTTER. Right now I think we believe that there might be ——— would be one of these. I would have to reserve judgment on what the other sites might be.

Mr. EDWARDS. What would be the savings in personnel and annual costs if this should occur?

Mr. COTTER. I would have to supply that for the record.

[The information follows:]

The closure of the ——— sites would save a total of 524 personnel spaces and an annual operating cost of $4.8 million.

Mr. EDWARDS. Are all ——— presently stored only at these sites ———?

Mr. COTTER. You mean at ———.

Mr. EDWARDS. I was talking about the ——— sites that you were talking about.

Mr. COTTER. Those were primarily ——— sites as I recall.

Mr. VANDER SCHAFF. We were interested in what were the ——— sites you probably would phase out if you withdraw those weapons on the ——— at some point. You said ——— sites.

Are they all located in ———?

Mr. COTTER. Yes.

Mr. VANDER SCHAAF. They are all ——— custodial sites.

Mr. COTTER. Those particular ones are, yes. They are ———.

Mr. VANDER SCHAAF. They are not just custodial.

Mr. COTTER. The ——— are all ——— sites.

Mr. EDWARDS. What happens in terms of numbers of sites and their locations ——— as has been suggested?

Mr. COTTER. Again, let me clarify that question.

Mr. EDWARDS. You said ———.

Mr. COTTER. ———.

Mr. EDWARDS. What happens to those?

Mr. COTTER. I don't think there would be any significant site closures simply because of ———. Mainly it would be thinning out weapons at various sites.

Mr. EDWARDS. Are there any Nike-Hercules included in the ———?

Mr. COTTER. ———.

Mr. EDWARDS. Aren't you going to ———?

Mr. COTTER. ———.

Mr. EDWARDS. The investigative staff found significant security deficiencies at the ——— principally because of its poor configuration and location.

Is there an extensive program in progress to update security at any of these sites? If so, what are the program costs?

Mr. COTTER. Could I ask, does security policy want to answer that question?

Colonel JONES. Yes, sir, ——— is near the top of the ——— fiscal year 1976 priority list. I think it is possibly $3 million to $4 million. I can get the exact figure if you wish, that is programed for that site.

Mr. EDWARDS. Aren't you saying that you are going to close that site?

Mr. COTTER. I think we would probably close it, wouldn't we?

Colonel JONES. Yes.

Mr. EDWARDS. Are you going to spend that money?

Mr. COTTER. No, we wouldn't spend the money. Hopefully we could close it before we spent the money.

Mr. EDWARDS. Is it in the 1977 budget, what did you say, $4 million?

Colonel JONES. There are other sites also that you program to upgrade, but as it is considered for closure, the money is deferred. If a site comes up, such as ——— and there is a decision to be made on closing that site then those moneys are put on the deferred list until the final decision is made to keep it open or to close. The idea being, that we intend to upgrade the sites, because with conditions the way they are, we upgrade as quick as possible.

Therefore, we program sites and then as they come up for questions, we defer them so we don't get behind.

Mr. EDWARDS. If we give you the $4 million and then you decide to close ———, what are you going to do, come in here and use that for reprograming? What will happen to this $4 million?

Colonel JONES. It will either be used, turned back or used for other security deficiencies downstream on other sites.

Mr. EDWARDS. Do they ever turn money back?

Mr. COTTER. He didn't say to whom.

Colonel JONES. Turn it back to other sites within the Army, for example.

Mr. VANDER SCHAAF. Colonel, what you seem to be saying is that your request in both the military construction, O. & M. and the military procurement accounts with respect to these storage sites is a lump sum, and you don't have a detailed program that ties to the total. You have got so many dollars, and if sites fall out or something, you still want all the dollars because then you put the dollars in a different site.

Is that the way to describe it? Your request is more generic than specific in terms of the total.

Colonel JONES. That is right. In the past the request has been in a lump sum, but we have now identified site-by-site and by year. If you give us, for example, $34 million in 1976, then we go down the list and these are the number of sites we can do with that amount of money. If ——— is put on the deferred list and then decided to be closed, we take that money and use it, maybe if we go through 30 sites, we might start with 31 and 32.

Mr. VANDER SCHAAF. I think some of the specificity has been done because of the pushing of our investigative staff. If we make some decisions on withdrawal of some of these weapons, we want to be sure we are not appropriating funds as we did in this the cases of ——— and then close the site.

Colonel JONES. There is a lot of intermingling with the different staffs of Defense to make sure those things don't happen. As soon as one iota of information comes across, we are considering a particular site, for any kind of decision it is put on a deferred or hold list. Everything is then held until the decision has been made, the idea being we want to upgrade the security of these sites as quick as possible, and a lot of programing takes place to do that. We proceed with that but hold it when it comes up for decision until that decision is made.

Mr. EDWARDS. The investigative staff understands that the Navy nuclear storage site at ——— has been recently closed after it had been described as "probably the most secure site in the Navy" in late 1974, following an expenditure of about $600,000 to upgrade its security. Why was this upgrade effort undertaken in the first place, since Senators from the Joint Committee on Atomic Energy criticized its vulnerability and questioned its military usefulness after a visit there in 1973? Why has it now been closed after spending about $600,000 to upgrade its security?

That is the kind of action that we were talking about a minute ago.

Mr. COTTER. Yes.

Mr. EDWARDS. How do you answer a question like that?

Mr. COTTER. I think it was a question of timing on that. The decision to close ——— was made just about a year ago, and we had to go through the process of consulting with both the ———. The ——— also have a plan to use those antisubmarine warfare weapons. We considered moving the weapons back to the United States. The military, the Navy, wanted to keep them in the ——— and that process took time at the same time the site upgrade was going on. It is just one of those unfortunate things.

I would like to point out, however, that the site is held as a contingency site, and we plan to use it. It is being used now for the storage of conventional weapons, so it is not all a total loss. If we ever go on alert and disperse weapons, one of the primary things we would do would be to disperse weapons from ———.

Mr. EDWARDS. Are you tightening up in a way that those "unfortunate things" don't happen as much now? It is kind of difficult for us to go back and say to our folks back home, well, that $600,000 was just one of those unfortunate things that you are going to have to pay for. Is the system better?

Mr. COTTER. I would hope we are doing letter. We have been stimulated by your investigative staff along this line. I hope this sort of thing won't happen.

I would like to point out that the site is still carried as a contingency deployment site, however, and if we ever move weapons back in there under some sort of alert situation, we would need that security.

CLOSURES AND CONSOLIDATION IN THE PACIFIC AREA

Mr. EDWARDS. Turning to the Pacific area, construction of nuclear storage and QRA areas at ——— was completed in 1975 at a cost of about $1.5 million, but its nuclear mission was withdrawn and no nuclear bombs will be transferred there from ——— as previously planned. Security deficiencies at ——— would require $500,000 to correct, but an upgrade program was deferred pending an executive branch decision as to the U.S. nuclear profile in ———. What are the Air Force plans for ——— after spending about $1.5 million to construct nuclear storage and QRA areas there?

Mr. COTTER. The physical plan, all of the igloos, the ramps, personnel facilities, are complete, but it has not been officially accepted by the Air Force, since there are a number of small deficiencies that the contractor needs to clear up.

The site did not receive the security and control equipment, nor the DOD upgrade package, so that was one of the sites that was caught before further expenditure of funds was made to upgrade the site in terms of lighting, sensors, and so on. Again, this site will be retained for contingency purposes.

Mr. EDWARDS. When and why was the Air Force decision made to give ——— a QRA mission and then to withdraw it after spending this money for construction?

Mr. COTTER. The whole plan on looking at the ——— was reviewed last year. I don't have the specific dates. I could provide that for the record, but there was a complete review of the ———.

[The information follows:]

The original need for a storage site at ——— was to provide forward deployment of the bombs to be removed from ———. During 1972, the day-to-day ———. On July 1, 1975, ———. These facts, together with a reduced requirement for nuclear weapons in the ———.

Mr. EDWARDS. Are there any plans under active consideration for additional site closures in ———? If so, approximately when would such closures take place?

Mr. COTTER. We may go down to two nuclear sites there. I don't know the date. I will have to provide for the record the proposed date for that, but we would probably end up with one Army site and one Air Force site there.

[The information follows:]

Nuclear weapons are currently stored at ———. Plans exist to close the ———. If the Fiscal Year 1977–78 nuclear weapons deployment plan is approved by the President, the storage site at ——— should be closed prior to October 1, 1977.

Mr. EDWARDS. Do you have anything further on the current status of those plans?

Mr. COTTER. I will put that in the record for you, sir.

Mr. EDWARDS. What effect, if any, would such closures have on the U.S. military posture ———.

Mr. COTTER. This would be an adjustment to fit the posture that is planned. As you know, there has been a lot of emphasis on upgrading the conventional capability there, and thinning out the nuclear to fit whatever contingency plans we have for that region.

Mr. ROBINSON. Mr. Chairman, before you leave the Pacific area, does the new attitude in ——— have any effect on the thinking with regard to nuclear storage in that area of the world?

Mr. COTTER. We intend to keep nuclear weapons stored in the ———, and that is the contribution to that Western Pacific region. Of course we haven't had ———, but the projection of the deployments, the Joint Chiefs have taken that into account, and we think we can get by with the ——— areas in the ——— western Pacific.

OTHER POSSIBLE CLOSURES AND CONSOLIDATIONS

Mr. EDWARDS. Mr. Secretary, in your statement, you say that the JCS has identified ——— additional sites to be closed. It is understood that this figure is exclusive of ——— sites which would be closed if your proposals with respect to that system were adopted. Can you identify the ——— additional sites for the record and at this point briefly tell the committee the criteria used in determining or arriving at the ——— site figure.

Mr. COTTER. The JCS recommendations are still under study within OSD, and we may or may not agree with what they propose, so I wouldn't like to identify them at this point, but I can provide that for you as soon as these plans firm up.

Mr. EDWARDS. You mean the ——— sites aren't definite yet?

Mr. COTTER. No. They have proposed the ——— sites. Their proposal is still under review within OSD. We want to look at it, the security policy people want to look at it and our force structure people want to look at it before we approve those.

Mr. EDWARDS. Aren't you asking for appropriations in fiscal year 1977 for some or all of these sites?

Mr. O'BRIEN. No, the ——— sites are not included in our fiscal year 1977 budget. One Army site erroneously appeared on the fiscal year 1977 budget but it has been removed. We are anticipating that there will be a number closed. Exactly what number we are not sure, but our budget requirement is formulated on the basis that some sites will be closed.

Mr. EDWARDS. There seems to be some question in the room about that statement of yours.

Mr. VANDER SCHAAF. I understand the investigative staff was given a somewhat detailed listing, for each of the storage sites overseas of roughly ———. This listing broke it out by year, by site, and by the kind of improvement that would be undertaken, how much physical improvement, sensor additions, lighting, power additions, et cetera, and then all the sites were covered.

Now if there are ——— sites in the budget that you submitted proposals on, we would want to know what those ——— are. If you requested money for them and your program is based upon having money for those sites, there is little sense in providing the funds, unless we just want to go ahead and provide a lump sum total and you can allocate it where you want to allocate it.

I wish you would clear that up for me, if you could.

Mr. COTTER. The Office of the Secretary of Defense hasn't yet accepted those recommendations, and we are working the problem. As soon as we do that, we will inform you as to those decisions.

Mr. EDWARDS. When do you think that will be?

Mr. COTTER. I would think a couple of months.

Mr. EDWARDS. I don't know how we can make an intelligent decision on your budget request if we don't know where you are going in that regard.

Mr. ROBINSON. If you will yield, Mr. Chairman, if we can't get the information on a finalized basis before the time that we mark up this bill, we will have to demand that we know what those sites are, as identified by the statement which you made.

Mr. COTTER. All right, I will see what I can do in getting back to you in a very short time.

Mr. EDWARDS. Would these ——— sites be closed irrespective of the outcome of the ———?

Mr. COTTER. Yes, I believe so.

Mr. EDWARDS. Mr. Chairman, that finishes that section, and I would like to yield the floor.

[The information is classified and was provided to the committee separately.]

COST OF UPGRADING SECURITY AT TACTICAL NUCLEAR WEAPONS SITES

Mr. ADDABBO. In the past year the estimated cost for upgrading security at the tactical nuclear weapons storage sites has increased from about $130 million to $240 million and now to $340 million. These are estimates for the period fiscal year 1975 through fiscal year 1978.

Is the fact that your estimates continue to grow rapidly an indication that you are still not certain as to what program is required or where and how the funds will be spent?

Mr. COTTER. No, sir. The figures estimated at the different intervals in the program were the best estimates for the given period, and based on the security criteria established. As part of evaluating the estimated budget for upgrading nuclear sites originally the data on cost involved primarily military construction. However, in order to get a truer picture of the total upgrade costs we felt it necessary to obtain the cost figures for not only military construction, but procurement and operation and maintenance funding.

Mr. ADDABBO. In view of your past record as illustrated at ———. What reason do we have to believe that sites which in all probability will be closed are not included in the security upgrade program?

Mr. COTTER. We have this review established, and we are looking at it very carefully, and I intend to look at it even more carefully after having these points brought out.

Mr. ADDABBO. Can you tell the committee if not now, for the record, how much of the $94.6 million provided in fiscal year 1976 and the $137.7 million for fiscal year 1977 and the $76.7 million to be requested in fiscal year 1978 is currently programed against the ——— sites which you list in your statement as subject to closure and the ——— which are likely to be closed in terms of nuclear weapons storage.

Mr. COTTER. I will try to provide that.

[The information follows:]

There is only one site—$539,000 for a Navy site that will remain open for 3 or 4 more years—currently programed to receive a portion of these moneys. One site—$1,113,000—was erroneously indicated in the Army's fiscal year 1977 upgrade program priority list, but has since been dropped from the list with the associated moneys being used for other Army sites. While all the NIKE Hercules sites have

been surveyed to determine the upgrading necessary and the associated costs, these moneys have not been programed ———.

Mr. ADDABBO. Please provide for the record (1) total authorization of personnel with occupational specialties dedicated to nuclear weapon functions at all tactical nuclear storage sites outside the United States; (2) the total number of such personnel performing security and maintenance functions at those sites by service, and (3) an estimate of the total man-years of effort expended in performing duties in all functional areas related thereto.

Mr. COTTER. A study performed by OASD—Manpower and Reserve Affairs—covers Europe. We will provide additional information when it is received from the field.

COST OF UPGRADING NIKE HERCULES SITE

Mr. ADDABBO. Provide for the record the amount of funds currently programed to improve security at the ——— NIKE Hercules sites to be upgraded with fiscal year 1977 funds.

[The information follows:]

The total funds currently estimated for the upgrading of these ——— sites is $10,300,500. ———.

Mr. ADDABBO. According to the investigative staff, the Army's program for fiscal year 1977 includes upgrade at ———.

Mr. COTTER. I don't believe that the ——— are going to have an effect on ———, are they?

Colonel ZABOROWSKI. Probably not, sir.

Mr. COTTER. What we would take out would be a portion of the ———.

Mr. VANDER SCHAAF. Mr. Cotter, then all the ———, is that correct?

Mr. O'BRIEN. That is my understanding, yes.

Mr. VANDER SCHAAF. There are some ——— out there that currently meet DOD security requirements and don't require any additional military construction or procurement items to bring them up?

Mr. COTTER. We are reviewing whether or not we should close four of those, but those are unrelated to the ———.

Mr. VANDER SCHAAF. But they are not unrelated to your budget request.

Mr. COTTER. No.

Mr. VANDER SCHAAF. For fiscal year 1977 or 1978.

Mr. COTTER. That is right.

Mr. VANDER SCHAAF. There is money in this $330 million to upgrade those sites, then?

Mr. COTTER. Yes, but the question seemed to be phrased around what happens if ——— does this or that. What I am saying is that our plans, the deployment plans, the upgrade plans, and the site consolidation plans have been done as things independent of ——— that we would want to do anyway just for our own military posture, for savings of DOD manpower and dollars.

Mr. VANDER SCHAAF. But I think it is important to point out in the meantime under the current policies that are in effect ———, you are forced to meet your own security criteria to spend money on sites, even though you may close them, and we are on the horns of a dilemma with this problem.

Mr. COTTER. That is right, and the Secretary of Defense recognizes this, and he wants to make the right moves along this line. All I can tell you is that it is under review. It is a serious consideration on our part, and as soon as we can determine when we can close down some of these sites, we will do it. We won't spend the money on upgrading until that decision is made.

Mr. ADDABBO. With respect to military construction funds only, you are requesting a total of $112.3 million for fiscal year 1977. Of this amount, $47.2 million will be used to upgrade sites within the continental United States. Why is it necessary to emphasize upgrade of sites in Conus at this time? Is there some possibility that it might be more advisable to complete the upgrade at all overseas sites first?

Mr. COTTER. Sir, the overseas sites are getting the first priority, and particularly those that we feel are more susceptible to terrorist attacks, but we also have some stateside operations that require upgrade, and we have to move along on these.

For example, the Army has two very large stateside depots. This is going to require a program that will probably occur over like a 3-year period because it is just a big job, and that is one of the reasons.

Mr. ADDABBO. After completion of the fiscal year 1977 program, will there be any overseas sites other than NIKE Hercules sites, which have not undergone an upgrade program?

Mr. COTTER. Let me just think a moment here.

No, all other overseas sites, assuming that the final decision has been made on the sites, made on sites deferred because of possible closure will have been upgraded.

Mr. ADDABBO. The Army and Navy estimates show expenditure of operation and maintenance funds as part of the upgrade program in each year 1975–78. The Air Force estimates do not show any O. & M. expenditures. How is it possible for the Air Force to conduct its efforts without the expenditures of O. & M. funds?

Mr. COTTER. Air Force O. & M. funds were indeed expended in support of the upgrade program. However, the expenditures for a given project were under the $50,000 limit and within the local commander's option. O. & M. funds in such a case are not separately identified and reported, and we don't have those figures readily available.

Mr. ADDABBO. Do you have a total of what the Air Force spent?

Colonel JONES. No, sir; not for O. & M. figures because they are below the $50,000 limit. They are at the local commander's option and they are not required to come to the headquarters for those funds. They are funds designated to the commander for the operation of his base. He spends it as he sees fit. He may spend some for security, he may spend some for other reasons. Those figures are not reported.

PROCUREMENT OF SENSORS FOR STORAGE SITES

Mr. ADDABBO. The Army estimates for the upgrade program do not include any procurement funding. However, the detailed site-by-site survey shows an expense during fiscal year 1976 of $5,507,000 for sensors. In what account is the Army procuring sensors for this program if not through the procurement appropriations?

Mr. COTTER. The Army is procuring their sensors with military construction moneys.

Mr. ADDABBO. Were the sensors bought with unobligated funds or with what appropriation and authority did they buy the sensors from the military construction accounts?

Mr. O'BRIEN. Yes, the Army takes the view, and we checked it back with the budget people and they can do this, that since they are installed they are in fact a military construction item.

Mr. VANDER SCHAAF. They are installed items, but they are of a temporary nature. They wear out and have to be replaced. They are not a permanent facility like a building, a fence, or a road.

Mr. O'BRIEN. I certainly understand the question. We have asked it ourselves. The Army budgets a different way than the other two services for them. The people on our budget side of the House say that this is a proper way to do it.

Mr. VANDER SCHAAF. So if we wanted to review the Army's request for security type sensors this year, we would have to turn to three or four different appropriations. We would probably find sensors costing less than $1,000 each in the Army's O. & M. accounts, we would probably find sensors for other purposes in the other procurement accounts of the Army, and finally we would find a large number of sensors, somewhere in excess of $5 million or $6 million in the military construction accounts.

Mr. O'BRIEN. We are providing for the committee at their request a breakdown by site and then by type of item, so that the sensors are actually shown, the dollars spent for sensors will be shown on material being submitted to the committee.

Mr. P. MURPHY. Are they being shown by appropriation account?

Mr. O'BRIEN. Not by appropriation account, but by the total dollars spent for sensors and other items.

Mr. P. MURPHY. We need it by appropriation account. We would like to know how it is being funded, each of them.

Mr. O'BRIEN. In the case of the Army it will all be under military construction.

Mr. ADDABBO. The Army estimates for the 4-year period show the expenditures of operation and maintenance funds—$4.5 million—in only 1 year, although the detail site-by-site survey would indicate that operation and maintenance expenditures would occur in each year. How is this possible?

Mr. COTTER. The Army is including all of the upgrade program in military construction. The exception is the $4.5 million O. & M. for fiscal year 1976 that was used to perform the site survey and concept designs for the program.

Mr. ADDABBO. The committee expects to receive a report from its investigative staff covering the development, procurement and installation of security sensors in the near future. This report will highlight some very important problems, in areas of financing sensor procurement and installation, the unnecessary use of many different sensors to do the same thing, lack of coordination by the military services in sensor procurement, and high false alarm rates, and procurement of sensors that don't function properly, et cetera. In brief, the whole

sensor program has the appearance of trying to do something—anything—quickly in order to tell the Congress that the Department of Defense is doing something about the security of its weapons, both conventional and nuclear.

Have you been made aware of any of these problems

Mr. COTTER. Yes, sir. About a year ago I reviewed the program. This is normally a function of the Director of Defense Research and Engineering. I reviewed the service programs with the D.D.R. & E. people, and asked them to put some emphasis on getting more standardization in crosstalk, along this line, but I must emphasize that that is not in my particular area of responsibility, but I understand your intent. I will go back and review that again with them.

Mr. ADDABBO. In view of the fact that they are having these problems with the sensors, wouldn't it make more sense right now to go ahead with the physical security improvements, military construction projects, but withhold procurements of some of the sensor systems until they can be adequately tested?

Mr. COTTER. I think that is a good suggestion. I will take that back to the D.D.R. & E. people.

Mr. ADDABBO. Would you provide for the record a complete list of the sensor systems and the cost of procurement for each nuclear weapons storage site during fiscal years 1975, 1976, and 1977?

Mr. COTTER. Could I provide that for the record?

[The information follows:]

Sensor systems and purchase costs for upgrading security at sites on which nuclear weapons are located as shown below. These figures do not include authorized expenditures by individual installations commanders. The figures for the Army are estimates and will change as contracts are let.

	Fiscal year 1975			Fiscal year 1976			Fiscal year 1977		
	Army	Navy	Air Force	Army	Navy	Air Force	Army	Navy	Air Force
Sensors:									
Perimeter	0	0.6	3.9	4.3	1.0	0	4.9	0.3	11.4
Interior	0	.6	0	2.2	1.2	7.5	2.6	.4	0
Associated systems/equipment	0	1.1	8.1	(1)	2.5	16.3	(1)	1.4	6.5
Total	0	2.3	12.0	6.5	4.7	23.8	7.5	2.1	17.9

[1] Costs of associated systems/equipment (such as display, cables, etc.) are included in the sensor costs.

Mr. ADDABBO. Is there any advantage to limiting the number of different systems and types of sensors to be employed at storage sites?

Mr. COTTER. I think the answer is obviously yes. There are advantages to limiting the number of different systems and types of sensors to be employed at storage sites such as ease of maintenance and training, taking advantage of economies of scale when large numbers of a particular item can be purchased, facilitating interface requirements and the like. However, the sites are sufficiently dissimilar to make the task of finding the smallest number of sensor types that will do the job very difficult. Development programs such as the DOD Base and Installations Security System (BISS) and the Joint Services Interior Intrusion and Detection System (JSIIDS) are under way that will lead to reduced proliferation of sensor types, and the required degree of interoperability.

Mr. VANDER SCHAAF. We have already purchased a large number of these sensors and now we are talking about closing ——— sites, maybe some ——— in addition. Those sensors have utility at another site where we may be short of sensors. If you have six different types of sensors they don't plug in, interface, and then we would have difficulty. I hope you will explain the degree to which we can take sensors that are currently deployed and use them to offset requirements in this request before us.

Mr. COTTER. I will try to get the D.D.R. & E. people to answer that question in the request for the information for the record.

[The information follows:]

The Navy sites planned for shutdown will remain as contingency sites; therefore, the sensors will remain.

The equipment scheduled for Air Force installations that will no longer contain nuclear weapons was procured during fiscal year 1975 and fiscal year 1976. Moreover, other bases, scheduled for upgrade with fiscal year 1977 funds, are not programed to receive the same kinds of equipment. Thus there is no direct offset possible. However, the Air Force does plan to use the surplus equipment to fullfill other unfunded requirements for protection of conventional weapons.

The sensor systems presently deployed at Army overseas nuclear storage sites do not meet present requirements and are considered too obsolete for redeployment. However, the Army is studying the possibility of redeploying equipment now located at Safeguard sites to partially offset fiscal year 1977 funding requirements.

Mr. VANDER SCHAAF. Incidentally, Mr. Cotter, would you also indicate whether sensor procurement includes surveillance cameras?

Mr. COTTER. Yes. The Air Force's sensor procurement program does include the procurement of closed circuit television cameras and monitors.

Mr. VANDER SCHAAF. They are included in that category, with seismic and acoustic sensors.

EXAMPLE OF WORK TO BE DONE AT STORAGE SITE

Mr. BURLISON. Mr. Chairman, will you yield? Could you give a couple of examples of a more prominent or more prevalent upgrade? In other words, you talk an awful lot about upgrading. What do you mean by that? Give a couple of examples.

Mr. COTTER. All right. In trying to deter or defeat the terrorist attack, where this would be a well-armed, well-organized and fairly massive assault, with a number of attackers, like ——— as opposed to one or two covert penetrators, some of the major things that have been done have been to beef up the fighting positions within the facility to be defended, harden the guard towers, the guard posts, provided some lightly armored vehicles for the reaction forces, put in better lighting, given the guard force more firepower, for example, better weapons.

In the past some of the service people have used side arms. We are now providing them with automatic rifles, some shotguns, some chemical type weapons. It is that sort of upgrade, in addition to physically beefing up defenses and so on.

Mr. BURLISON. Just one other question.

Mr. COTTER. The sensors that we have been talking about are to detect covert intruders, people who approach the area, so there is a wide variety of acoustic and seismic sensors, radar type sensors.

Mr. BURLISON. That answers my second question, Mr. Chairman. I yield back to the Chair.

Mr. ROBINSON. Mr. Chairman, may I ask a question?

Mr. O'BRIEN. Excuse me. Our philosophy is rather than have the sentry on the line where he becomes bored, where humans are really not as effective we are trying to replace humans, to the maximum extent, with electronic sensors. We put our manpower, one of our big expenditures, in a hardened facility within the site so that people can respond. We call this the firehouse concept. When we actually have a penetration we will immediately detect it, we can identify it and then bring people out, with their adrenalin flowing and ready to react, as opposed to a guard who might be cold, bored or just a sitting target. That is our philosophy and concept.

Mr. ROBINSON. The investigative staff report notes you have plans to upgrade security at a total of ——— sites I believe, some of which appear in more than 1 year's plan ———.

We know that there are only ——— sites in all overseas, based on the figures we have. You mentioned the possibility of closing ———. There is no way that I can make much sense.

Could you put something in the record that will help us out? It is obvious that unless a substantial number of the ——— are in CONUS, that there is something wrong.

Mr. O'BRIEN. Yes, sir, we will do that.

[The information follows:]

The number of locations, with many Air Force Locations having two areas—a weapons storage area and an alert aircraft area—to be upgraded worldwide is higher than the ——— sites indicated. The exact number fluctuates as consolidation and closure decisions are made. In reference to the ——— sites, ——— are not in the upgrade program ——— others have either been dropped from further upgrade, deferred until final decisions are made, given the lowest priority while awaiting a decision or cut in scope; and one Army site erroneously appeared on the fiscal year 1977 upgrade priority list and has since been eliminated from the upgrade program. Those reduced in scope are two Navy sites in the United States that will remain open for another 3 to 4 years while a new consolidation site is being prepared. A minimum amount of upgrading is necessary to insure adequate security in the intervening period. Unfortunately it is not as simple as just subtracting ——— sites from the upgrade list should the decision be made to close all of the sites. The difference between the number of sites currently operating and the sites to be upgraded becomes quite complicated when other anticipated site closures and possible openings are considered.

Mr. ROBINSON. Now a further question, before getting into the next program area.

Have there been any incidents causing concern for better security that have occurred since you appeared before us, Dr. Cotter?

Mr. COTTER. There have been some unambiguous incidents. In ——— we have had two fires on bases not involving the weapons, but on bases where weapons are stored, and this looks like arson, but I haven't heard the investigation results. I don't recall any other incidents.

Mr. O'BRIEN. No, there is no incident where we felt we really had a real genuine threat to a weapon.

Mr. ROBINSON. Thank you, Mr. Chairman.

MANPOWER REQUIREMENTS RELATED TO NUCLEAR WEAPONS DEPLOYMENT

Mr. MCFALL. Let me turn to the staff questions on manpower requirements related to nuclear weapons deployment. The Investigative Staff spent considerable effort in trying to determine with at least some

degree of precision the number of personnel who are associated with maintaining and operating the various nuclear weapons storage sites overseas. I believe it is fair to state that the Investigative Staff found data available on this subject to be sketchy and extremely incomplete. For example, the Army does not report as chargeable to nuclear weapons storage functions nearly all of its security personnel in Europe. Thus, it was necessary to make extrapolations as to how many personnel were actually employed in these efforts. Why is there so much difficulty in associating manpower with this program?

Mr. COTTER. There is a difficulty, and particularly in the Army. The people who have security as a task, and in some cases custody functions, in some cases maintenance functions, also do some other duty. So it is very hard to figure out what portion of a man's time is strictly devoted to security. It is not like going into a T.O. & E. where you have say a Lance unit and you can pick out the number of people that are strictly allocated to driving trucks or doing specific tasks.

One thing that happened when this question came up last October, we went back to the manpower people in OSD, and asked them to try to get a better handle on this, and they have analyzed this in conjunction with the site closure problem, and we expect to have better figures available which I will be happy to provide for the record.

Mr. MCFALL. If you will provide it to the staff.

Mr. COTTER. We will provide it to the staff and for the record.

[The information follows:]

The services have been tasked to provide this information. It entails tasking the field for the information, and thus it will take a few weeks to collect all the data. The information will be provided as soon as it is received. In the interim, the OASA (Manpower and Reserve Affairs) study, as associated with site closures, follows.

NUCLEAR WEAPONS MANPOWER IN EUROPE

(U) Nuclear weapons manpower performs nuclear weapons maintenance, security, and custodial functions. In general, maintenance manpower tends to vary with the population of weapons, security manpower varies with the number of sites and their configuration, and custodial manpower varies with the number of sites. This direct support manpower is supported by base operating support—BOS—or overhead, manpower which is a function of the population supported and overall installation size.

(U) The quantity of manpower allocated to each of these functions is difficult to establish. Only maintenance manpower which carries skill labels—MOS's, NEC's, AFSC's—can be easily identified in service manpower documents. Security manpower, especially that with U.S. Army artillery units—A sites—is difficult to identify because it is not generally authorized or assigned for the specific purpose of guarding storage sites. Instead, it is usually borrowed from other functions. In these cases elimination of a security requirement will not permit a reduction in manpower unless the function from which the manpower was borrowed can also be eliminated. Likewise, custodial duties at U.S. sites are usually performed on a collateral basis. Few authorized billets are identifiable or fully attributable to the custodial functions at U.S. sites. The difficulty in allocating BOS manpower in borrowed labor or collateral duty situations is obvious.

(U) Manpower performing one or more nuclear weapons functions is often organized into units that support nuclear weapons exclusively. All of the manpower in these units can be treated as nuclear weapons manpower without regard for how much is allocated to each function. Army depot and direct support site manpower, and Army and Air Force manpower with allied delivery units can be identified using this unit approach.

(U) Army, Air Force, Navy, and Marine Corps nuclear weapons manpower in Europe is summarized in tables I through III. Only manpower clearly identifiable as being authorized or assigned to either perform nuclear weapons functions, or in support of manpower performing these functions is listed. Manpower borrowed for security duties or performing custodial tasks as a collateral duty are not included. Most of the data were obtained from service manpower documents. All data is recent, but it is not all "as of" the same date. Army data taken from the Active Army Troop List is as of September 30, 1975. Air Force data is as of end fiscal year 1976. Security and maintenance manpower data reported in JCSM–20–76 was included only after checking its general accuracy against other sources. U.S. and allied A, F, and C sites tend to have standard organizations. The manpower by type site and, where appropriate, by system supported is summarized on table IV. The average manpower per site can be used to estimate the U.S. manpower savings per site when nuclear capability is permanently removed.

These tables do not include any delivery unit manpower. ———. Obviously, all manpower in nuclear-only systems could be withdrawn if their nuclear warheads were withdrawn. The total military manpower in Europe in U.S. Sergeant, Lance, and Pershing battalions and in engineer atomic demolition companies is about ———. In addition, ———. The artillery missile systems also have a small amount of depot level manpower in Europe in addition to nuclear warhead depot manpower.

[Tables I and IV were deleted due to their classification.]

TABLE II.—U.S. AIR FORCE NUCLEAR WEAPONS MANPOWER IN EUROPE

	Manpower	
	Military	Civilian
Technical and security manpower in U.S. wings[1]	749	----------
Technical, security, custodial, and communications manpower with allied delivery units[2]	1,405	10
Total	2,154	10

[1] From JCSM–20–76 of Jan. 19, 1976. No BOS manpower is included.
[2] From PM 77–3 of Sept. 31, 1975. Includes munitions support squadrons and communications squadron detachments.

TABLE III.—U.S. NAVY AND MARINE CORPS NUCLEAR WEAPONS MANPOWER ASHORE IN EUROPE

	Manpower	
	Military	Civilian
Support to United States and allied ASW squadrons	167	----------

Source: JCSM 20–26 of Jan. 19, 1976. CNO memorandum Ser: 60/C2626 of Aug 30., 1974. CMC memorandum for ASD (P.A. & E.) and ASD (M. & R. A.) of Sept. 3, 1974.

Mr. McFall. Through this extrapolation process the investigative staff determined that at least 9,900 man-years of effort were required to perform security functions at the overseas storage sites. Security functions represent about 70 percent of total manpower. However, since fiscal year 1974 data was used and since more emphasis has been placed on security since that time, it is possible that far more personnel are employed in these efforts. Do you have an estimate for how many people are so employed?

Mr. Cotter. I think we will have some up-to-date information for the staff.

Mr. McFall. You would have an estimate then only of the manpower savings which would occur through the closing of the ——— sites on the JCS list.

Mr. COTTER. I would hope so, yes.

Mr. MCFALL. But you wouldn't have any estimate now.

Mr. COTTER. I don't have that information now, no, sir.

Mr. MCFALL. Large amounts are requested for the procurement of sensors in each year of the upgrade plan. The Air Force has always tended to rely less on manpower and more on sensors for physical security. Will installation of sensors at Army and Navy sites reduce manpower requirements in the future?

I know you talked about this to Mr. Burlison, and what your theory is concerning how this changes the way the manpower is used. I gathered from your statement, however, this doesn't really reduce the amount of manpower in more than an insignificant way, because you are using these sensors to supplement and to change the way the people are being used.

Mr. COTTER. Exactly. We hope to get a better responsive force and a better security force out of it by taking some of the tedious chores away from the man.

Mr. VANDER SCHAAF. Is this an indication you will probably be adding people for Air Force site security because the Air Force tends to man their sites at a lower level than the Army and the Navy do.

Mr. COTTER. I don't know. We would have to look at that specifically, but my guess would be no, because as we pointed out, some of the consolidation of sites is mainly in the Air Force, so I think we would see more Air Force sites being closed overseas or consolidated overseas than we would Army sites.

Mr. O'Brien has something to add to that.

Mr. O'BRIEN. We are reviewing the manning requirements right now, and we have sent to each of the services a proposed change to the directive. The Air Force has indicated preliminarily that if the policy, as proposed, is enacted, then there would be some additional manpower requirements in Air Force because, as you mentioned, they do man at a lower level than the other services at the present time. This is still under study without a final determination.

NUCLEAR WEAPONS RELEASE PROCEDURES

Mr. ADDABBO. Mr. Secretary, in this week's Parade magazine, there is an article by Major Herring on the question he raised at school when he was being briefed on nuclear attack. He asked a question, "Who pushes the button?" The question was raised and the man they said left the service under certain circumstances.

Is that strategic concept being reviewed? In view of the fact that we now read in the paper things that are coming out about former President Nixon before his resignation, his possible mental attitude, et cetera, is the procedure being reviewed? Is there sufficient locked-in precautions that if a President should become mentally disturbed, that there is sufficient locked-in procedures to protect us against an accident?

Mr. COTTER. We plan to cover the authentication procedures that I hope will answer your question, and we will be doing that as soon as we go into special session.

ventory, and perhaps the nuclear material recycled or whatever you

Mr. ADDABBO. But in your estimation and for the record, you feel that there are sufficient safeguards in the event of——

Mr. COTTER. Yes.

Mr. ADDABBO. I have no further questions, Mr. Chairman.

Mr. ROBINSON. I have one additional question.

The investigative staff report, Dr. Cotter, says that closure of sites is not going to result in any significant personnel savings unless the weapons are brought back to the United States and taken out of indo with it.

Is there any possibility that that is a prospect in terms of being able to reduce the personnel that we have engaged in this security effort now, to a significant degree?

Mr. COTTER. Could I respond to that by highlighting the differences between some of the overseas deployments and some of the major stockpile sites that we have in the United States?

It is true that the way we would save, let's take ———, then we would save people.

Bringing those weapons back and storing them in, say, a major depot, like ———, our big Army depot, we would save people overseas and it probably wouldn't change anything in the depot.

As I mentioned, if we did withdraw and retire those weapons, we would retain the material, but that would have no effect on the numbers of people in major stockpile sites. It is insignificant, but it would save a number of people with security and custodial functions overseas.

Mr. ROBINSON. The point to my question is whether or not that is in prospect in terms of any really significant——

Mr. COTTER. ———.

Mr. VANDER SCHAAF. Mr. Cotter, I believe that goes beyond the point of study. I think from what I could read here, it is pretty much the position of the U.S. Government. You have pretty much reached the position. It is just a matter of discussing it with the allies with respect to your proposals.

Mr. COTTER. That is right, yes. Our position is to ———. That is the U.S. position.

Mr. VANDER SCHAAF. Thank you, Mr. Chairman.

Mr. COTTER. We still have the matter of the programs of cooperation, which we could deal with on the record if desired, the international agreements. It is a very short thing. If you don't mind, I will just read this. It is about a page and a half, starting on page 6.

As stated in my previous testimony, the bilateral agreements are the responsibility of the Department of State and our service-to-service technical arrangements as well as the stockpiling agreements are subsets of the bilaterals. The agreements are generally along the lines that each party will communicate to or exchange with the other party such classified information as is jointly determined to be necessary to:

The development of defense plans.

The training of personnel in the employment of and defense against atomic weapons and other military applications of atomic energy.

The evaluation of the capabilities of potential enemies in the em-

ployment of atomic weapons and other military applications of atomic energy.

The development of delivery systems compatible with atomic weapons which they carry.

The stockpiling agreement allows for the storage in the individual host country of atomic weapons under U.S. custody. These are provided by the United States to meet the requirements of forces assigned to NATO. When the weapons are released for use, by the President, they will be employed in accordance with procedures established by SACEUR. Delineation of responsibilities as to safeguarding of classified material and weapons, their maintenance, surveillance and assembly, and financial arrangements are also covered in the agreements.

The service-to-service technical arrangements provide for the details of the general areas governed by the bilateral agreements.

Gentlemen, you can see that the agreements, that portion of these bilaterals that the Defense Department implements, are primarily technical matters.

Mr. VANDER SCHAAF. What do you mean by the term "technical arrangements" in this case?

Mr. COTTER. Military and technical plans as opposed to the State Department's arrangements which are mainly covered in political.

Mr. VANDER SCHAAF. How do we bring some weapons in foreign countries without a program of cooperation or any fixed agreement, and for other weapons we always seem to have an agreement? Why don't we either cover them by an agreement or not cover them? Why do we leave some weapons out of the agreement?

Mr. COTTER. It is primarily historical. In NATO the system was designed that way to bring NATO forces into the atomic weapon plans. In ———, for example, ——— are not involved in the delivery, and back when we deployed those weapons, that was under a different military concept.

Mr. VANDER SCHAAF. The ——— forces are involved. If we don't talk with the ———, we don't have a program of cooperation there.

Mr. COTTER. They are not involved in the delivery of nuclear weapons.

Mr. VANDER SCHAAF. I understand the artillery rounds will be fired from their artillery tubes.

Mr. COTTER. Their tubes, but fired by U.S. teams, under the supervision of U.S. teams.

Mr. VANDER SCHAAF. The U.S. team just sets up the weapon, assembles it.

Mr. COTTER. And checks the targeting and checks where the gun is fired, and the U.S. people are there at the time they fire them. They never leave the area until that weapon would be expended.

Mr. VANDER SCHAAF. Also in some cases we have certain nuclear weapons in Europe for which we do not have a program of cooperation.

Mr. COTTER. Those are all controlled and planned for deployment and employment by U.S. Engineer teams. Those are the demolition units.

Mr. VANDER SCHAAF. The foreign government in that case isn't going to have a say over how we use those weapons; is that the understanding?

Mr. COTTER. Those are targeting plans that are made primarily by the Army Engineers, but are also, I believe, reviewed by SACEUR, but the employment teams are U.S. people.

Mr. VANDER SCHAAF. But the NATO allies know they exist and know the plan to use those. To the extent there is a plan they are made aware of it.

Mr. COTTER. They know the plans, yes.

Mr. MAHON. The committee will now go into special session to discuss some of the matters that are considered too sensitive to discuss under the usual procedures.

TESTIMONY OF MEMBERS OF CONGRESS AND OTHER INDIVIDUALS AND ORGANIZATIONS

TUESDAY, APRIL 6, 1976.

DEPARTMENT OF NAVY REQUEST FOR FUNDING OF PROJECT SEAFARER

WITNESS

HON. PHILIP E. RUPPE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. BURLISON. The subcommittee will come to order.

This is our day that has been set aside for public witnesses. We will start off with a statement from our very distinguished colleague from Michigan, Mr. Ruppe.

Let me say that the chairman has asked me to express his regrets for not being here today. Some of you know he is always present on public witnesses day.

In fact, I don't recall his being absent since I have been here. He had a very special occasion down in Texas that he had to be there for today and in his absence he asked that I preside in his stead.

Mr. Ruppe, we will be very pleased to hear from you at this point.

STATEMENT OF HON. PHILIP E. RUPPE

Mr. RUPPE. I do appreciate your giving me this opportunity and I will be testifying this morning regarding the Navy's request for funding Project Seafarer, or Project Sanguine as it was once known.

The Navy has indicated on several occasions their strong desire to locate the ELF system in the upper peninsula in a geological area known as the Laurentian Shield. The Navy has argued that not only is the Michigan site geologically advantageous, but also that it is less costly than other possible site areas in Nevada and New Mexico.

The proposed Michigan site area is in my congressional district, and I have therefore taken an extremely active interest in the project. The site survey area, comprising roughly 10,000 square miles in seven counties, has become a focal point of debate and controversy in recent months.

The Navy has requested $29.8 million to fund the project for fiscal year 1977; $4.65 million of the request would, if granted, be used to construct a pilot project in one of the site selection areas. The pilot project would consist of two 50–60 mile-long buried cables, a transmitter, and a communications control center.

I am opposed to the $4.65 million requestd for deployment funds because I believe it is premature. I hope that the members of the subcommittee will also subscribe to this view and remove the $4.65 million in deployment funding from the $29.8 million request.

Such a request is premature because it comes before the completion of a number of important studies associated with the controversial system. For example, the National Academy of Sciences is presently conducting a review of the literature concerning the biological and ecological effects of ELF radiation which, by the most optimistic timetable, will not be completed until the end of this calendar year. In addition, the final environmental impact statement on the site areas will not be completed until early summer, 1977.

The granting of deployment funds to build even a pilot project is simply not justified prior to the completion of these important research efforts. Too many serious questions have been raised in the past concerning the ELF system to warrant deployment prior to the time concrete scientific data finally becomes available.

In my view, the $4.65 million request is also outside the scope of past congressional policy and intent. Since 1959, the Congress has authorized and appropriated funds exclusively for research, development, and testing of the ELF system. In fact, on various occasions, the Congress has removed funds requested for deployment and inserted language in committee reports indicating that no such funds were to be appropriated until the nagging questions surrounding the project are answered.

This is as it should be. In my judgment, Project Seafarer has so many ramifications for the Nation's national defense policy that Congress should fully examine, debate, and understand the implications of the controversial system before funding its construction. Again, this can only be done after all the facts are in and the information is available to the Congress.

I am also disturbed over the impact the appropriation of deployment funding might have on the people's role in the site selection decisionmaking process. My own position in this regard has been very straightforward. I have stated publicly on several occasions over the years that the very magnitude of the system and the controversy that surrounds it dictates that only the people can decide if it should be located in northern Michigan.

The Navy recognized this principle in both Wisconsin and Texas and has continued to demonstrate a lack of interest in siting the system in either of those States due to negative public opinion concerning the project. In addition, only recently in response to a request for a specific interpretation, Deputy Secretary of Defense William Clements has assured Governor Milliken that he would not recommend Michigan as the final candidate site without the Governor's approval. Such a commitment by the Navy once again clearly publicized a Navy intent to abide by the wishes of a jurisdiction other than the Federal Government in selecting a final site for the ELF system.

I should also point out that the Congress on at least two prior occasions made provision for active local citizen input into the final site selection process. I refer to the committee reports which accompanied the Department of Defense appropriation bills in fiscal year 1975 and fiscal year 1976, which state very emphatically the role of State and local government in the site selection process.

The approval of deployment money could, however, negate all of this. In my view, the pilot project in reality amounts to a Navy effort to secure approval of full-scale development of the system. The Test

Bed would comprise a considerable area of the final site and would, in fact, amount to a de facto site selection.

It is difficult to imagine that once $4.65 million has been poured into an area to begin construction of the system, it will be easy to stop construction of the entire project. Thus, the approval of the $4.65 million could well eliminate the possibility for final congressional review and approval as well as completely remove any possibility of serious State or local government involvement in the site selection process.

Finally, I should point out to the members of the subcommittee that removal of the deployment funding will not do serious harm to the timetable for eventual construction of the system. Using the Navy's own timetable, it is quite clear that the delay caused by removing the development funds would be about 2 months. Instead of having the money to begin construction in July or August 1977 the Navy would have to wait until a similar request was approved effective October 1977.

The delay is minimal and will cause no irreparable harm to the program. I believe, however, that I have demonstrated to each of you that the risks and pitfalls in not delaying construction of the system are many, and they are serious.

I therefore respectfully request that the subcommittee remove the $4.65 million in deployment funding from the $29.8 million Project Seafarer request for fiscal year 1977. I would further suggest that the subcommittee insert language in the committee report indicating that none of the appropriated funds are to be used for deployment and also once again assert the strong role of State and local government in approval of the final candidate site area.

Thank you again for the opportunity to appear this morning and voice my concerns on behalf of the people of northern Michigan. I would be pleased to respond to any questions and be helpful to the subcommittee in any way that I can.

Mr. BURLISON. We thank you, Mr. Ruppe, for a very articulate and concise, cogent statement.

As I interpret your statement, you are suggesting that we delete the $4.65 million for deployment funding or for the pilot project. I don't note any specific recommendations with respect to the balance of the $29.8 million. Are you suggesting that be less——

Mr. RUPPE. I have no suggestion to offer the committee in this regard.

My reference is to the deployment moneys because I just feel that the deployment moneys would be best spent after the final site has has been selected and that site selection certainly cannot be done until after the final environmental impact statement is really completed in July of next year.

Mr. BURLISON. Are all of the potential sites that are in Michigan, are they all in your district, or is it one of them in your district?

Mr. RUPPE. It is basically one site in Michigan. As I understand it now, since the Navy no longer is looking at Wisconsin and Texas, there are alternate sites available in Nevada and New Mexico. In my area they are looking at a one-site area. They are looking at an area of about 10,000 square miles. However, the actual installation would be about 52 by 52 in terms of buried cable and that, of course, would be about 2,600 square miles, so they have not been site specific as to where

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it would go in northern Michigan but it would generalize an area of about 10,000 square miles, which is about four times what they would use finally.

Mr. BURLISON. Are you and your people opposed to this because of environmental reasons, or because of danger, or is there some other reason?

Mr. RUPPE. I think people are concerned to a large measure about the unknown. Some people are very generally concerned about the biomedical questions that have been raised about the system; they are concerned about the environmental effects of that system. I think they would generally oppose the system in any event. I think there are a great number of other people who are generally concerned, but would like to more or less hold their reservations until the environmental impact statement is completed. Should the Navy try and site it into this district before the final EIS is completed, I think these people on the fence would be against it, but I think a lot of people would like to read the report.

Mr. BURLISON. When is that due for completion?

Mr. RUPPE. The final one will not be done any more this year and the Navy suggests about May of next year. They have said they would not site it in Michigan if the Governor opposed that site. In other words, the Governor, some months ago, invited them back to Michigan, but with the reservation that he could ask them not to locate it in the State of Michigan should he decide to do so, as the EIS progressed and as his own State of Michigan Environmental Review Board viewed the process.

Mr. ADDABBO. I commend my colleague for his forthright statement and I agree that too often the military goes into procurement before they have finished R. & D.

I commend the gentleman for his stand.

Mr. CHAPPELL. Mr. Ruppe, I note your keen concern of getting the local input into this matter and I commend you on that. What you are saying is if we simply wait until all of the facts be known, it may be that the people themselves would come to a different conclusion.

In any event, you give them an opportunity to express themselves on real information.

Mr. RUPPE. And I think it is important that they do make any decision on their part after the facts are known, after the EIS and the National Academy of Science report is concluded.

Mr. BURLISON. Are you recommending when the information is available that public hearings be had to inform the people of the results of these studies so that they might better judge?

Mr. RUPPE. I haven't gotten into that question but I think it is important. I think the people, at the completion of the EIS should have that EIS thoroughly aired in that part of the State. Absolutely.

Mr. BURLISON. Are there further questions?

Mr. Ruppe, we appreciate your statement. You may be sure the subcommittee will take your views into consideration when we make decisions on this request of the Department of Defense.

Mr. RUPPE. Thank you very much, Mr. Chairman.

TUESDAY, APRIL 6, 1976.

RESERVE OFFICERS ASSOCIATION OF THE UNITED STATES

WITNESSES

MAJ. GEN. J. MILNOR ROBERTS, USAR, EXECUTIVE DIRECTOR
COL. ROBERT L. MOORE, DIRECTOR, ARMY AFFAIRS
REAR ADM. JOHN B. JOHNSON, DIRECTOR, NAVY, MARINE AND COAST GUARD
COL. BENJAMIN S. CATLIN, DIRECTOR, AIR FORCE AFFAIRS

Mr. BURLISON. We are very pleased to welcome before the subcommittee now Major General Roberts of the USAR, Reserve Officers Association.

General ROBERTS. It is a great pleasure to be here again in this room at this time representing the Reserve Officers Association.

I have with me today our Director of Naval, Marine and Coast Guard activity, Admiral Johnson; our Director of Air Force activities, Colonel Catlin; our Director of Army activities, Colonel Moore.

STATEMENT OF MAJ. GEN. J. MILNOR ROBERTS, USAR, EXECUTIVE DIRECTOR

Mr. Chairman and members of the committee, on behalf of the more than 100,000 members of the Reserve Officers Associatoin of the United States, we welcome this opportunity to appear before this committee to address the subject of defense appropriations for fiscal year 1977.

With the questionable status of détente and the corresponding buildup of Soviet military, industrial, and civil defense programs, our Nation now appears to be faced with the difficult task of negotiating from a position of weakness—these United States should never be placed in such a position. We believe it is the resolve of all of our citizens that we should never accept a No. 2 position in the world.

ROA firmly believes that our Nation's greatest defense is a strong military structure. Deterrence through strength is axiomatic. However, during the last decade we have rested on our laurels while the Soviet Union has launched an all-out program of preparation for miltary confrontation. While we were negotiating the reduction of our strategic arms capability the Soviets were blatantly increasing their offensive military strike force and hardening their manufacturing facilities. Today the Soviets have entire industrial complexes built underground in steel and concrete that cannot be damaged by most nuclear warheads. They now have an extensive civil defense system that enables them to effectively evacuate entire populations of major cities to shelters that will protect and preserve life from all but a direct hit.

We are well aware of the pressing problem of inflation in this country and can appreciate the difficulty in trying to keep our national budget within proper restraint. Our concern, however, is the establishment of priorities that have been set down by the administration for the Department of Defense. There now appears to be a definite trend toward the sacrifice of the soldier for the sake of new weapons. While modern equipment is certainly necessary in today's hostile environment, to obtain it at the risk of losing the personnel to

operate it seems rather foolish. Unchecked, this policy will surely result in a drastic reduction in the quantity and quality of our military forces.

In view of the recent emasculation of the Selective Service System, our Reserve military personnel now take on a critical role in the total force program. Assistant Secretary of Defense William K. Brehm recently stated before the Senate Armed Services Subcommittee on Manpower and Personnel, "Our military strength is now measured by our forces in being, including the Reserve components. A war in Europe resulting from an attack upon the NATO forces would be exceptionally intense from the outset, and for such a conflict we could not count on a crash effort to build up equipment stocks, nor the draft to expand our military forces. We must therefore equip our forces—active and reserve—with modern, compatible equipment. We must maintain a portion of our active forces deployed overseas in key areas, not only as an indicator of American interest and resolve, but as an essential part of the initial defense and the foundation for rapid reinforcement. We must count on our National Guard and Reserve Forces to provide early reinforcement of our active forces. By 1980 we must develop a manpower mobilization system that will enable us to draw on the pool of experienced personnel who have had recent duty in the peacetime Volunteer Force. Neither the draft nor the present military obligation statute will satisfy our total manpower requirements in the early months of an intensive, fast-breaking conflict."

We fully agree with Mr. Brehm and other Defense leaders in their recognition of the importance of the Reserves and can only add that to be effective Reserves they must be highly motivated and well equipped and trained. With that requirement in mind, we strongly urge the committee to appropriate sufficient funds to achieve the goal of a sufficient Reserve that can fill its prescribed mission.

ARMY SELECTED RESERVE

The Army Reserve objective is to maintain units and individuals in a state of readiness that will insure a minimum requirement for post mobilization training.

Because of the Department of Army's total force requirement of over 260,000 Army Reserves, we were surprised that the Department of Defense recommended funding of only $447.7 million which included $45.3 million for Army ROTC for fiscal year 1977. The fiscal year 1977 budget was based on a beginning strength of 212,400 and an end strength of 219,000 with moneys to support an average strength of 215,700.

To accomplish this, the Army will have to place approximately 30,000 personnel in pay group B (24 drills) in addition to the approximately 10,000 which Congress directed be placed in pay group B during the fiscal year 1976 hearings.

Under the present All Volunteer Force, acquisition and retention of personnel has become more difficult, and the individual reservist is relying on Congress to stabilize the turbulence and fulfill the promises made to him by recruiters.

We consider as unsatisfactory anything less than 48 drills for those units required to support the total force policy and maintain a desired state of readiness and therefore we strongly recommend that the U.S. Army Reserve be funded for a fiscal year 1977 average strength of 219,000 which would require an increase of $22.1 million.

Operations and maintenance Army personnel

We concur with the operations and maintenance portion of the Department of Defense budget for the Army Reserve for fiscal year 1977 which is in the amount of $375.1 million.

Unit technicians

A continuing problem in the Army Reserve is the shortage of civilian technicians. These technicians are required in order to achieve the desired readiness levels, particularly in company sized units. The actual technician requirements for fiscal year 1977, based on increased equipment acquisition, establishment of new units, and increased readiness standards, are for 12,270 technician spaces. The Department of Defense fiscal year 1977 budget reflects a request for only 74 percent of the actual requirement or 9,124. We recommend that an additional 1,148 unit readiness technician spaces be approved to fulfill the needs of company sized units so that they may obtain and retain the required state of readiness necessary in today's total force. This can be accomplished with an additional $6.3 million.

AIR FORCE SELECTED RESERVE

We take pride in the accomplishments of our citizen-airmen. As this committee knows, in recent years the Air Force Reserve has converted 89 percent of the flying units to newer equipment. In spite of this, 100 percent of the flying units were combat ready on June 30, 1975. Today two of the units are converting to new missions—the AC–130 gunship, and the WC–130 weather reconnaissance unit—"Hurricane Hunters."

These achievements are the product of the Air Force Reserve management structure and your congressional support. However, this year, OMB and the systems analysts in OSD saw fit to propose numerous restrictions on the Air Force Reserve which will materially hinder its ability to maintain combat ready status. These restrictions include:

(1) Transferring 3,700 Air Force reservists from category A (48 drills) to category B (24 drills),

(2) Reducing the allowable level of manning from 92.6 percent to 90 percent of UDL authorization.

Transferring 3,700 reservists from category A to B

The OSD decision to reduce funding by $2.4 million was based on the rationale that civilian technicians have normal work assignments which complement their reserve training assignments. They recommend 3,700 of the 7,400 AFR billets filled by reservist technicians be reassigned from category A to B in fiscal year 1977. OSD subsequently issued instructions to try to convert entire units to category B instead of trying to mix A and B in units. I will address each of these proposals.

The OSD justification is based primarily on skill level maintenance factors for reservist technicians. It ignores a principal and vital role of the technician serving as reservist on weekend unit training assembly (UTA). Their essential role in the Air Force Reserve is to serve as director/supervisors/trainers and mointors of Reserve training on UTA's and during the annual active duty for training. Without this full complement of reservist/technicians to perform these functions, combat readiness would be seriously eroded. It would be similar to having a football team come out for practice without the coaches and trainers.

Also the OSD action does not take into consideration the fact that training of units involves more than just skill training for individuals. As you know, all the Air Force Reserve units are to mobilize in 24 hours and be ready to deploy in 72 hours should a national emergency occur. This does not allow any time for additional training after mobilization. They must be capable of moving out as units, with each main trained, ready, and capable of doing his job.

Also an incorrect inference is contained in the OSD decision to the effect that the 7,400 of the Reserve/technician spaces are not directly connected with flight operations functions or are in functions directly supporting flight operations, such as aircraft maintenance. Reducing the number of periods that this group can participate is obviously going to reduce unit readiness.

Staggering the tour of duty of the reservist/technicians so that 50 percent would be present during UTA's in technician status would be counterproductive and perhaps even more expensive. First, it would cost more in terms of pay for the technicians on weekends, and second, there would be the loss of their production in the tasks which are scheduled during their normal Monday through Friday work schedule. As UTA's include Sunday as a day of duty, current law requires employees receive 25 percent additional pay for each hour worked on Sunday. This would increase the cost.

The other rationale for converting units to category B is based on units/personnel not required for deployment until well after mobilization. Obviously this rationale should not be applied to the Air Force Reserve units which are all required in the initial deployment.

In summary, it is neither practical nor desirable to divide a first-line operational unit into separate categories with differing drill requirements. The resultant command, management and morale factors would adversely affect efficiency, productivity and readiness of the unit.

The House Armed Services Committee opposed the administration's planned elimination of the requirement for 48 drills for the National Guard. In view of this, it is not realistic to assume that Reservists flying the same type aircraft and manning the same type units would be required to man those units utilizing category B training periods.

We consider as unsatisfactory anything less than 48 drills for Air Force Reserve units which are designed to be immediately combat ready and therefore recommend that the Air Force Reserve be funded for an increase of $2.2 million in RPA and .2 million on O. & M.

90-percent manning for Air Force Reserve units

The OSD proposal reduces the end strength by 1,255, reducing the allowable level of manning from 92.6 percent to 90.0 percent of UDL

authorization. As I mentioned earlier, the Air Force Reserve was in the enviable position of having all its units combat ready on June 30, 1975. A major contribution to this achievement was the ability to man to 92.6 percent of UDL strength.

The proposed reduction to the 90-percent manning level would reduce the unit's manning to the absolute minimum, as a 90-percent level is necessary to maintain C–1 rating status for combat readiness. Thus, the loss of even 0.1 percent in manning would drop the unit to C–2. Normal personnel turbulence will account for considerably more than one-tenth of 1 percent.

In the past few years the Air Force Reserve UDL's have been reduced to the point where only mission and direct mission support personnel are authorized. This makes maintaining C–1 status with 90-percent manning particularly difficult and almost impossible for the 70 percent of the AF Reserve units which are located on active duty bases where all support is provided by the Active Force. Thus the proposed reduction will impact directly on mission readiness.

The flying units will bear the brunt of the reductions at a time when the Air Force Reserve capability to support wartime requirements is becoming more important in the total force posture.

Therefore, we recommend that the Air Force Reserve units funding be increased by $1.1 million (RPA) to allow manning to 92.6 percent.

Assignment of aircraft to Air Force Reserve associate units

We also urge that consideration be given to assigning C–141 and/or C–5 aircraft to the Air Force Reserve associate units if these aircraft become available. Air Force associate units have been flying these aircraft for almost 7 years and have existing maintenance capability and exceptionally well-trained personnel. A considerable dollar saving could be realized if a portion of the present fleet of C–141's and C–5's were transferred to the Air Force Reserve.

The management structure of the Air Force has exercised tight control over their program—in line with the spirit and intent of the Reserve bill of rights Public Law 90–168, as has been adequately demonstrated by attaining 100 percent of the units combat ready. We hope and urge that this successful organization will not be significantly changed.

NAVY SELECTED RESERVE

Unquestionably, ROA's primary concern today is the strength posture of the Naval Selected Reserve. We applaud the perception of the Congress recently passing the fiscal year 1976 appropriations bill providing for a Naval Selected Reserve of 102,000. This bill, signed two months ago by the President, tells the Department of Defense that Congress is convinced that Naval Reserve capabilities must match requirements and that this vital force cannot be reduced without endangering the only immediate backup for our not-too-large active naval forces.

Despite this positive indicator, however, the Secretary of Defense is now seeking to slice 50,000 numbers from this 1976 strength, providing for a Selected Naval Reserve of 52,000. This incredible action, taken in the face of the most detailed justification of mobilization requirements ever presented by the Navy, could be, if enacted, the death

blow for the Naval Reserve. Despite their desires, based on demonstrated need, Navy is now dutifully planning for a 52,000 Selected Reserve strength for fiscal year 1977, thereby necessarily eliminating experienced capability in such areas as intelligence, cryptology, telecommunications, medical and law, and greatly reducing capabilities in submarine, mine warfare, amphibious warfare, training support, and construction battalion programs.

Mr. Chairman, the facts have not changed. The same minimum mobilization requirement of 102,000 Navy selected reservists still exists as it did 2 months ago. The only change, as Navy witnesses have recently testified, is the desire on the part of Defense officials to save dollars at the expense of Naval Reserve readiness.

These officials, from the Secretary of Defense on down, attempt to support this 50 percent cut by stating that:

(1) The move is not really a loss; it's merely a transfer of selected reservists from one category to another.

(2) The people affected are mostly administrative—not needed immediately on mobilization.

What are the facts? The transfer of 40,000 reservists from 48 drill status to category D—only 2 weeks of ACDUTRA per year—will:

(*a*) Result in probable total loss of from 94–97 percent of 31,000 enlisted reservists who will not stay in the category D program, based on past experience data.

(*b*) Make one half of the Selected Reserve mobilization capability unavailable under the new recall bill whereby the President may recall up to 50,000 reservists for situations short of a national emergency.

(*c*) Eliminate from the Selected Reserve nearly all vital specialty programs such as intelligence, security group, law, amphibious specialties, et cetera.

(*d*) Require closure of nearly 200 Reserve facilities, nationally, and loss of over 1,000 active duty support personnel.

(*e*) Affect recruiting, retention and career motivation among "youngest and best qualified" due to program instability and lack of attractiveness.

And most important, it overlooks the fact that all of the 40,000 transferees hold mobilization assignments of within 90 days of M-Day.

Mr. Chairman, we have just learned that Defense has now finished its final review of Navy's Reserve Mobilization Requirements Study and that they find no fault with the stated requirements. However, their plan is not to seek changes to Navy's fiscal year 1977 Selected Reserve strength but, rather, to "leave that to Congress."

ROA strongly urges that the necessary funding, approximately $60 million, be appropriated to restore Navy's Selected Reserve to its required manpower strength of 102,000.

For over 50 years, Mr. Chairman, the Reserve Officers Association has endeavored to fulfill its congressional charter to support a strong national security posture. Too often, in our opinion, facts have become obfuscated by rhetoric designed to deliberately fog the issue, and ROA believes one positive means of fulfilling its charter is to identify facts that may not have otherwise become apparent and to present the opinion of our 100,000 members on vital issues. To this end, we ask permission to submit for the record a brief fact sheet on the Naval Reserve situation to accompany this testimony.

[The document follows:]

POINT PAPER

NAVAL RESERVE STRENGTH

PURPOSE. To discuss the status of the Selected Reserve Strength

BACKGROUND. Recent turbulence within the Naval Reserve is primarily due to annual instability of the Naval Selected Reserve average strength as reflected in the following table:

Naval Selected Reserve Average Strength

FY	Submission to OSD	President's Budget	Congressional Auth	Congressional Funding
73	129,000	129,000	129,000	129,000
74	129,000	116,981	119,231	116,857
75	112,819	107,526	117,000	108,485
76	95,142(1)	93,982	106,000	102,000(3)
TQ	92,000(1)	92,000	106,000	102,000(3)
77	92,762(2)	52,000		

NOTE: 1. Strength reflects directed reduction of Navy's POM submission by OSD.

2. Navy appealed OSD's directed strength to 102,000.

3. 102,000 is end strength. Funds are available for only 99,000 average in FY-76 and 101,100 average FY-TQ.

In an effort to coordinate and provide guidance for the development of mobilization plans, including utilization of the Naval Reserve, the CNO established an office and study group, Op-605E, to determine the Navy's mobilization requirements for Naval Reservists. In March 1975, based on full mobilization requirements, Op-605 recommended a Selected Reserve strength of 106,000 for FY-76 (including only eight Construction Battalions). This initial Selected Reserve strength requirement was refined and revalidated (including a review by Fleet commanders, major claimants, and program sponsors) in October 1975 and 102,000 Selected Reservists were determined to be a requirement for FY-77 (including 17 Construction Battalions). The 4,000 net reduction was due primarily to further implementation of increased active duty manning percentages aboard ships and expanded utilization of IRRs for the Shore Establishment.

The Navy submitted a Program Change Request (PCR) to increase FY-77 Selected Reserve strength from 92,000 to 102,000 reflecting the CNO and SECNAV approval of the Op-605 mobilization requirements for the Selected Reserve. OSD Comptroller personnel stated the Navy's PCR will be considered after the FY-77 budget is submitted to the Congress.

DISCUSSION. By Program Budget Decision action, Deputy Secretary of Defense reduced the FY-77 Naval Selected Reserve strength to 52,000. This reduction was concurred in by the President.

This equates to a 50,000 Selected Reserve strength reduction from FY-76 strength. Of these, 40,000 personnel were directed by OSD to be placed in the Individual Ready Reserve (IRR) Training/Pay Category "D". This category requires not more than 14 days active duty for training (ACDUTRA) per year with no inactive duty drilling requirements. Basically, only Selected Reserve units associated with hardware will be retained in the Selected Reserve. By eliminating all Other (than platform) Reinforcement Units (ORUs) virtually all specialty programs such as intelligence, security group, law, PAO, oceanography, weather and Chaplain are ineligible for the Selected Reserve program, as are most units formed to augment major commands and staffs ashore such as Defense Intelligence Agency, National Security Agency, Naval Education and Training Command, Naval Systems Commands, and others. Many of these are considered very high in Navy priority under the anticipated authority for the President to recall up to 50,000 Selected Reserves (recently approved by the Senate Armed Services Committee). Placing units such as these in other than Selected Reserve status would preclude the Navy from adequately responding to crises requiring such augmentation. Nine of the 17 construction battalions that were Congressionally directed for retention in the Selected Reserve in FY-76 will be placed in non-drilling Category "D" status for FY-77. See Tab A.

The OSD decision further directed 904 active duty military personnel and 181 civilian be eliminated. While this reduction in support personnel was intended to reflect reduced support requirements because of the reduction in number of non-hardware units of the Selected Reserve, it was apparently not recognized that the majority of the active duty personnel in support of the Naval Reserve are assigned to or directly support squadrons, ships and units associated with hardware.

Closure of Reserve Centers, Facilities and Naval Air Reserve Detachments will be required. More than 140 reserve activities will have no active duty personnel authorized and will be reviewed for possible closure.

Although approximately 31,000 enlisted personnel will be required in IRR Category "D", it is anticipated that participation of enlisted personnel will be very small based upon the past experience of non-pay enlisted personnel performing paid (2 weeks) ACDUTRA as reflected in the following table:

FY	ENLISTED ELIGIBLE	OSD QUOTA	ACDUTRA PERFORMED
73	2100	550	98
74	1242	100	80
75	1100	100	32

Category "D" personnel have been ordered to ACDUTRA only on a voluntary basis. The intent of the Congress in this matter is expressed in the September 1975 HAC report (940517) page 120 ... "The Committee desires that all persons called to active duty for two weeks of annual training be volunteers." Officer participation in Category "D" affiliation may be acceptable in terms of numbers but is unlikely to provide the grade/age structure required for effective mobilization. The present Category "D" program offers only the most limited incentive to "youngest and best qualified" officer and enlisted personnel.

A severe impact on veteran recruiting may be anticipated due to loss of drill pay incentives in the Category "D" program and an overall drop in recognition by veteran personnel of career opportunities within the Naval Reserve. A consequent loss of contemporary fleet-acquired skills may be anticipated. The Navy had little success in attracting enlisted personnel to non-pay drill programs even when the incentive of CAT "D" paid 2 week ACDUTRA is offered.

CONCLUSIONS. The proposed reductions in Selected Reserve and active military/civilian strength within the Naval Reserve establishment will result in a quantum degradation of Naval Reserve mobilization readiness on a long term basis. The subsequent ability of the Navy to effectively mobilize for specific scenarios and contingencies would thus be brought into question.

The resulting anticipated loss of significant numbers of experienced officer and enlisted personnel presently affiliated in specialty programs will severely reduce shore establishment and staff augmentation strength which will be required in the event of full scale mobilization. While in keeping with current trends toward improving the "tooth to tail" ratio, the effect of this action is to all but amputate the "tail" available for immediate mobilization and thus create a serious imbalance in fleet support capability. Every contingency of recent years has shown the tremendous reliance every service places on supporting elements.

Based on historical evidence, Category "D" programs are insufficient to make up for the loss of mobilization capability which enactment of the current proposal would entail. It is highly unlikely therefore that fleet mobilization requirements, as validated in the OP-605E Review, could be competently met with Naval Reserve resources. Inability to meet these requirements would be manifest shortly after enactment of the proposed reductions and would continue to expand in future years as lack of incentives, lack of credibility and resulting lack of retention are experienced throughout the reserve establishment.

Enactment of the proposal will force base closures and reduction of active duty personnel available to man those which remain. The result will be a virtual elimination of Navy/Naval Reserve presence in certain population centers (principally inland areas) and a degradation of training and administration. Required closure actions will produce an additional adverse impact on current non-pay drilling programs within the reserve and an anticipated concomitant loss of personnel who are presently in non-pay but mobilizable status.

Recruiting, retention and career motivation among the "youngest and best qualified" personnel within the authorized strength of 52,000 will be adversely affected beyond our present difficulties due to the atmosphere of uncertainty and instability which will continue to prevail within the reserve community and which will also be evident in the attitude of fleet personnel toward the Naval Reserve.

RECOMMENDATION. ROA believes that this proposed radical reduction must be reversed. The 102,000 strength as validated by the CNO's study and requested by the SECNAV and CNO in the Program Change Request should be affirmed by Congress. It is respectfully requested that neither the 52,000 or any other alternate figure be authorized and funded. A "negotiated" strength will not man requirements when mobilization is enacted.

TAB A

Which Forces are Affected by the Transfer?

(1) Nearly 14,000 Naval Forces manpower spaces including transfer of all billets in "Other than ship/squadron Reinforcement Units" (ORUs) and nine Construction Battalions. This affects Amphibious Construction Battalions, Beachmaster Units, Mine Forces Support Group, Special Combat Support Units and Naval Beach Units.

(2) More than 5,000 Intelligence and Security manpower billets -- all ORUs. This includes ELINT Centers, Operational Intelligence Units, Ocean Info. Units, Intelligence Area Analysis Units, Scientific/Technical Intelligence, Processing, Photo Intelligence Collection/ Dissemination, Contingency Attache Systems, Security Group Task Groups, Cryptologic Communication, etc.

(3) Approximately 2,000 billets (all ORUs) in Navy Communications, Defense Communication System and Security Group Communication Systems units.

(4) 400 billets (all ORUs) in Research and Development, including Underwater Ordnance, Ordnance Test, Weapons Lab and Biomedical Research Lab units.

(5) 300 billets (all ORUs) in Naval Weather Service and Oceanography Units.

(6) 12,000 billets in Mission Support Forces, all ORUs, affecting Naval Air and Shore activities, Submarine base facilities, etc.

(7) Nearly 5,000 billets (ORUs) whose mission is support of Allied and Unified Command staffs, CINCs, Force Area Commands, Air Wings, all Surface, Submarine and Mine Warfare staffs, Special Warfare staffs, and Service Force Staff units.

(8) 200 billets in Base Operations support units.

(9) 1400 billets in Navy Medical Support units such as Navy Regional Medical and Dental Center augmentation units.

(10) 800 billets in Naval Investigative Service Operational units.

(11) 700 billets in Naval Industrial Training areas such as Combat Direction Centers, Fleet ASW, Intelligence Training support, etc.

(12) 2,000 billets in augmentation support units such as Systems Commands, JAG, Defense Supply Agency, Office of Intelligence, Fleet Information centers, etc.

(13) Nearly 6,000 billets in Logistics support areas such as Transportation, Procurement, Aircraft Material Office, Naval Air Weapons systems, Inventory control, etc.

MILITARY LEAVE COMPENSATION

Recruiting and retention of quality personnel is essential to the maintenance of combat readiness. The incentives for Government employees to join the Reserves are well established and contribute significantly to the Reserve components' ability to recruit and retain them. Discontinuing the practice of providing compensation in the form of military leave with pay will create force turbulence and frustrate the Reserve components' ability to recruit and retain skilled personnel.

The present military leave compensation policy is particularly appropriate for Reserve technicians since military membership, in the unit they are employed in, is a contingency of technician employment. The technician has no choice but to maintain his qualification for worldwide deployment and duty, or be separated from both civilian and military affiliation. Consequently, the civilian employment of technicians is subject to the rigorous demands of military standards in addition to civil service standards. Subjecting them to a double standard without compensation is not equitable. Congress has recognized the double standard and provided for reasonable compensation to offset it. Legislative history reflects an awareness and acceptance by Congress of dual compensation as a reasonable compensation for the additional demands of technician employment.

The OSD proposal negates the effects of the President's Committee on Employer Support of Reserve Forces. The Federal Government is the acknowledged leader in employer support of participation in the Reserve and Guard by employees. If the Federal Government fails to continue its support of employee participation in the Reserve, it erodes private sector support.

The military pay and leave benefits provided to Federal employees affiliated with Reserve units are long standing and authorized by statute. The reduction to these benefits, as envisioned by this decision, constitutes a major policy change.

The House Armed Services Committee and the Post Office and Civil Service Committee have both stated their opposition to eliminating mlitary leave compensation for Federal employees and administrative pay.

TRANSFER OF FUNDING TO ACTIVE FORCE

OSD has proposed the transfer of funding for certain Active Reserve programs from the Reserve to the Active Force. We believe this contradicts the legislative intent of 90–168.

The proposal would transfer all RPA Special tours of duty in excess of 179 days in length from Reserve account into the Active Force account (MPA) in fiscal year 1977. This action would transfer resources for reservists, who devote full time to recruiting for the Reserve, to the control of the Active Force. This would let the Active Force control, justify, and defend a Reserve program.

We believe this would be a direct contradiction to the legislative intent of Public Law 90–168 and the Secretary of Defense memorandum of August 23, 1973, subject, "Readiness of the Selected Reserve." Both establish the Reserve Chief as the manager of his Reserve programs.

If the OSD decision is allowed to stand, it will deny him the ability to develop, manage and control the major resource necessary to his mission—people.

Legislative history reveals congressional intent to have funding for Reserve Forces in the Reserve account. With the continued and added emphasis on the vitality of Reserve funding for Reserve programs, this should remain under the direct management of each Reserve Chief. Obviously, recruiting of reservists is a vital part of his responsibility.

ADDITIONAL TRAINING PERIODS (ATP'S)

OSD reduced the fiscal year 1977 budget request for ATP's by $3 million for the Air Force Reserve, $3.2 million for the Army Reserve, $2.6 million for the Navy Reserve, and $400,000 for the Marine Corps Reserve. This decision was made on the premise that all training be compensated on a man-day basis rather than on a drill or training period basis. The obvious impact on safety in flying and other hazardous duty and the high possibility of loss of life and aircraft, as well as the preplanning necessary by unit staffs to reduce or eliminate any loss in training time during multiple drills, has caused OSD to reverse its decision, but there has been no concurrent restoration of funds. The three services must, therefore, "take it out of their hides." We feel that full funding of this program is essential in order to maintain high safety standards.

ADMINISTRATIVE PAY

OSD has proposed the elimination of the administrative pay of up to $20 per month for unit commanders who perform responsibilities outside of their prescribed drill periods. Although this monthly stipend does not nearly cover the excessive off-duty time required for unit commanders to process the myriad amount of required paperwork, it has provided a recognition of their responsibility of command and an incentive to take the time involved away from their personal schedule. We feel that the loss of this earned incentive will be perceived as further diminution of the administration's support for our military Reserves and therefore we urge the committee to provide funding to maintain this program.

I think you may be familiar with the fact that no units of the Reserve Forces can be effectively operated on the basis of 48 drills per year from a management point of view. Any small unit commander has to spend far more time than that.

To give them some compensation they have provided up until the present time a maximum of $20 a month for this extra work. In some cases it is a little over $5 a month. It is very little money. To take it away wouldn't mean too much economically, but to take it away would mean something moralewise for our small unit commanders and we would suggest that this be denied in your consideration of the OSD request.

That concludes my presentation.

Mr. CHAPPELL. General, I want to commend you on a very excellent statement. I would like to ask you if you know of any place in our military efforts where we get more for our dollar than we do in the Reserve program?

General ROBERTS. I must say, sir, I think the taxpayers get the very best value for their dollar in the Reserve system and for obvious reasons.

You can maintain a Reserve soldier, sailor, or airman for no more than 20 percent of the cost of a full-time individual and Israel points out a very good example of what you get for trained Reserve people. Over 75 percent of the Israeli Army is reserve and yet they have shown very good performance because they are properly trained and properly equipped.

I believe instead of fewer Reserves, this country could use more Reserves.

Mr. CHAPPELL. Mr. Chairman, I will again commend the General and I concur in everything he says. I think it would be pennywise and pound foolish to in any way consider cutting back on our Reserves and most especially cutting back on the Naval Reserve Forces as presently proposed.

Mr. BURLISON. Are there questions?

Mr. ROBINSON. I would like to join my colleague from Florida in congratulating General Roberts. I join in what he says with respect to support of the Reserves. I think the General realizes this committee has historically been in support of the Reserves and in my view continues to remain so.

There is one statistic which I don't believe we have been given which would interest me if you could provide it and that has to do with whether or not you know what proportion of the Reserve components is made up from Government employees?

I am referring, of course, to this military lease compensation question and how significant that is.

General ROBERTS. Sir, I don't know that we can give you a precise evaluation of that, or anyone can, but we can submit our best estimate for the record. I would be reluctant to give you an off-the-top-of-the-head comment.

From my personal experience, I would say that in the case of the Army Reserve, perhaps 15 percent of the selected Reserves would be Government employees, but this is, as I say, just a guess.

We will give you the best estimates we can find from the Defense Department sources.

RESERVE OFFICERS ASSOCIATION OF THE UNITED STATES,
Washington, D.C., April 8, 1976.

Hon. GEORGE H. MAHON,
Chairman, Subcommittee on Defense, House Appropriations Committee, Rayburn House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: Pursuant to the request of your committee during my April 6 testimony on fiscal year 1977 Defense Appropriations, wherein I was asked the number of Federal employees who are members of the Guard or Reserves, I hereby offer the following:

The General Counsel of the Department of Defense indicated on March 2, 1976 that under current authorization there is in excess of 100,000 Federal employees who are members of the Guard or Reserves.

However, we believe the actual figure is probably closer to 150,000 employees, or somewhat more than 15 percent of the total authorized Selective Reserve.

Since no one has the actual numbers involved, we respectfully recommend that your committee ask the Defense Department to conduct a carefully constructed survey to obtain a statistically valid apportionment of this number which should also include State and municipal employees. The impact of total mobilization should be known more accurately.

Very truly yours,

J. MILNOR ROBERTS
Major General, USAR,
Executive Director.

Mr. ROBINSON. Thank you, General.

Thank you, Mr. Chairman.

Mr. KEMP. I have no comments except to associate myself with the remarks of Mr. Chappell and Mr. Robinson.

I thank you for a very outstanding statement. You have a lot of support and sympathy from this member.

TUESDAY, APRIL 6, 1976.

THE AMERICAN LEGION

WITNESSES

MYLIO S. KRAJA, DIRECTOR, NATIONAL LEGISLATIVE COMMISSION
JAMES R. WILSON, JR., DIRECTOR, NATIONAL SECURITY AND FOREIGN RELATIONS DIVISION

Mr. BURLISON. We now welcome Mr. Kraja, of the American Legion, and his supporting witnesses.

Mr. KRAJA. Mr. Chairman and members of this subcommittee, we appreciate the opportunity to present to this distinguished subcommittee the American Legion's recommendations on funding the Department of Defense for the coming fiscal year.

These recommendations are based upon some 18 resolutions adopted by our national convention and therefore represent the official policy of the organization.

With me this morning is Mr. James R. Wilson, director of our National Security and Foreign Relations Division. Mr. Wilson is well-known to this subcommittee and at this point is prepared to present our statement.

STATEMENT OF JAMES R. WILSON, JR., DIRECTOR, NATIONAL SECURITY AND FOREIGN RELATIONS DIVISION

Mr. WILSON. Thank you, Mr. Chairman and members of the committee.

Mr. Chairman and members of the subcommittee:

The American Legion appreciates this opportunity to present its views on the fiscal year 1977 defense appropriations. The testimony which I present today is based upon 18 resolutions adopted at the 1975 national convention by delegates from every area of the United States who were elected to represent the 2.7 million members of our organization. We feel that these positions represent a crosssection of responsible American opinion on national defense policy and necessary weapons systems.

Copies of the full texts of these resolutions are appended to this statement and the rationale for the American Legion's support for each position is contained therein. The numbers and titles are as follows:

70-508 O - 76 - 14

1975: Resolution—	*Title*
169	"Future Military Policy of the United States."
102	"Triad Concept and B–1 Bomber."
96	"Minuteman Missile Force."
97	"Strategic Airlift Forces and Aerial Refueling Capability."
98	"A–10 Aircraft."
99	"F–15 Aircraft."
101	"F–16 Aircraft."
103	"Airborne Warning and Control System Program."
104	"Advanced Airborne and Command Post Program."
105	"Retain All Units in the Air National Guard and Air Force Reserve Together with Necessary Funds for Modernization, Training and Equipment of this Force."
216	"Military Store System."
76	"Total Force Policy or Providing Funds, Training and Equipment to National Guard and Reserve Units."
218	"American Legion Support of the Military Services to Attain and Maintain an All-Volunteer Force."
418	"U.S. Army Strength."
419	"Modernization of the U.S. Army."
422	"XM–1 Main Battle Tank."
177	"Modernization of the U.S. Navy."
67	"Trident System."

The American Legion strongly shares the growing alarm of many citizens concerning the Soviet Union's massive and unabated buildup of her strategic and conventional forces. This subcommittee is well aware of the disturbing analyses of the relative decline of America's military position voiced in recent months by Dr. James Schlesinger, Paul Nitze, a Library of Congress study and the coalition for a democratic majority, to name but a new. The former Secretary of Defense summed up his perception of the distressing trends of overwhelming Soviet military growth coupled with deterioration of American will by saying: "If we seek to preserve a satisfactory condition for the United States in the world, if we seek the survival of freedom elsewhere than in North America, if indeed we value what our civilization represents, American strength remains indispensible. Without enduring American strength, Western civilization will not survive."

Mr. KEMP. Would you identify for the committee what group you alluded to in your testimony entitled the "Coalition for Democratic Planning"?

Mr. WILSON. This has been a liberal group.

We merely cited them to illustrate that even the people who normally object to strong defense——

Mr. KEMP. What group is it?

Mr. WILSON. It is the Coalition for a Democratic Majority. That is the title of the organization.

Mr. KEMP. I thought you might identify for us what the group is. What is your understanding of the group's purpose?

Mr. WILSON. Well, it has multiple purposes, but in the past it has spoken out quite forcibly on defense.

Mr. KEMP. Is that the generic word "defense"?

Mr. WILSON. That is correct.

Our recommendation on the overall defense needs of the United States is expressed in Resolution 169, which urges the Congress and the President to restore the United States to a position of world military superiority and calls upon the American people to display the collective will essential to responsible American leadership and cooperation throughout the world.

While each of the attached resolutions is of continuing importance, I would like to discuss several held to be of particular significance to your consideration of the fiscal year 1977 Department of Defense appropriations.

STRATEGIC FORCES

Special emphasis must be given to the continued modernization of our strategic forces. The Soviet Union has developed and deployed four new land-based ICBM's, several with a "cold launch" capability. The inherent Soviet 3-to-1 advantage in total nuclear payload, coupled with her multiple warhead advances, make it imperative that we push ahead with updating our Triad deterrent or else yield permanent strategic superiority to the U.S.S.R. The American Legion feels that as a very minimum, we must proceed with timely development of the B–1 bomber, continue construction of the Trident SLBM and accelerate conversion of our ICBM force to Minuteman III.

CONVENTIONAL FORCES

The Soviet Union maintains a standing force of 4.4 million men, more than twice the 2.1 million-man American Force; Soviet military production outstrips that of the United States with a production lead in the past several years of 5.8 to 1 in tanks; 9 to 1 in artillery and 1.7 to 1 in jet aircraft; the present level of 479 Navy ships, the smallest size since 1939, stands in stark contrast to the ever-increasing Soviet maritime presence. At a minimum to partially overset these distressing facts, we recommend an accelerated Navy shipbuilding program; achievement of a 16-division Army with a minimum stable end strength of 785,000; and continued modernization of the conventional force arsenal including a new main battle tank, an advanced SAM and attack helicopter, and continued production of the A–10, F–14, and F–15 aircraft.

As this subcommittee is aware, the total force policy places considerable reliance on our Reserve components. We oppose any drastic reductions in our Reserve Forces and urge increased modernization of those forces' equipment.

RESEARCH AND DEVELOPMENT

The comforting "bottom line" in many defense budget discussions in recent years has been America's technological superiority. However, in the past decade the Soviet Union, according to Secretary of Defense Rumsfeld, has either seized the technological lead or is closing the gap

in almost every class of weapon. Soviet investment in military and space research and development is measurably higher than ours and is growing at a far more rapid rate. The American Legion feels that a vigorous R.D.T. & E. program is indispensable to the Nation's long- and short-term security objectives, and urges a priority allocation of resources to this effort.

SUMMARY

While détente may now be a "nonword" in many Washington circles, the euphoria and false sense of security it promoted still exists. Hopefully, the decisions made by your subcommittee will reflect the seriousness of America's relative strategic and conventional decline vis-a-vis the Soviet Union and a determination to rectify the growing defense imbalance across the board.

We do not claim to be experts on the many complex defense issues and weapons systems decisions which must be faced squarely by this subcommittee. However, our statement today represents the will and best judgment of our members, who are your constituents, of the minimum needs to maintain a credible defense.

I thank you for this opportunity to present the views of the American Legion on this most critical of issues in 1976.

[Attachments to statement follow:]

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 169

COMMITTEE: National Security

SUBJECT: FUTURE MILITARY POLICY OF THE UNITED STATES

WHEREAS, the fall of Cambodia and South Vietnam has caused an emotional and intellectual disturbance in the American people; and

WHEREAS, the will of the United States to fulfill its legal and moral commitments and its international role is in serious question to many nations; and

WHEREAS, the Soviet Union continues to outstrip the United States in military spending by 20% over-all and by 60% in strategic nuclear offensive forces; and

WHEREAS, the United States on the advent of its third century, must learn from the lessons of Vietnam and historic warnings of patriotic Americans the folly of a "no-win" policy; and

WHEREAS, the future of freedom directly depends on the collective will of the American people to fulfill our international responsibilities and to prove adequate support to our allies; and

WHEREAS, a decision by the Congress to restore our military power to pre-eminence will allay the fears of our allies, and will demonstrate that the United States will continue to play a responsible international role; and

WHEREAS, the Constitutional responsibilities of the Executive Branch to conduct foreign affairs must be restored in order to give credibility to this policy including the conduct of essential intelligence operations; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we go on record to approve and support Resolution 28 of the National Security Report made at the National Executive Committee meeting, April 30, 1975, Indianapolis, Indiana; and, be it further

RESOLVED, that The American Legion urge the Congress and the President to restore the United States to a position of world military superiority; and, be it further

RESOLVED, that we urge the American people to disavow partisanship in foreign affairs and display the collective will essential to responsible American leadership and cooperation throughout the world; and, be it further

RESOLVED, that the media, including radio, television and newspapers, be urged to emphasize the positive role which America must play in this imperfect world and objectively report this to the American people.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 102

COMMITTEE: National Security

SUBJECT: TRIAD CONCEPT AND B-1 BOMBER

WHEREAS, the SALT I agreement was based on approximate strategic parity between the Soviet Union and the United States with Soviet quantitative advantages being balanced; and

WHEREAS, American technology advantages tend to decrease if the Soviets deploy Multiple Independently Targetable Re-entry Vehicles (MIRVs), obtain better accuracy, and improve warheads; and

WHEREAS, the Soviets are presently demonstrating some of these advances in a rapidly paced ICBM test program involving new strategic missiles; and

WHEREAS, the TRIAD concept is deemed vital to the security of our nation in providing insurance against technological breakthroughs that might neutralize any one of our offensive systems, in posing a major defense problem to an aggressor, and in offering a great variety of options and unique capabilities for response; and

WHEREAS, in our efforts to maintain effective credible deterrence in the face of growing Soviet strategic capabilities the role of the bomber has acquired increased importance; and

WHEREAS, strategic bombers are not a part of the interim SALT agreement, but are an essential part of the TRIAD; and

WHEREAS, strategic bombers have a high degree of military flexibility and political utility short of actual conflict and can be used actively to influence or discourage a hostile power through ground and airborne alert postures thereby providing a viable, unmistakable signal of national resolve; and

WHEREAS, bombers can help provide suitable options for highly selective, discriminate, and controlled responses, thus enhancing over-all deterrence by providing the President a known capability to respond at a variety of levels well short of an all-out nuclear war, without degrading our secure second-strike capability; and

WHEREAS, we must insure that the strategic bomber force maintains into the 1980s its present high pre-launch survivability against enemy offensive forces and its ability to penetrate projected improvements in enemy air defenses; and

WHEREAS, the B-1 bomber has been specifically designed to have a shorter escape time than the B-52 and much better resistance to nuclear effects, and by virtue of its lower flight altitude, greater speed and smaller radar cross-section, it should have a much better capability to penetrate improved Soviet air defenses; and

WHEREAS, strategic bombers provide an irreplaceable measure of assurance in our total strategic postures; and

WHEREAS, the Air Force has commenced its flight test program to provide a very realistic basis for transition from development to production; which program has been eminently successful; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that the Administration and Congress again be urged to support and promote the TRIAD concept and support the urgently needed program of rapid development and procurement of the B-1 bomber by providing adequate authorization and appropriations therefore in current and future fiscal years as a vital element of the TRIAD concept.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 96

COMMITTEE: National Security

SUBJECT: MINUTEMAN MISSILE FORCE

WHEREAS, under the provisions of the interim SALT agreement Soviet strategic forces are numerically superior to those of the United States and the Soviets deploy three times the missile throw-weight of comparable United States forces; and

WHEREAS, except for the size of ICBM silos, the interim SALT agreement places no significant constraints on the qualitative characteristics of the missiles or the launchers, nor does it restrict the development of land-based mobile ICBMs; and

WHEREAS, the Soviet Union has initiated new ICBM programs representing a massive effort in the form of new missiles, new bus-type dispensing systems, new MIRVed payloads, new guidance systems, new type silos, new launch techniques and probably new warheads; and

WHEREAS, operational flight tests of ICBMs from operational silos are routinely conducted by the Soviet Union and it is believed that it has undertaken the development of a land-based mobile missile; and

WHEREAS, faced with such Soviet technological advances, it is critical to the future deterrent posture of the United States that a vigorous program of research and development be undertaken to maintain technological superiority in strategic weapons; and

WHEREAS, the Air Force and Department of Defense have proposed programs to improve the accuracy and yield of its missiles including improved guidance to increase the accuracy of the Minuteman force, the Maneuvering Re-entry Vehicle (MaRV) with terminal guidance for increased accuracy, and Mark 12A to increase the yield of the Minuteman force; and

WHEREAS, The American Legion is vitally concerned in the defense posture of the United States; and

WHEREAS, the Minuteman Missile Force is an integral part of this defense; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we urge the Administration and the Congress to fully support all Air Force programs designed to improve the accuracy, survivability, retarteting capability, and yield of our Minuteman Force as an integral part of our TRIAD concept and specifically urge that the Air Force (1) replace all older Minuteman missiles with Minuteman III missiles; (2) undertake operational flight tests of Minuteman missiles from operational silos; (3) initiate advance development of a terminally guided MaRV and engineering development of a new higher yield warhead for Minuteman III; and undertake technological studies for development of new large payload fixed-base missiles to be launched from existing Minuteman silos and a new mobile missile, either ground or air-launched.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 97

COMMITTEE: National Security

SUBJECT: STRATEGIC AIRLIFT FORCES AND AERIAL REFUELING CAPABILITY

WHEREAS, the crucial importance of immediately available strategic airlife forces and aerial refueling capability was once again convincingly demonstrated during the recent Middle East conflict, particularly when some overseas bases may not be available or some sea lanes are vulnerable; and

WHEREAS, the ability of the United States to resupply the Israeli armed forces promptly and in sufficient quantity at a critical point in the conflict restored the military balance and was one of the decisive factors in bringing about the cease fire; and

WHEREAS, one of the most urgent requirements needed in our general purpose force structure is an increase in our total mobilizable strategic airlift capacity to enhance our ability to move large scale reinforcements to Europe during the critical early weeks of a NATO-Warsaw Pact conflict; and

WHEREAS, the Secretary of Defense has stated that enhanced strategic airlift capabilities will greatly strengthen the deterrent to aggression against ourselves and our allies and will enable NATO to accept with greater confidence a NATO-Warsaw Pact mutual and balanced force reduction agreement; and

WHEREAS, various proposals have been submitted by the Air Force and the Defense Department to improve our strategic airlift and aerial refueling capability, including modification of some of the C-141 aircraft currently in the inventory, modification for defense requirements of certain commercial aircraft in the Civil Reserve Air Fleet, and development of a long-range, multi-purpose advanced tanker/cargo aircraft; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that the Congress be urged to authorize and appropriate the funds required for these actions which are designed to insure that sufficient airlift and refueling capability will be available in future years for the United States to meet its military commitments in Europe and elsewhere, thereby insuring that our national interests are properly defended.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 98

COMMITTEE: National Security

SUBJECT: A-10 AIRCRAFT

WHEREAS, every major conflict since World War I has demonstrated the importance and necessity of effective close air support of friendly ground forces engaged in combat with an enemy force; and

WHEREAS, for effective close air support an attack aircraft is required which can maneuver at low altitudes in varying conditions of adverse weathere and terrain while carrying heavy ordnance loads; and

WHEREAS, the A-10 aircraft has been developed by the Air Force to incorporate all of the principal characteristics that are essential for close air support including maneuverability, responsiveness, lethality, survivability, long loiter time, and simplicity; and

WHEREAS, the A-10 aircraft is reliable, easy to maintain and repair, very low in procurement and life cycle costs and can operate from austere bases close to the forward edge of the battle area; and

WHEREAS, the A-10 aircraft will be armed with a high velocity 30mm GAU-8 gun, air-to-surface missiles and other ordnance all of which will make it particularly effective in Europe if required against the tanks and other armored vehicles of the Warsaw Pact ground forces; and

WHEREAS, the Air Force has requested funds in the FY '76 budget for the procurement of 61 of these aircraft; and

WHEREAS, at the direction of the Congress an intensive actual flight evaluation was made of the A-10 aircraft last year which further demonstrated the outstanding capabilities of this aircraft to perform close air support; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that the Administration and the Congress are urged to continue their support of this program which will insure that American ground forces engaged in any future conflict will have the best possible close air support that our technology and economy can provide.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION 99

COMMITTEE: National Security

SUBJECT: F-15 AIRCRAFT

WHEREAS, the most urgent need for the tactical forces of the United States Air Force is an air superiority fighter which can control the skies against the high quality fighters we expect the Soviet Union to have in their forces in the late 1970s and early 1980s; and

WHEREAS, attainment of air superiority is critical to the mission of tactical air warfare and the operations which it supports as control of the air permits better use of our tactical air forces, as well as ground and naval forces, while denying the enemy the opportunity to use his military capabilities effectively; and

WHEREAS, the F-15 aircraft is the first fighter which the United States has specifically designed in many years to excel in air-to-air combat; and

WHEREAS, the F-15 will be armed with a new medium range air-to-air missile system and an improved close-in-air-to-air missile system, as well as a 20mm gun, and should be superior to any fighter in the Soviet Union is likely to deploy in the next 10-15 years; and

WHEREAS, the F-15 flight test program has been an outstanding success and test pilots have attested to its superior handling quality and remarkable agility and acceleration; and

WHEREAS, although optimized for the air-to-air mission, the F-15 possesses a great deal of versatility and growth potential and will have a superior air-to-surface capability; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we compliment the Air Force for having developed this much needed weapon system, that we urge the Administration and Congress to continue their support of the procurement of F-15 aircraft in the numbers indicated to insure that our Air Force will be able to achieve and maintain air superiority in any future conflict in which it may become engaged.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 101

COMMITTEE: National Security

SUBJECT: F-16 AIRCRAFT

WHEREAS, the lightweight fighter prototype development program conducted by the Air Force to investigate advanced fighter technology in less costly but high performance aircraft was highly successful; and

WHEREAS, as a result of that program, the Air force selected the F-16 as the basis for full-scale development as the air combat fighter; and

WHEREAS, the F-16 will be a fighter with exceptional maneuvering and handling characteristics and will use limited avionics sub-systems for navigation, communications and fire control associated with guns and IR-type missiles; and

WHEREAS, the new air combat fighter will decrease the numerical deficiencies in the fighter force, replace a portion of the older force, and will enable the Air Force to continue its modernization of the total force by freeing some F-4s for transfer to the Air Reserve forces; and

WHEREAS, this new fighter is designed principally for air-to-air combat to complement the F-15, it will also have a potent air-to-ground weapons delivery capability; and

WHEREAS, four of our NATO allies have followed the Air Force lead and have selected the F-16 as a replacement for their aging F-104s; and

WHEREAS, the "high-low" mix force of F-15s and F-16s will enable us to maintain a larger force for equivalent budget expenditures and reduce the quantitative advantage of the Warsaw Pact countries without placing our forces at an unacceptable qualitative disadvantage; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that the Administration and the Congress are urged to fully support through authorizations and appropriations the Air Force efforts to modernize its air superiority fighter forces through procurement of adequate numbers of this outstanding aircraft.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 103

COMMITTEE: National Security

SUBJECT: AIRBORNE WARNING AND CONTROL SYSTEM PROGRAM

WHEREAS, future demands on our surveillance, warning and control capabilities support of tactical air operations; particularly in the context of an European conflict, will be quite severe; and

WHEREAS, the operational benefits accruing from friendly radar warning and control when flying combat missions penetrating an enemy's GCI radar network was attested to by several Air Force and Navy combat fighter pilots in their testimony before the Congress last year; and

WHEREAS, an AWACS system has been developed by the Air Force consisting of an advanced radar system mounted in a Boeing 707 airplane with associated data processing and communication equipment; and

WHEREAS, flight demonstrations in Europe, as well as the United States, have confirmed the high potential of AWACS to provide long-range airborne surveillance and warning and precise control of forces engaged in the full range of tactical air operations; and

WHEREAS, the AWACS can be deployed to any region of the world, and immediately begin its mssion of surveillance, warning, or direction of air-to-air or air-to-surface combat operations; its inherent mobility, coupled with its long-range radar enabling it to perform its mission while remaining outside the threat area of enemy surface-to-air missiles or fighter aircraft; and

WHEREAS, the capability provided by AWACS will also help to deter attack and, should deterrence fail, contribute to the successful outcome of combined operations; and

WHEREAS, the AWACS will also keep track of ships with its maritime surveillance capability, and also keep track of ground force units through use of radar beacons; and

WHEREAS, AWACS will assist also in the air defense mission as some of the aircraft would normally be based in the United States as part of our general purpose forces n obile air defense pool; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we urge the Administration and the Congress to support the Airborne Warning and Control System program by providing all necessary authorizations and appropriations in the current and future fiscal years.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 104

COMMITTEE: National Security

SUBJECT: ADVANCED AIRBORNE COMMAND POST PROGRAM

WHEREAS, the credibility of the United States strategic deterrent depends in substantial measure on the existence of a reliable and survivable command and control system; and

WHEREAS, the EC-135 aircraft currently used for the airborne command post function by the National Command Authority and the Commander-in-Chief of Strategic Air Command has been found to be inadequate because of lack of automatic data processing capability, lack of growth space, lack of proper communications capability and the aircraft are not hardened against the full range of nuclear effects; and

WHEREAS, the Air Force is taking necessary action to develop the necessary new communications and date processing equipment and to procure new modified Boeing 747 aircraft to serve as the Advanced Airborne Command Post for the National Command Authority and the Commander-in-Chief, Strategic Air Command; and

WHEREAS, the proposed program will advance the national security of the United States in case of enemy attack by providing greater and more effective command, control and communications capacity, increased aircraft survivability, and longer loiter time on station; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we support the Air Force in its efforts to take maximum advantage of recent technological advances to provide the most effective possible command and control system of our strategic forces and urge the Administration and the Congress to support the Advanced Airborne Command Post Program by providing adequate authorization and appropriations in the current and future fiscal years.

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57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 105

COMMITTEE: National Security

SUBJECT: RETAIN ALL UNITS IN THE AIR NATIONAL GUARD AND AIR FORCE RESERVE TOGETHER WITH NECESSARY FUNDS FOR MODERNIZATION, TRAINING AND EQUIPMENT OF THIS FORCE

WHEREAS, the Congress and the Defense Department have declared their support for the Total Force Policy whereby increased reliance is vested in the Reserve components to compensate for reductions in the active forces; and

WHEREAS, announced and contemplated reductions in Air National Guard units does violence to the letter and spirit of the Total Force Policy; and

WHEREAS, highly motivated personnel in these units being deactivated represent an extremely valuable asset that should not be wasted; and

WHEREAS, out-moded or marginal units can be converted to new essential missions with proper training and equipment and manned by these highly motivated Guardsmen and Reservists; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we urge the retention of all units in the Air National Guard and the Air Force Reserve and that all necessary funds for modernization, training and equipment of this force be provided.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 216

COMMITTEE: National Security

SUBJECT: MILITARY STORE SYSTEM

WHEREAS, the Department of Defense proposes certain changes in military commissary stores operation beginning in October 1975; and

WHEREAS, these changes are aimed at transferring the full cost of commissary operations to the customer; and

WHEREAS, this would cause an increase in the current surcharge with the result being the elimination or radical curtailment of the operation of most commissary stores; and

WHEREAS, such a diminution of purchasing power through the reduction of long established military fringe benefits is likely to have an adverse effect on the retention of qualified personnel in an all-volunteer force; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we oppose any attack upon military commissary operations or any other area of fringe benefits for military personnel and their dependents which has the effect of decreasing such personnel's disposable income in the name of economy or cost effectiveness.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 76

COMMITTEE: National Security

SUBJECT: TOTAL FORCE POLICY OF PROVIDING FUNDS, TRAINING AND EQUIPMENT TO NATIONAL GUARD AND RESERVE UNITS

WHEREAS, despite encouraging signs of better relations with the Peoples Republic of China and the USSR, detente has not yet proved to be a reality; and

WHEREAS, the USSR continues to improve the size and readiness of its military forces across the entire spectrum of military preparedness; and

WHEREAS, the United States must, at all times, maintain a creditable military defense to protect its citizens and our vital national interests while preserving our economic stability; and

WHEREAS, there have been drastic manpower reductions in our active duty forces following our withdrawal from Vietnam; and

WHEREAS, it is valid defense doctrine that significant reductions in active forces must be offset by strengthening and improving our Reserve forces; and

WHEREAS, the Department of Defense in 1970 declared that in the future the Reserves and National Guard would be the initial and primary augmentation forces for the active forces and further that Congress in 1973 declared its intention that the Reserves would be used to meet additional manpower needs of the active forces before any induction would be made; and

WHEREAS, the Department of Defense has developed the Total Force Policy to obtain the most defense for the least cost and with shorter delay; and

WHEREAS, the Total Force Policy concept dictates equipping both the Regular and Reserve forces with modern, first-line equipment; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we fully support the Total Force Policy to provide adequate funding and sufficient training and

equipment to insure the immediate availability and combat readiness of the Reserve and the National Guard; and, be it further

RESOLVED, that The American Legion opposes the reduction in authorized strength of the Reserve forces of any service of the United States forces.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 218

COMMITTEE: National Security

SUBJECT: AMERICAN LEGION SUPPORT OF THE MILITARY SERVICES TO ATTAIN AND MAINTAIN AN ALL-VOLUNTEER FORCE

WHEREAS, America's greatest safeguard to freedom is a strong national defense, and only by retaining our position as a leading military power can we remain free from both real and potential acts of aggression; and

WHEREAS, induction authority under the Selective Service System was terminated on 30 June, 1973; and

WHEREAS, the military services are fully committed to the attainment of an all-volunteer force of dedicated and devoted military members who will serve their country and service above and beyond the call of duty; and

WHEREAS, our military manpower strengths must be maintained to fulfill our international commitments and insure the security of the United States; and

WHEREAS, The American Legion believes that a Selective Service System should be maintained to back-up the all-volunteer force in the event a national emergency is of such magnitude that it is beyond the capability of such a force; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we support the efforts of the Military Services to attain and maintain an all-volunteer force, and that local Posts and State Departments actively support measures designed to assist the military services in attainment and maintenance of an all-volunteer force.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 419

COMMITTEE: National Security

SUBJECT: MODERNIZATION OF UNITED STATES ARMY

WHEREAS, following the withdrawal of our troops from Vietnam, there is a growing tendency to turn hastily from war to peace and to neglect our armed forces; and

WHEREAS, if the U. S. Army, in concert with the other branches of our Armed Forces, is to serve as a principal deterrent to war, it must be kept modern through a dynamic research and development program and new advanced weapons; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we support the authorization and appropriation of funds for development and eventual production of: an advanced attack helicopter; a modern, mechanized infantry combat vehicle; an advanced surface to air missile; a new battle tank and an improved tactical transport aircraft.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 422

COMMITTEE: National Security

SUBJECT: XM-1 MAIN BATTLE TANK

WHEREAS, the current M-60 series U.S. Army Main Battle Tank first entered troop use in 1960; and

WHEREAS, the main battle banks in use by friendly and/or associated powers of the United States are of more recent design and equippage and therefore at least equal, and in some instances superior to the United States M-60 series main battle tank; and

WHEREAS, the current main battle tank of the USSR, a possible major adversary of the United States, is publicly an uncertain factor; and

WHEREAS, the USSR has long enjoyed a history of overwhelming emphasis and resounding successes in the field of tank and artillery (including missiles) manufacture and operational excellence; and

WHEREAS, armored full-tracked vehicles of the tank type, including personnel contained therein, may be the only survivors on a possible future nuclear battlefield; and

WHEREAS, the M-60 series U.S. main battle tank, in service use for over 15 years, has reached its design limits; and

WHEREAS, the proposed new United States XM-1 main battle tank, presently in the development phase, will provide a quantum increase in survivability, agility and fire control over all currently known or proposed main battle tanks of all nations; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we urge the Congress and the President of the United States to proceed with all possible speed the essential phases of development, prototype and testing, pilot production and full production of an adequate main battle tank culminating in its issue as a standard item of equipment to troop units at the earliest practicable date.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 177

COMMITTEE: National Security

SUBJECT: MODERNIZATION OF U. S. NAVY

WHEREAS, the traditional United States supremacy on the high seas is being challenged by the rising Soviet navy, plus its auxiliary sea-going adjuncts, including commercial and oceanographic vessels; and

WHEREAS, the security, economic life and freedom of the United States and the nations of the free world depend largely upon the continued availability of the seas and the effectiveness of the United States Navy in protecting the economic lifeline of the free world against communist direct aggression and subversion; and

WHEREAS, The American Legion recognizes that in the final analysis our national survival depends on our maintaining the naval strength required for strategic deterrence, control of the seas and projection of national power beyond our shores; and

WHEREAS, The American Legion recognizes that the achieving of that required naval strength is contingent upon necessary funding; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we petition the President and the Congress of the United States to:

1. Take immediate steps to restore the United States to a position of global naval supremacy and appropriate adequate monies to ensure the fastest possible modernization of our Navy with emphasis on a balanced sea control force of aircraft carriers, aircraft, other surface ships and submarines;

2. Maintain a combat-ready Marine Corps with the appropriation of sufficient funds to support three Divisions and three Air Wings at full strength, and to maintain a ready Marine Reserve strength of one Division and one Air Wing; and to support the full application of the Marine Corps Division/Wing concept;

3. Support the Navy's urgent requirements for an air superiority and intercept fighter capability by continuing procurement of the F-14;

4. Support the development and continued procurement of the S-3 aircraft which represents a quantum improvement in air ASW and sea control capability;

5. Actively continue the Navy research and development program, capitalizing on the advances of science and technology to provide Navy and Marine Corps forces with the mobility, versatility and flexibility to meet the challenbe to United States security without compensatory reduction in the readiness of combat forces;

6. Provide personnel support and training facilities adequate for the maintenance of a high state of readiness, effectiveness and morale;

7. Provide the weapons systems required by the Navy and Marine Corps to accomplish their assigned missions, in both conventional and nuclear warfare;

8. Provide and permanently maintain a modern balanced amphibious assault force capable of rapidly projecting ashore simultaneously the assault elements of two Marine Corps Division/Wing Teams;

9. Provide modern sealift capabilities to support Army, Air Force and Marine Corps operations required to support our national objectives;

10. Maintain strong Navy and Marine Corps Reserve forces trained and equipped for rapid response to mobilization requirements in support of United States national interests;

11. Maintain naval forces strong enough to insure our United States is able to fulfill its commitments to allies, and to our own forces overseas by retaining the ability to protect and use the sea-lines of communications; and

12. Take all necessary steps to establish an Indian Ocean presence of sufficient size to preclude a Soviet political, military and economic imbalance in this vital area;

13. Accelerate new ship construction, including nuclear powered vessels, to meet the critical needs for the replacement of obsolete ships and increase over-all force levels to approximately 600 ships; and

14. Provide a reliable long-range, one-way communication system to provide services to submarines at great depths wherever they may be.

57th NATIONAL CONVENTION OF THE AMERICAN LEGION
MINNEAPOLIS, MINNESOTA, AUGUST 19-21, 1975

RESOLUTION NO. 67

COMMITTEE: National Security

SUBJECT: TRIDENT SYSTEM

WHEREAS, our sea launched ballistic missiles are an integral part of this nation's TRIAD defense deterrent; ;and

WHEREAS, by the late 1970s the first generation Polaris submarines will be nearly 20 years old; and

WHEREAS, it has been announced that the Soviet Union has an operational 4,000 nautical mile range SLBM, the SS-N-8; and

WHEREAS, the first generation TRIDENT submarine will incorporate the latest technology to improve their survivability and will have a range of about 4,000 miles; and represents a quantum improvement in our nuclear deterrent capability; and

WHEREAS, this greater range would reduce U.S. dependence on foreign basing for our ballistic missile submarines; now, therefore, be it

RESOLVED, by The American Legion in National Convention assembled in Minneapolis, Minnesota, August 19-21, 1975, that we urge the Congress and the Administration to fully fund and cooperate in the rapid development and deployment of the TRIDENT system.

Mr. BURLISON. Are there question?

Mr. ADDABBO. I commend the gentleman for his fine statement.

Many of my Legion posts back home have presented papers developed in the last convention.

Does the gentleman know that with the B–1 in the 1977 budget they are asking for approximately $900 million for procurement, but at the same time there is also a request for upwards of almost $500 million for R. & D.? In other words, we are going to start procuring while we are still in research and development.

Does the gentleman also realize that with the Trident missile we are requesting, I think, $750 million for procurement of a missile, and in the same budget there is over $300 million being asked for R. & D.?

In other words, we are going into a new phase of military buying: procuring before you even know what is going to happen.

Would it not be better to take those same dollars and put them into weaponry, tanks, move up our shipbuilding repair programs, rather than spend money on procurement now which is not needed and could easily be forestalled one year without doing any great harm to the program?

Mr. WILSON. I think the committee itself has to determine the priority use of the funds. We feel the country is sufficiently wealthy to afford additional funds that might be needed to see that both areas are taken care of.

I was really amazed by statements, this committee is aware of, made by the Assistant Secretary of Defense for Research and Development, Dr. Malcolm Currie, for example to me is astounding.

Dr. Currie makes a judgment that by 1977—the Soviets could theoretically initiate a counterforce strike against the United States, absorb a counterforce response, and then still have sufficient forces to attack Chinese and NATO nuclear capability, attack the U.S. population and military targets, and still have a remaining throw-weight larger than ours. Beyond 1977, he says things will get worse.

I just think if it requires added funds, as was the case with the Safeguard ABM—which for $100 million went down the drain—I think the average taxpayer would be willing to underwrite the additional cost of R. & D. and production at the same time in some of these areas.

Mr. ADDABBO. Except that Dr. Currie is going on theory and the fact still remains our own weaponry can retaliate to the same extent of Russia. If you can kill once, you can kill 10 times over but you are still dead the first time.

Thank you, Mr. Chairman.

Mr. BURLISON. Are there questions on my left?

Mr. ROBINSON. I would like to congratulate the American Legion on the type presentation you have made here this morning. I do not have to tell you how supportive the Virginia Legionnaires are of the program you are presenting today, and I assure you of support for the statements you have made as far as this member is concerned.

Mr. CHAPPELL. I want to join Mr. Robinson in congratulating the gentleman on a very worthwhile statement for us.

I certainly assure the Chairman and the American Legion of my strong support of the objectives you seek to obtain.

The thing that disturbs me is we sometimes perhaps misunderstand and misinterpret what the Soviets are intending to do. They tell us what they are intending to do in their editorials and their party propaganda and all the rest, but somehow we don't seem to believe what they tell us.

They certainly are not building this tremendous force for the purpose of protecting themselves. They have gone far beyond that in their naval forces and all the rest of their buildup. To me it simply tells us one thing, that they intend to pursue the projection of their way of life throughout the world, and they do it very categorically and they do it under a very clearly stated plan. Yet we sit back and simply won't believe them. We don't believe them when they say capitalism is the cause of war, so if you are to eliminate war you eliminate capitalism. They tell us that very clearly.

In pursuit of that, after having gained control of their own people through the use of the military force, they are willing to build it up and turn it outward to establish beachheads all over the world, through the National Liberation Front movement. They establish it and say "We are not using our military machine for war purposes, we are simply using it to maintain that progress which we have made."

If you carry that to its ultimate and we do nothing to continue to build up our credibility in the eyes of the world and have the world understand that we have the will to advance our own way of life, too, then we have little choice but to try to at least retain ourselves in a position of strength sufficient to have them know that we have the will to deter at key points in the world.

I commend the gentleman on his statement and wonder if he does not agree with me.

Mr. WILSON. We agree wholeheartedly, Mr. Congressman.

Mr. KEMP. I would like to join my colleagues in welcoming the American Legion here and say how much I appreciate their testimony, as well as the very thoughtful answer given to the question about why there ought to be procurement and R. & D. money in the same fiscal year for such a critical program as the B–1 bomber.

I think it is precisely because the program is so critical to our Nation's defense that we are finding some R. & D. money in with procurement money. As the American Legion so eloquently testified, this is a very important program, not for the 1970's but for the 1980's and on into the next generation.

Thank you so much for your testimony and your thoughtful presentation, your willingness to put defense in perspective and for taking a leadership position in informing the American people just exactly what this country's defense needs are.

I would only finish with this thought: Our own Library of Congress, in response to Senator Culver, came up with a definitive study saying recently that while the qualitative balance is at this point still in the hands of the United States but slipping, the quantitative balance has shifted remarkably to the Soviets, and unless these trends are arrested, this Nation might find itself in such a position of inferiority vis a vis the Soviets our national interests and those of our allies would be seriously compromised.

The American Legion has spent so much of its honored existence trying to defend these interests and I applaud your efforts.

I heartily concur with your testimony and appreciate it and just hope we can get the message out to more people so we can build a constituency willing to support the tough choices that must be made if we are to arrest those trends and help assure the survival of freedom of America and our allies.

TUESDAY, APRIL 6, 1976.

SHIPBUILDING INDUSTRY

WITNESSES

HON. ROBERT DUNCAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON
ALLEN C. K. CLARK, ASSISTANT TO THE PRESIDENT, SHIPBUILDERS COUNCIL OF AMERICA
EDWARD J. GLENN, ASSISTANT TO THE PRESIDENT, WILLAMETTE IRON & STEEL CO., AND VICE PRESIDENT AND DIRECTOR, WESTERN SHIPBUILDING ASSOCIATION
GEORGE HAMILTON, GENERAL MANAGER, BOSTON YARD, BETHLEHEM STEEL CORPORATION, AND PRESIDENT, NEW ENGLAND SHIP REPAIR YARD ASSOCIATION
ROBERT L. MASSA, VICE PRESIDENT, COASTAL DRYDOCK CO., AND VICE PRESIDENT, NEW YORK AND NEW JERSEY DRYDOCK ASSOCIATION

Mr. BURLISON. I notice our colleague Mr. Duncan of Oregon is here. We will be pleased to recognize him and his supporting witnesses at this time.

Mr. DUNCAN. I am here to introduce to you four very distinguished representatives of the private shipbuilding industry. This industry is very important to the Third Congressional District of Oregon, which I represent, and I think it is also important to the defense needs of this fleet.

I believe to meet the needs we need the Navy yards and a healthy private industry with a stable work force, which I know we have in Oregon.

I am glad to introduce to you Mr. Edward Glenn of Portland; Mr. George Hamilton of the Boston yard of the Bethlehem Steel Corp., president of the New England Ship Corp.; Mr. Robert Massa, vice president, Coastal Drydock Co., and vice president, New York-New Jersey Drydock Association, and Mr. Allen C. Clark, Assistant to the President, Shipbuilders Council of America, presenting testimony from Mr. Edwin M. Hood, President of Shipbuilders Council.

Mr. BURLISON. I am sure all you gentlemen know that Mr. Duncan is a very respected member of this committee and we are very delighted to have you gentlemen here to be introduced by him.

We will place all of your statements in the record at this point and would ask that each of you may summarize very briefly your contributions.

Mr. CLARK. Mr. Chairman, I am Allen C. K. Clark, Assistant to the President, Shipbuilders Council of America, testifying for Mr. Hood, who is unable to be here today.

Our statements are all so brief that they will not require summarization so, with your permission, I will read it.

I am accompanied, as Congressman Duncan said, by spokesmen for the other three major ship yard associations in the country.

STATEMENT OF ALLEN C. K. CLARK, SHIPBUILDERS COUNCIL OF AMERICA

Mr. Chairman, members of the subcommittee, I am Allen C. K. Clark, assistant to the president of the Shipbuilders Council of America, a national industry association composed of major shipyards in all sections of the country. I am accompanied by spokesmen for the New England Ship Repair Yard Association, the New York New Jersey Dry Dock Association, and the Western Shipbuilding Association. Each of us has a very brief statement which we most respectfully present for your consideration.

Officials of the Defense and Navy Departments have already set the stage for what we want to say. Our purpose is to urge support for the administration's request for $2.492 billion in funds to cover Navy ship repair, overhaul and alteration work in fiscal year 1977. This amount is larger than that appropriated for fiscal year 1976—up from $1.883 billion—but the need is likewise greater.

Fiscal restraints and the cumulative effects of the Vietnam war have inhibited the qualitative condition of the active U.S. Navy fleet to the point that the Chief of Naval Operations has stated: "I am not satisfied with the material condition of the fleet." As a consequence, he has further warned, overhauls of 60-some ships have necessarily been deferred. Efforts by the Navy to reduce this backlog in the shortest possible time frame will be substantially contingent upon the level of funding approved by the Senate and the House of Representatives.

Of course, we speak with a parochial voice: more ship repairs, overhauls and alterations mean more contracts for the many private shipyards throughout the Nation—and their employees—that specialize in these types of work. But, vastly more important, the expanding scope of the Soviet presence at sea thrusts upon the U.S. Navy new challenges which should not be minimized and which call for the best state of readiness our Nation can reasonably provide. The National Security dictates that the quality of U.S. naval response must be upgraded in the fullest sense, and overhauls of existing vessels must proceed in an orderly and prompt manner.

We therefore hope that the funds requested for Navy ship repairs, overhauls and alterations in fiscal year 1977 will merit your approval.

Thank you so much for this opportunity to state our views.

Mr. BURLISON. If there is no objection, we will hear from the four of you and then recognize the members for questions that they might have.

Mr. Glenn, you have good support here this morning, too. I understand our distinguished former colleague Mr. Davis is here with you. We want the record to show we are pleased to welcome the t wo of you here before the subcommittee.

STATEMENT OF EDWARD J. GLENN

Mr. GLENN. Mr. Chairman, members of the subcommittee, my name is Edward J. Glenn. I am assistant to the president, Willamette Iron and Steel Co., which operates shipyards in Portland, Oreg., and Richmond, Calif. I also serve as vice president and director of the Western Shipbuilding Association, which represents shipbuilding and ship repair yards, manufacturers, suppliers, labor organizations, and other related segments of the maritime industry on the Pacific coast.

I deeply appreciate the opportunity to appear before the respected members of this subcommittee, on behalf of the more than 150 members of the Western Shipbuilding Association, to present our views on the very important matter of defense spending as it relates to Navy ship maintenance and repair. We strongly urge that, in marking up the fiscal 1977 Defense appropriations bill, you approve in its entirely the $2.492 billion requested for the repair, alteration, and overhaul of U.S. naval vessels.

It is our studied opinion that the amount of funds requested for this purpose is the bare minimum, in fact, it is probably lower than the amount actually required for the full and proper performance of this essential fleet maintenance program.

We are convinced that any reduction in the amount would only serve to increase the already heavy backlog of naval vessels that are overdue for shipyard overhauls.

The Chief of Naval Operations has reported that more than 60 ships in the active fleet are overdue for shipyard overhauls. Among the reasons given for this seriously high backlog are inadequate funding of previous years and recent pressures of inflation. In light of the continuing reports from many quarters that the Russian naval and merchant fleets are steadily increasing in both numbers and tonnage, it appears to us imperative that we do everything in our power to maintain our naval fleet in the best possible state of defense readiness.

Commercial ship repair yards are equipped and manned to perform specialized repair and overhaul work on ships of all classes. Many shipyards, especially on the Pacific coast, are geared solely for ship repair work, and engage in no new ship construction whatsoever. These private repair facilities rely on Navy ship repairs, alterations and overhauls to provide the continuity of work necessary for retaining the availability of manpower and craft skills required for this type of activity. The outlook for Navy ship repair work on the west coast over the next few months is very bleak at this time.

Private shipyards, along with their naval counterparts, have long been considered an essential segment of the Nation's industrial defense mobilization base. They provide the shoreside facilities necessary for the proper backup of a fully operational U.S. Naval Fleet. In addition to their importance to the Nation's defense posture, private shipyards also have a very strong impact on the Nation's economic structure.

The shipyard industry has the inherent capability for gearing-up and providing employment on short notice for large numbers of people of many skills and backgrounds. It also continues to be one of the greatest contributors to the Nation's efforts in the hiring and training

of minorities and female workers. Training programs for the development of the unskilled in the national labor force are maintained throughout the industry.

The administration has warned that a slash in the Defense Department budget request could have a highly detrimental effect on our country's state of readiness in case of emergency, and that it would reduce the steaming time of our ships and the amount of time and effort devoted to the training required for our forces. Defense officials, past and present, have repeatedly warned of the dangers of any reduction in our defense readiness stature. In view of the tensions existing in several areas of the world today, we cannot afford to take any of these warnings lightly.

It is essential that the ships of our naval fleet are maintained in a constant state of readiness. It is equally essential that shipyards necessary for carrying out the important programs of ship maintenance and repair are maintained on a fully operational basis.

In our opinion, two goals of great significance to the country—increased national security and added employment—can be realized through full appropriation of the funds requested by the Defense Department for accomplishment of Navy ship repair, alteration and overhaul work. Therefore, we urge your most determined efforts to assure inclusion of the $2.492 billion appropiration requested for performance of this highly important work in fiscal 1977.

Thank you.

Mr. BURLISON. Thank you.

Mr. Hamilton.

STATEMENT OF GEORGE HAMILTON

Mr. HAMILTON. I come from the other side of the country and I have a very short statement.

My name is George Hamilton.

I am general manager of the Boston Yard-Bethlehem Steel Corp. and president of the New England Ship Repair Yard Association.

The New England Ship Repair Yard Association supports the U.S. Navy in their Navy ship repair, alteration and overhaul budget request for fiscal 1977.

All of us in the ship repair and conversion industry have recognized over the past few years the necessity of overhaul and repair work on operating naval vessels which has been postponed because of lack of funds and available supervisor of shipbuilding personnel.

It is our feeling that at a time when our fleet is at its lowest number of vessels since prior to Pearl Harbor, the existing fleet must be kept in first-class operating condition. To meet this responsibility, the Navy must have sufficient funds and we sincerely hope that the fiscal 1977 budget is sufficient.

Of equal importance for national security are trained shipyard workers. Without naval repair and overhaul work on a continuing basis in the private sector, we will and have eroded our ability to react quickly to a national emergency. You cannot train competent workers to overhaul naval vessels in 6 weeks. A stable work force in the private repair yards working on naval vessels would enable us to properly train and maintain first-class mechanics.

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We would also ask this committee to remove the restraints on the hiring of competent supervisor of shipbuilding personnel who control the writing of specifications and the inspection of naval vessels under repair in the private sector. If supervisor of shipbuilding employment levels are not kept commensurate with the increasing workloads assigned to the private sector, then it becomes necessary that the workload for the private sector be scheduled to suit the manpower available in the supervisor of shipbuilding offices.

This situation will defeat both the Government's intent to upgrade the condition of the operating fleet and the Navy's mission.

Thank you.

Mr. BURLISON. Thank you, Mr. Hamilton.

Now we will be pleased to hear from Mr. Massa of the New York and New Jersey Drydock Association.

STATEMENT OF ROBERT L. MASSA

Mr. MASSA. Mr. Chairman, distinguished Members of Congress—I am Robert L. Massa, vice president of the New York and New Jersey Drydock Association and vice president of Coastal Dry Dock & Repair Corp. located in the ex-Brooklyn Navy Yard, Brooklyn, N.Y.

It is an honor to appear before you this morning and to express the views of the New York and New Jersey Drydock Association.

We endorse and ask for your support to pass the fiscal year 1977 Defense appropriation budget of $2.4 billion for the repair of naval vessels in public and private ship repair yards.

We believe it is now common knowledge that our Navy is in a state of disrepair, and in need of overhaul and modernization in order to keep abreast with, or more desirable, to surpass our potential adversaries in defending ourselves.

I am sure that some Americans in this room are tormented by the decision to spend great sums of money on defense when there are domestic problems and heavy tax burdens on their constituents. It also requires great sums of money to solve these problem areas. History, however, reminds us, and present world conditions prove to us, that the lion is not ready to lie down with the lamb.

I am proud to be a citizen of a nation which historically has fought to defend itself, and loved its citizens enough to be prepared.

We in the private ship repair industry have always risen to the occasion.

I wish to congratulate the Congress for its efforts in obtaining a greater proportion of the repair budget to be spent in the private sector. By doing this, you help us to stay a viable and effective tool at your disposal in case of emergency. Let it also be noted that the ship repair industry, because of the nature of its work, has the ability to employ all types of citizenry from the unskilled to the most skilled. In the Northeast where the unemployment figures run from 7 to 13 percent, this money can be used to reduce the unemployment roles. Therefore, gentlemen, you can accomplish the impossible "eat your cake and still have it," that is to say, you can repair the ships, improve your defense posture, reduce the high cost of unemployment, and enable the American people to achieve the gratifying goal of performing their skills for their pay and contributing to their Nation's defense.

I think it should be evident that the cost of unemployment is high and demoralizing, the cost of defense readiness, although high, will

be comforting to you men who hold the awesome responsibility of our Nation's future.

Thank you.

Mr. BURLISON. Thank you, Mr. Massa.

Are there questions?

Mr. ADDABBO. I want to congratulate Mr. Massa on the statement. I have but one question: If the full amount requested is voted by the Congress, are there present facilities available for doing all the work that would be let out by the Navy?

Mr. MASSA. We have room for expanding three more times.

Mr. ADDABBO. Under your present operations?

Mr. HAMILTON. I would like to answer that. I think all the repair yards in the country can gear up for any amount of work the Navy has to offer us for bidding. The problem with the Navy right now, as I said in my last paragraph is, you have to remove the restraints on competent supervisory shipbuilding personnel. If they can't write the specifications and inspect the vessels, we can't do the work. Their complaint is now that they do not have sufficient people to write specifications to put the work out to bid. Without these people, the whole program will go down the drain.

Mr. CLARK. If I may add to that, Mr. Congressman, the foreign ship repair workload, we made a survey in the Shipbuilders' Council just very recently, has dropped 40 percent from mid-1975. The world condition of shipyard work is very low, partly due to the tanker surplus and other conditions. In addition to that, the U.S. merchant fleet is down to about 525 ships, which is totally insufficient to supply work for the many shipyards around the country. There is not the slightest question about our being able to handle the work.

The Navy plans in this regard 90 total overhauls of which roughly a third, or 30, would go into the private yards, which they can handle without any problem and if they don't have this kind of work some of them won't even exist. That is the present condition.

Mr. ADDABBO. Are the private shipyards—I know our former colleague, Glenn Davis, and I have worked closely with him—worked out certain formulas to guarantee sufficient work would be given to private shipyards. Is the Navy living up to the agreement?

Mr. CLARK. The Navy so far is living up. I think last year we got something over 30 percent. This year they are assuring us of 33 percent. We just had a conference with Adm. Raymond Burk, who is in charge of facilities for the Navy and he assured us we are going to get 33 percent which would be out of $2.492 billion, some $800 million, which we have every reason to believe the Navy will keep their word on.

Mr. GLENN. On the availability of facilities out on the Pacific coast, in the Northwest are about five yards. One is operating at about 50 percent of capacity. The rest of them graduate on downward from that. We could respond and put thousands of people to work.

I am not here to make a case for my own company, but we have adequate facilities right now in Portland, and in our Richmond, Calif. yard, to gear up and take the 300 to 400 people we have in those yards and multiply it by 10 very easily.

Mr. ADDABBO. Thank you, Mr. Chairman.

Mr. BURLISON. Questions on my left?

Mr. ROBINSON. Thank you, Mr. Chairman.

The situation you gentlemen describe would reflect a very competitive climate with regard to the ship overhaul and repair industry today and I think that is good. I think it should reflect an increased determination and willingness to handle these Navy jobs. But mention was made that if this full amount is appropriated, it is going to result in the overhaul of 90 ships. That figure was originally 105. It has been reduced to 90 due to inflation, with a corresponding reduction of about $100 million.

Now, I grant you that this committee has not been overly generous in terms of handing out of the funds in order to keep our fleet upgraded, but, without exception to the best of my knowledge, the amount appropriated never covers the amount of ships it is supposed to overhaul and repair. This is distressing to the committee.

I believe that not too long ago a survey was conducted by your industry that was to compare the productivity, the dollar's worth, you might say, that is available through the private yards as compared to the work done in the Navy yards.

Has there been any upgrading of that study in order to bring it into context with the situation you face today?

Mr. CLARK. There was a study made over 10 years ago by Arthur Anderson & Co. at the shipyard's request. One was made by the Navy. Both agreed it was cheaper to do work in the private yards. Our study indicated 30 percent cheaper.

There was an upgrading of that study a few years ago which affirmed that finding. There has not been any in the last 2 years.

Mr. ROBINSON. What would be your impression with respect to an upgrading to this date regarding that?

Mr. CLARK. It is my impression that this would not be necessary. I see no change in the performance of naval or private yards that would be sufficiently large to alter the findings of the previous studies. There were three of them made. Three or four of them made. I believe the Navy made two also. I don't believe there has been any change in recent years that would justify a further study.

I think we would come up with the same result.

Mr. ROBINSON. What is the situation regarding the prospect of labor troubles in your yards in the next fiscal year?

Mr. CLARK. I am not competent to testify too much on that. Perhaps my colleagues can do better and I will call on them, but there are recent vintage labor troubles. Maryland Drydock has settled one. There is a strike in Alabama and one in Todd, New Orleans. They will be settled soon, hopefully.

Other than that, I can't predict. They usually settle for 3 years at a time.

Mr. HAMILTON. Speaking for New England, we won't have any problems for 1977 or 1978.

Mr. GLENN. Speaking for the Pacific coast, in our labor contracts we operate under a Pacific coast master agreement which embraces six crafts and there are other crafts that have their own separate agreements. They are all patterned exactly the same.

In 1958 we suffered about a 2 weeks' strike with one craft. They were trying to actually dictate their weight, if you will, over the others. There were separate bargaining rights. That is the only strike we

have had in the entire industry on the Pacific coast since 1947 that I know of.

There was a strike that affected one yard down in the San Diego area. One yard. But the rest of them, as far as I know, sir, they are very, very fortunate. We have been lucky, and we look forward to that.

We do have the advantage of bargaining collectively with all these unions. We have the Pacific Coast Shipbuilders Association who carry the ball on behalf of management. I happen to have been on that committee for a number of years. I don't know that I have any magic, but I look forward to a continuation of our good fortune.

Mr. ROBINSON. I am a friend of private industry wherever it exists, and if you gentlemen can demonstrate a productivity that will generate the confidence necessary in both the public and the Congress to show that you are giving a better job for the money, then certainly I think that you have gone a long step in the direction of renewing confidence in terms of what we have seen in the past where these goals simply have not been achieved, even with the money that has been appropriated for getting the job done. The competitive situation that exists in your industry now would indicate that you are prepared to take the bull by the horns and accomplish exactly this.

For the record I think the committee would be interested in seeing perhaps a little greater in-depth explanation of the impact of the shortage of these supervisors of shipbuilding personnel because this is something which has not been brought to our attention before.

Mr. BURLISON. Thank you, Mr. Robinson. Are there further questions?

Thank you very much, gentlemen.

TUESDAY, APRIL 6, 1976.

NATIONAL GUARD ASSOCIATION

WITNESS

MAJ. GEN. FRANCIS S. GREENLIEF, NGUS (RET.)

Mr. BURLISON. We welcome Major General Greenlief representing the National Guard Association.

I must remind our witnesses and my colleagues on the committee we are far behind on our schedule.

Please proceed, General Greenlief.

STATEMENT OF MAJ. GEN. FRANCIS S. GREENLIEF

Mr. Chairman and gentlemen of the committee. It is indeed a pleasure to present the views of the National Guard Association of the United States on the vital subject of Army and Air National Guard Programs. We appreciate the understanding and support which this committee has given the National Guard in past years, and believe National Guard performance justifies continuation of your support.

Knowing that the Chief, National Guard Bureau will provide you with facts and figures on combat readiness, manpower, equipment and justification on the detail of the budget and authorization request, we will not present that statistical data. Rather, we will address specific problem areas of concern to the leadership of the National Guard in the several States.

We believe the President's Budget Request to be generally adequate for the programs detailed in the budget. We are, however, strongly opposed to legislative and administrative proposals included in the budget. We are firmly convinced that these proposals will result in a diminishment of combat readiness in the Army and Air National Guard.

Legislative Proposals

Three legislative proposals are made in an addendum to the Army and Air National Guard Personnel Appropriations. The proposals reduce the ARNG Budget by $28,665,000 and the ANG Budget by $13,070,000. These proposals have been offered as part of a nine-point package to restrain the high cost of military personnel.

The National Guard Association agrees that military personnel costs are high. The NGAUS anticipated that an all-volunteer military force would greatly increase manpower costs, and we believe that there should be no surprise now because of those high costs. If we as a nation are truly faced with the dilemma of deciding between paying the high manpower costs of an all-volunteer military force and equipping all our forces, including the Guard and Reserves with adequate amounts of modern equipment, it would seem that we should consider that there is always the painful alternative of returning to a relatively inexpensive conscripted force.

The three items of the Legislative Addendum are: Elimination of Administrative Duty Pay; Elimination of Military Pay for Federal Employees Attending Annual Training; and Reduction of Some National Guard Units from 48 Drills to 24 Drills.

(1) Elimination of Administrative Duty Pay

Administrative duty pay ranges from $5.00 to $20.00 per month for non-technician commanders. The rate of pay varies with the size of command. A Captain (Company Commander) receives $5.00 per month over and above his drill pay for the time he must spend at times other than drill periods. Considering the time he must spend, the rate of pay is probably less than 25¢ an hour. Obviously our commanders are not performing those duties for the money, but elimination of this pittance can only be considered by them as a slap in the face when what they need is a pat on the back. Rather than proposing elimination of this honorarium, DoD should propose to pay at least the legal minimum wage.

(2) Elimination of Military Leave Pay for Federal Employees

Title 5, Sec. 6223, U.S.C. authorizes 15 days of military leave per calendar year for federal employees. This permits federal employees to attend annual training without loss of federal civil service pay, and was authorized by Congress as an incentive for membership in the Guard and Reserves. The ARNG, the ANG -- and we believe all Reserve Components -- are understrength. This is no time to remove incentives. We estimate that there are about 100,000 federal employee members of the National Guard including about 50,000 technicians. Federal employees, now members of the Guard and Reserves, joined with a promise in law that they could attend annual training in a paid military leave status. Withdrawing that entitlement now could only be considered as a breach of contract of the worst sort. The President's Committee on Employer Support to the Guard and Reserve has worked hard for several years to improve civilian employer military leave policies. That committee achieved considerable success. If the U.S. Government were now to back away from its leave policies, we could anticipate civilian employers and State Governments doing likewise. Any action which would serve to disenchant 20% of the members of the National Guard would severely retard recruiting and retention and thus readiness.

(3) Reduce National Guard Units from 48 Drills to 24 Drills

Title 32, Sec. 502, U.S.C. prescribes that National Guard units must conduct at least 48 training periods a year and participate in at least 15 days annual field training each year. DoD proposes legislation to permit the Secretaries of Army and Air Force to prescribe less than 48 training periods per year. This

proposal is already under consideration by the House of Representatives as H.R. 8328. We oppose this proposed legislation because it would reduce the readiness levels of National Guard units. The proposal first surfaced because a GAO study found some waste of training time, and concluded that the solution was to reduce available training time. National Guard units have a dual Federal-State mission. They must be prepared to mobilize for State service without notice and deploy immediately in an almost infinite variety of missions. Maintenance of this instant readiness requires that all personnel, leaders and men and women, of National Guard units train together at least once each month. It has been suggested that the military skill requirements of some units, e.g. truck companies, is so low that the units need not train as frequently as 48 times a year. In the National Guard, support units such as truck companies are required to support other National Guard units, e.g. movement of units to training sites. The DoD Budget Legislative Addendum proposes to shift 14,000 ARNG personnel and 7,000 ANG personnel to Category B, i.e. 24 training periods to achieve a cost reduction of $13 million. The cost reduction was computed on the basis of numbers of people, not on the basis of a specific list of units which did not in DoD's view require 48 training periods. However, the Assistant Secretary of Defense (M&RA) has testified that he is opposed to requiring a varying number of training periods for personnel of the same unit.

These legislative proposals are a part of a package of items identified by DoD as restraining the high cost of military personnel. Compared to the total cost of DoD military personnel, the savings to be achieved in the Guard Program are insignificant. A chart which the Assistant Secretary of Defense (M&RA) has used in testimony demonstrates the relative personnel costs of Active military as compared to Guard and Reserve personnel. His chart shows a savings of $60 million by eliminating 5,400 active duty spaces. The same chart demonstrates that 46,000 Reservists must be eliminated to save $50 million.

ADMINISTRATIVE PROPOSALS

Additional Flying Training Periods

In previous years the budget has supported Additional Flying Training Periods (AFTP) as additional unit training assemblies. ARNG aviation crew members in the past have been authorized 24 AFTP's (4 hours each) per year. ANG aircraft crew members have been authorized 36 AFTP's (4 hours each) per year. The AFTP program was originally justified on the basis of improving flying proficiency and reduction of the aircraft accident rate. That justification remains valid. The ARNG aircraft accident rate in 1964 was 24.9. Largely because of the AFTP Program, the ARNG aircraft accident rate was 3.7 in 1975. The ANG aircraft accident rate was 41.3 in 1955. Largely because of the AFTP Program, the ANG aircraft accident rate was 3.9 in 1975.

The budget proposal converts the AFTP Program to active duty for training and authorizes: ARNG --- 12 eight-hour training periods; ANG --- 18 eight-hour training periods. DoD analysts apparently believe that by doubling the number of training hours in each AFTP, they can then cut the number of AFTP's in half and achieve the same amount of flying training. This is not true. Pilots of helicopters and jet fighter aircraft cannot profitably fly more than 1-1/2 hours in a training period. After 1-1/2 hours, fatigue precludes effective learning and accidents become more likely. This change will result in:

--- Less frequent participation in flying training.

--- Loss of proficiency in essential flight skills.

--- Loss of mission readiness.

--- Higher accident rates.

We estimate the ANG accident rate may triple. Based on the current ratio of accidents to fatalities, an increase of 15 ANG fatalities can be expected in FY 1977.

Additional Training Assemblies

Formerly, additional training assemblies were included in Pay Category A as four-hour training periods for which base pay only was paid. The FY '77 Budget transfers this additional training to the Active Duty for Training Category as eight-hour periods for which pay and allowances are authorized. Normally, travel pay would also be authorized. Since only pay and allowances are provided for in the budget, we assume the intention is to change the Joint Travel

Regulations to exclude travel pay. We doubt that any savings can be shown without the elimination of travel pay. Changing the program from four hours to eight hours will limit the flexibility and hence the value of these training periods. Currently, a Guardsman can accomplish Readiness Training i.e. staff planning, supervision of unit operations, and training preparation by taking only a half day from his work or by accomplishing his military function in the evening. On the basis of eight-hour periods, almost all duty days will be weekends -- increasing the dislike of wives and families for the program.

Special Training Program

This program provides personnel on short tours of duty to perform a wide variety of functions to improve the readiness of the ARNG and the ANG. The FY '77 Budget transfers the pay of personnel performing tours of 179 days or more to the Personnel Appropriations of the Active Army and Air Force. This action effectively passes control of these personnel from Chief, National Guard Bureau to the Active forces. Since the funds would be included in the appropriations of the Active forces, they could be diverted to support Active force needs. The purposes of the tours of duty vary, but include National Guard recruiters and personnel on duty in various Army Headquarters to provide National Guard expertise to the "Steadfast" program. This change denies the Chief, National Guard Bureau control and management authority over resources vital to National Guard programs.

Personnel Strength

Both the ARNG and the ANG are currently, and we believe temporarily, understrength. The improved pay rates, Servicemen's Group Life Insurance and Post Exchange privileges are incentives to enlistment and retention which are helpful. However, those are the only incentives which have been provided. We need Tuition Assistance, Survivor Benefits and Improved Medical/Death Benefits as a minimum to improve National Guard recruiting and retention capability.

Although the FY '76 Congressional Budget mandates an average strength of 400,000 for the ARNG with an end strength of 400,000, the FY '77 Budget Request has reduced the ARNG FY '76 end strength to 380,000. This then becomes the beginning strength for FY '77. The FY '77 Budget Request supports an end strength of 400,000 with an average strength of only 390,000. We recognize that we will have difficulty producing an average strength of 400,000, but we believe we can make it. We know that if budget authority is only provided for 390,000, we will not attain an average of 400,000.

Disincentives

Since the inception of the Initial Active Duty for Training Program, non-prior service personnel have been paid for participation in ARNG and United States Army Reserve drills. On 1 July 1974, DoD terminated this payment. The impact on recruiting was so severe that DoD reinstated the program in April 1975 - authorizing pay to high school graduates, or bona fide high school seniors, for 180 days.

The Congress terminated this payment 1 January 1976, pending further justification. We strongly urge resumption of payment to non-prior service enlistees prior to entry into Initial Active Duty Training.

Equipment

We are proud of the role which the National Guard and Reserves play in the Total Force Policy of National Defense. We can produce required readiness if adequately equipped with modern equipment. We are not now so equipped.

We believe the United States should provide weapons to friendly foreign nations, provided such weapons sales do not serve to further impede the equipping of the Guard and Reserves. We suggest that such foreign nations be equipped on the same planning, programming, budget cycle as are U.S. forces rather than by draw-down of equipment from U.S. forces.

Every dollar's worth of equipment sold to a foreign nation on an unprogrammed basis, [illegible] out by DoD or OMB, or denied by the Congress, limits the readiness of the Guard and Reserve.

OMB or DoD has reduced the FY '77 request for procurement of A-10 fighter aircraft from 159 to 100. The aircraft eliminated would have permitted the phase out of the last ANG F-100 by 1980. That modernization will now not be possible. We believe that at least one squadron of fighter aircraft should be added to the FY '77 procurement specifically for the ANG.

Although reductions were not made in National Guard Personnel Appropriations Requests to reflect the legislative proposals, reductions were made in the total Federal funds requested for military personnel. The following table displays those reductions:

	ARNG($000)	ANG($000)
Eliminate Administrative Pay	1,057	45
Military Pay for Federal Employees at Annual Training	19,208	8,825
Authority for Less Than 48 Drills	8,400	4,200
Totals	$28,665	$13,070

We recommend these amounts be added to the total Federal funds requested for military personnel.

Reductions have been made in National Guard Personnel Appropriations because of the administrative proposals included in the FY '77 Budget. The following table displays these reductions:

	ARNG($000)	ANG($000)
Additional Flying Training Periods	$ 1.9	$ 2.1
Additional Training Assemblies	5.9	---
Special Training Program	5.5	2.7
Totals	$13.3	$ 4.8

We recommend that these funds be added to the amounts requested in the National Guard Personnel Appropriations.

Since the Budget Request for Military Personnel Army and Military Personnel Air Force includes funds for pay of National Guard Personnel performing tours of duty for more than 179 consecutive days, the add-on requested for the National Guard Special Training Program could be offset a reduction of $5.5 million from Military Personnel Army and $2.7 million from Military Personnel Air Force.

The DoD assumed that the Congress would not authorize payment to non-prior service personnel for participation in unit training assemblies prior to entry on Initial Active Duty Training. Consequently the National Guard Personnel Appropriations Requests do not include funds for pay of these personnel. The funds required are: ARNG $5.0 million; ANG $326,000. We strongly recommend that these funds be added to the FY 1977 National Guard Personnel Appropriations.

The ANG Operations and Maintenance Budget limits technician travel to the FY 1976 Appropriations level. Because of the accelerated conversion program we believe an additional $1.5 million is required.

Earlier in this statement we addressed the need for the buy of an additional 24 tactical fighters for the ANG. If the buy of additional aircraft is authorized, we urge that this Committee

recommend the funds to support that authorization. The additional cost would be determined by the weapons system authorized.

We recognize that our requests would increase the magnitude of defense spending. We believe the resulting increase in readiness would be worth the price. However, we do not seek improvement at the expense of the regular services.

Mr. Chairman, I thank you for the opportunity to express the views of the National Guard Association. I will be pleased to attempt to answer your questions.

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Summary Statement of Maj. Gen. Francis S. Greenlief, NGUS (Retired)

General Greenlief. Mr. Chairman and gentlemen of the committee, we appricate very much the understanding and support which this committee has given the National Guard in past years and we believe the National Guard performance justifies continuation of your support.

We believe the President's budget request to be generally adequate for the programs that are detailed in that budget. We are, however, strongly opposed to legislative and administrative proposals included in the budget. We are firmly convinced that these proposals will result in a diminishment of combat readiness in the Army and the Air National Guard.

The three items of the legislative addendum are, elimination of administrative duty pay, elimination of military pay for Federal employees attending annual training, and the reduction of some National Guard units from 48 drills to 24 drills.

The administrative proposals which we oppose are the reduction and conversion of the additional flying training period program; the reduction and conversion of the additional training assembly program, and, finally, a very serious matter, the transfer of funds from National Guard personnel appropriations to the Active Army and Air Force personnel appropriations for the pay of National Guard personnel performing short tours of duty.

We have strongly urged the resumption of payments to non-prior-service enlistees prior to entry into initial active duty for training and, gentlemen, we are most appreciative of the action of this committee in approving that recommendation.

Although reductions were not made in National Guard personnel appropriations to reflect the legislative proposals, reductions were made in the total Federal funds requested for military personnel and we recommend that these amounts be added to the total Federal funds requested for military personnel. Reductions have been made in National Guard personnel appropriations because of the administrative proposals included in the fiscal year 1977 budget and we recommend that these funds be added to the amounts requested in National Guard personnel appropriations.

The Department of Defense assumed that the Congress would not authorize payments to non-prior-service personnel for participation in unit training assemblies prior to entry on initial active duty for training.

Consequently, the National Guard personnel appropriations do not include funds for pay of these personnel in fiscal year 1977.

We strongly recommend that these funds be added to the fiscal year 1977 National Guard personnel appropriations.

The Air National Guard operations and maintenance budget limits technician travel to the fiscal year 1976 appropriation level because of the accelerated conversion program.

We believe an additional $1.5 million is required.

The foregoing full statement addresses the need for the buy of an additional 24 tactical fighters for the Air National Guard.

If that buy of additional aircraft is authorized, we urge that this committee recommend the funds to support that authorization.

We do recognize that our request would increase the magnitude of defense spending to some degree. We believe, however, the resulting increase in readiness would be well worth the price.

Mr. Chairman and gentlemen, I thank you for the opportunity to express the views of the National Guard Association. I will be pleased to attempt to answer any questions you may have.

Mr. BURLISON. Thank you, General Greenlief. Are there questions on my right?

Mr. ADDABBO. Normally I would pass, but first of all, I commend the gentleman for his continuing active duty service to his nation through the National Guard which he served so well as an active officer, appearing many times before this committee.

General, a very disturbing thing has come to my attention, and perhaps now that you are in civilian life you may or may not feel constrained to give me a frank answer to it.

This committee has been very concerned for many years because of the fact that the National Guard and Reserves were not kept up to strength, were treated as a step-sister, given second-hand equipment; if anything was needed it was taken back from the Guard and Reserve.

Do you feel it was due to necessity or because there might have been a feeling amongst the hierarchy within the Pentagon, within the regular military, that they more or less looked down upon the National Guard, looked down upon Reserves, that service in the National Guard, service in the Reserve was not and is not true military service; that true military service is the Army, Air Force, Navy, Marines, and when you went to the Guard or Reserve you were trying to shirk your duty, as a result of which they were looked at with a jaundiced eye?

General GREENLIEF. Mr. Addabbo, there is no question in my mind that the circumstances you describe have existed. There is no question in my mind that the fact that the administration at the time, for reasons that it considered good and valid, failed to utilize fully the Guard and Reserve in the Vietnam war. That hurt the image and reputation of the Guard and Reserve with the regular services.

A very fine Chief of Staff whom I know you know at one time referred to supporting Guard and the Reserve kind of like feeding a horse that you couldn't get out of the barn. I understood his frustration and I still understand it. But that inability to get that horse out of the barn had nothing to do with the leadership of the Guard and the Reserve. The leadership of the Guard and all of the Reserve components wanted to participate. The administration decided not to. The Guard and Reserve has suffered from that decision, as have the regulars. The Guard and Reserve have suffered because we did lose credibility with the regular service.

We lost some credibility with the American public. We lost some credibility with the Members of Congress who didn't understand why the Guard and Reserve had not been used. In my judgment you are quite right. We went through a period of time when the regular services were reluctant to put their very hard-earned procurement dollars into equipment for the Guard and the Reserve.

You must recognize that during the period of time I am talking about

we were fighting a war. The Guard and the Reserve had "hand-me-downs," but produced an outstanding degree of training readiness. Although, because of the inadequacy of the equipment, there was not much combat readiness.

Of the total force policy established first by Mr. Laird, reinforced by Mr. Schlesinger—and, we hope, espoused by Mr. Rumsfeld—has gone a long way toward solving that problem. Equipment issued since the end of the Vietnam war has been good. Our equipping readiness is much better but we are still not where we need to be.

The training readiness of the Guard—and I believe the other Reserve components—tends to exceed their equipment readiness. Putting it vary bluntly, unless the Guard and the Reserve are fully equipped with modern equipment that we can fight with, then total force must sound more like total farce.

Mr. ADDABBO. The Regular Army and other components ought to work with the National Guard and Reserves. In other words, advisers, et cetera.

Are you being given proper support? Is the Reserve and Guard being given proper support by proper authorities, competent advisers and timely advisers?

General GREENLIEF. In my judgment, yes, sir, Mr. Addabbo.

The Air Force has led the way. They eliminated the Continental Air Command about 1960 and established a gaining command concept which made the regular Air Force Commander responsible for the supervision, prescribing the training, the supervision of the training and the readiness of the Air National Guard. That is one of the reasons that the Air National Guard has the very high level of readiness that it does today.

The Army moved more slowly but in about July 1973, I believe, they approved the so-called "Steadfast" reorganization of the Army which included what I think is a great improvement in the management, the supervision, the production of readiness of Army Guard units.

I am very pleased with what the Army and the Air Force are doing.

Mr. ADDABBO. Thank you, Mr. Chairman.

Mr. BURLISON. Thank you, Mr. Addabbo.

Are there any questions on my left?

Thank you very much, General.

TUESDAY, APRIL 6, 1976.

NON-COMMISSIONED OFFICERS ASSOCIATION

WITNESS

C. A. "MACK" McKINNEY, DIRECTOR OF LEGISLATIVE AFFAIRS

Mr. BURLISON. We are pleased to welcome Mr. C. A. McKinney of the Noncommissioned Officers Association.

Mr. McKinney, we will be very pleased to put your statement in the record at this point and would be delighted if you could briefly summarize it.

Mr. MCKINNEY. Thank you, Mr. Chairman, I shall do so.

[The statement follows:]

STATEMENT OF C. A. "MACK" MCKINNEY

MR. CHAIRMAN and MEMBERS of the SUBCOMMITTEE: The Non Commissioned Officers Association of the USA (NCOA) extends appreciation for affording its representative the opportunity to appear today before this distinguished panel.

The NCOA believes that Congress faces its most crucial defense decision of recent years. It must determine the extent of appropriations that will be earmarked for the FY 1977 defense budget. That determination will decide whether or not this Nation will be stronger than, be equal to, or remain inferior to its most probable adversary, the Soviet Union.

The Association appreciates the perplexity that comes with the number of statements, papers, articles, facts and figures submitted to the panel by governmental agencies, organizational representatives, private enterprise, private citizens and its own staff members. Some will attempt to justify less funds because they believe the U.S. is superior to the Soviets. Others will try to persuade this panel that the proposed defense budget is adequate. Yet others will do their best to convince the members of Congress that the U.S. has a weak defense posture and the requested appropriations for FY 1977 are totally insufficient.

The NCOA is a member of the latter group. It has carefully reviewed existing facts and figures only to resolve that it must take the position that the United States is now supporting an inferior defense posture. We base our verdict on these undisputable facts:

1 - The United States has less military personnel on its active and reserve rolls than at anytime since the 1950's;

2 - The All-Volunteer Force is not the success that many would lead us to believe;

3 - Conventional weapon inventories have been depleted as a result of the Vietnam conflict and foreign military assistance programs;

4 - The Soviet Union is rapidly outproducing the United States in strategic and conventional weapons, and continually expanding its general purpose forces;

5 - Strategic Arms Limitation (SALT) Talks and Mutual Balance Force Reductions have not succeeded in reducing the tension between the United States and the Soviet Union;

6 - The Russians have closed the missile gap that once favored the United States some years ago;

7 - U.S. technology is no longer a deciding advantage, nor is the Nation's ability to crank up its production capabilities a threat to the highly-mobilized Soviet forces; and

8 - The United States has little if any capability to defend itself against nuclear or conventional attacks.

Conclusively then, these items of reality add up to the naked fact that our country is less prepared to defend itself today than in 1962 when the late President Kennedy called the Soviets' bluff during the Cuban Missile Crisis. The NCOA believes that such a confrontation today would lead to consequences far more dramatic and destructive than what the United States would want for its people.

The NCOA urges Congress to readjust its sights to a new elevation. The Nation has been off target for too long. We can no longer remain in the competition while fiscal restraint and false security keep our shots in the "9" ring. The United States can only have an adequate defense posture by "busting the black." Otherwise, all Americans must accept the ultimate decision that the Nation will retrogress to the position of world power it sustained prior to World War II.

And too, Mr. Chairman, we cannot speak of an adequate defense without addressing ourselves to the past military personnel policies adopted by Congress since 1973. Subsequent to that time a steady erosion in pay, allowances and benefits has been levied upon the members of our armed forces. The NCOA can readily identify more than 50 separate or related items in the category of emoluments that have been curtailed, reduced, terminated or threatened by the executive departments of the federal government or by the Congress. We believe that the military forces have had to carry the burden of fiscal restraint, and that it is well past the time to look toward other federal programs for future reductions in national expenditures.

In their behalf, the NCOA urges Congress to appropriate sufficient funds to carry on those people programs (i.e. commissary subsidies, CHAMPUS, comparative pay increases, the present system of computing pay increases as applied to basic pay and quarters and subsistence allowances, the present method of compensation for academy students, number of paid drills now authorized by law, maintaining the one-percent "kicker" on retirees' cost-of-living increases, enlistment bonuses, and etc.) that are all necessary for the morale and well-being of the military community.

We must not lose sight of the importance of our military personnel. The United States can possess an arsenal of superiority, but without the people to man the weapons it cannot be prepared to defend its citizens in the event of an attack by an aggressive force.

COMMENTS

a. FY 1977 Defense Budget.

The FY 1977 defense budget reflects the following trends and comparisons (selected at random):

- In current dollars, it is the largest ever requested.

- In constant 1977 dollars, total obligational authority (TOA) is $37.5 billion under FY 1968, just $7.4 billion over FY 1976, but less than that obligated in 1964 (Pre-Vietnam).

- Public social welfare programs reached record expenditures totalling $287 billion in FY 1975, or more than twice the TOA for defense and nearly three times more than total defense outlays requested for FY 1977.

- Total defense outlays for FY 1977 will be approximately $12 billion less in constant 1977 dollars than those expended for FY 1964.

- The Department of Health, Education and Welfare (HEW) has been spending more federal funds per year than the Department of Defense (i.e. - HEW about $140 billion vs. DoD's request of $100 billion in total outlays for FY 1977).

- "For every dollar of growth in spending between 1966 and 1974 about 28 cents went to social security benefits, 13 cents went to medicare and medicaid, 15 cents went to pay and related items in national defense, 13 cents went to interest on the debt, 8 cents went to welfare programs, 6 cents went to veterans' programs and 2½ cents went to education." (CONGRESSIONAL RECORD, Jan. 18, 1976, p. E261). Thus, defense spending consumes less than one-fifth of the dollar growth in Federal spending.

- "While (Capitol) Hill critics keep talking of the 'record' defense of FY 1976 budget request of almost $100 billion, the fact is that in constant dollars this is the lowest level of defense outlays since the pre-Korea Louis Johnson defense budget of FY 1950, which gave a signal some believe contributed to North Korea's decision to attack the South soon afterwards." (THE WASHINGTON POST, Jan. 6, 1976, "Inflation and the Defense Budget" by R.W. Komer).

- "The biggest single chunk of the federal budget is not the part that goes to the Pentagon for defense, nor the part that goes to federal employees in pay. It is the part that comes directly back to the public in a flood of government checks each month to pay benefits of one kind or another." (THE WASHINGTON POST, Jan. 22, 1976; "Biggest Chunk of Budget: The Flood of Benefit Checks" by Peter Milius).

- "In the last decade, the number of children under 18 increased only four percent, but aid to dependent children has increased 456 percent. Social Security costs have skyrocketed with an increase of 1,370 percent since its start in 1935. Hundreds of millions of dollars are disbursed annually by government to hospitals, but a bed charge has increased from $10 to $100 per day." (THE NATIONAL DIVIDEND, Dec. 1975) Yet, the DoD budget for FY 1977 reflects an increase of only about 100 percent in current dollars over FY 1964.

b. Defense Posture.

- "The President of the United States has said that our defense forces are poised, capable and ready of reaction. I think the American people are entitled to know and should know . . . that the United States is no longer the strongest military force in the world; and while we may talk about substantial parity or substantial equivalency with the Soviet Union, the bare, stark facts remain, in spite of the rhetoric, that in military force alone, the Soviet Union is the strongest nation on the face of the earth, and the United States, in spite of its capacity to be strongest, is second to the Soviet Union in military strength." (CONGRESSIONAL RECORD, March 4, 1976, p. S 2795, "National Defense," by Hon. James A. McClure, U.S.S.)

- "Professor Raymond S. Sleeper of the University of Tennessee's Space Institute reviewed in painstaking and depressing detail the shifting balance of forces between the United States and USSR during the 1945-75 time frame, and irrefutably demonstrated that in virtually every measurable aspect of military power that balance has shifted in favor of the Soviet Union and is almost sure, because of recent trends not immediately reversible, to shift even more toward the USSR within the foreseeable future." (Editorial, SEA POWER, Nov. 1975)

- "Their (Soviet) forces are growing but, more important, they are growing qualitatively. They have vastly improved their logistical system so they can sustain combat operations effectively for a longer period of time. And they have upgraded their equipment -- both tanks and aircraft. They have added substantially to their TOE for their tank armies and as a consequence the Western Allies are faced with a steadily growing capability to the East." (Former Secretary of Defense James R. Schlesinger at Association of U.S. Army luncheon, Mar. 4, 1976)

- The Chairman of the Joint Chiefs of Staff recently told Congress that "in the past, we counted on the superior quality of Western weapons equipment and technology to offset the decided advantage the other side (U.S.S.R.) enjoyed in quantity. That time is now past."

- ". . . we shall see all of Europe strategically outflanked. There is no way it can be stopped except by strong diplomatic pressure on Moscow by the United States, backed up by United States power and a United States willing to use that power. . . . As I look at the United States military posture, I see it rapidly diminishing . . ." (Hon. Barry Goldwater, U.S.S., CONGRESSIONAL RECORD, Feb. 25, 1976, p. S 2298)

- Secretary of Defense Donald Rumsfeld has reported to Congress that the Soviet Union is closing the weapons gap (between U.S.-U.S.S.R.) and current strategic airlift forces cannot do the job of capably reinforcing NATO.

- "The underlying reality is that at no point since the 1930's has the Western world faced so formidable a threat to its survival. As then, the military balance is deteriorating, but the trend in large measure goes unnoticed because the Soviets today, though expansion minded, speak in less bombastic and threatening terms than the Nazis did." ("A Testing Time for America," by James R. Schlesinger in FORTUNE, Feb. 1976)

- Former Deputy Secretary of Defense Paul Nitze warned that the U.S. must keep pace with the Soviets or the U.S. and the world will be in grave danger. He also expressed concern for U.S. capability and will to meet the growing Soviet threat.

- A recent Library of Congress report prepared for Senator John Culver of Iowa shows that in the past decade, as regards the U S.-Soviet quantitative military balance, America's numerical superiority in strategic nuclear weapons has dissolved, Soviet military personnel strength now outnumbers the U.S. 25-to-1, Soviet strategic airlift and sealift forces are now twice the capability of the U.S., American technological superiority no longer exists, and overall, the Soviets are getting stronger while the U.S. grows weaker.

- U.S. military strength has been sacrificed for fiscal restraint.

c. Military Personnel.

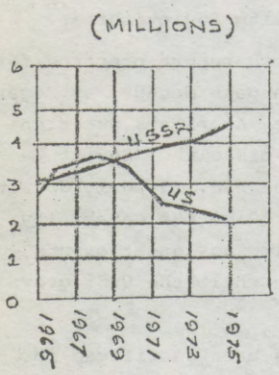
- The U.S. has less military personnel on active duty and in reserve than at anytime subsequent to 1950 (for active) and 1955 (for reserves). (See chart on following page).

TOTAL FORCE MILITARY MANPOWER STRENGTHS

YEAR [a]	ACTIVE STRENGTHS	RESERVE/GUARD STRENGTHS
1950 (Pre-Korea)	1,460,261	N/A
1955 (Post-Korea)	2,935,107	826,000
1960 (Low between Korea/Vietnam)	2,465,065	1,078,589
1962 (Cuban Missile Crisis)	2,807,819	958,013
1964 (Pre-Vietnam)	2,687,409	1,047,542
1975	2,129,000	896,000
1977 (Proposed)	2,101,000	849,000

a/ - All as of June 30 of year noted except 1977 (as of Sep 30)

- Soviet strength has increased to 4.5 million active members (estimated), an increase of approximately 45% since 1965, while U.S. personnel numbers have decreased by nearly 25 percent. (See accompanying chart).



- The use of mechanized forces (in conventional warfare) has replaced mass armies of infantry as a tactical means of victory; however, large numbers of infantry supported by engineers and artillery are required to consolidate victory and occupy the vast areas overrun by mechanized forces. Additionally, large numbers of men are required to perform supply, medical and maintenance services.

- In the event of a massive attack by a superior enemy force, larger numbers of men will be needed to launch a strong counter offensive. The U.S. does not possess sufficient military manpower to sustain such an attack, nor to provide adequate replacements for reserves or to launch a counter offensive within a 30-to-60 day time frame.

- The Selective Service System has been dismantled. The U.S. is at its limits of the manpower that it can acquire through the all-volunteer force at 2.1 million men. (James R. Schlesinger, former Defense Secretary, before Association of U.S. Army luncheon, Mar. 4, 1976)

- The U.S. has traded its skilled and trained soldiers, sailors, marines, airmen and coast guardsmen for civilians. Civilians may be able to do the job in peacetime, but in the event of war only trained military personnel will have to respond. Despite the fact that the Department of Defense continues to advocate "civilianization" as a cost-savings factor, in reality civilians will cost the federal agvernment more in the long run. (See charts below.)

DoD MANPOWER STRENGTHS

(IN THOUSANDS)

	NO. OF PERSONNEL FY 1964	% OF DoD FY 1964	NO. OF PERSONNEL FY 1976	% OF DoD FY 1976
DoD	3,720	100%	3,085	100%
Military	2,685	72.2%	2,100	68.1%
Civilian	1,035	27.8%	985	31.9%

DoD FY 1975 SUPPLEMENTAL APPROPRIATION REQUEST

	TOA & BUDGET AUTHORITY (in $1,000s)	STRENGTHS	AVG. COST PER MEMBER
Civilian 1/	$753,257	994,000	$758
Active Duty Military 2/	$764,080	2,129,000	$360
Guard & Reserve	$19,286	905,000	$21

1/ Increase in civilian pay granted pursuant to P.L. 91-656, and FY 1975 wage board increases.

2/ Increase in active and reserve military pay pursuant to P.L. 90-207.

AVERAGE ANNUAL CIVILIAN/MILITARY WAGES, FY 1976

	NO. OF PERSONNEL	TOTAL DoD BUDGET REQUEST	AVERAGE PAY PER PERSON
Civilian	985,000	$15.4 billion	$15,634
Military 1/	2,100,000	$23.3 billion	$11,095

1/ Less Guard & Reserve at annual payroll of $1.8 billion.

DoD MILITARY/CIVILIAN PAY COMPARISONS

(In Billions)

	FY 1972 BUDGET COSTS	FY 1972 % OF BUDGET	FY 1976 BUDGET COSTS	FY 1976 % OF BUDGET
DoD	$76.0	100%	$92.8	100%
Military 1/	$24.0	31.6%	$27.0	29.1%
Civilian	$12.8	17.0%	$15.4	16.6%

1/ Includes Guard & Reserve Pay and Family Housing Costs.

AVERAGE MILITARY/CIVILIAN LIFETIME INCOMES

(in constant 1974 dollars)

	ANNUAL WAGES 1/	TOTAL WAGES 2/	ANNUAL ANNUITIES 3/	TOTAL ANNUITIES	TOTAL LIFE-TIME INCOME
Civilian 4/	$12,000	$334,800	$6,750	$108,000	$442,800
Military 5/	$ 9,380	$187,600	$3,500	$105,000	$292,600
Difference	$ 2,620	$147,200	$3,250	$ 3,000	$150,200

1/ Based on DoD figures.

2/ Civilian wages less 7% retirement contributions; military wages include allowances, special pay, etc.

3/ Civilian annuities based on existing formula for computing retired pay; military annuities based on 50% of (high) estimate of basic pay (as required by present law).

4/ Based on 30 work-years and 16 years of retirement.

5/ Based on 20 work-years and 30 years of retirement.

NO. OF ADDITIONAL MILITARY MEMBERS
TO BE ADDED TO DoD FORCE IF CIVILIAN
WORKERS AVERAGED SAME ANNUAL
WAGE AS MILITARY MEMBERS IN FY '76
(Dollars in Billions)

NO. PERSONNEL REQUESTED	BUDGET REQUEST	IF AVG. SAME PAY AS MILITARY	DIFFERENCE	NO. OF ADDED MIL MBRS.
985,000	$15.4	$10.9	$4.5	405,588

/Note: Dollar amounts rounded off to nearest million./

d. All-Volunteer Force.

- The All-Volunteer Force is not the success it should be, nor will it be so in the future. In fact, the trend is slowly reversing itself as the Nation's economy improves. Although the armed services are meeting, or nearly attaining their assigned goals, the U.S. has less volunteers on active duty today than at any time subsequent to 1955, (See chart below).

ACTIVE DUTY VOLUNTEERS

YEAR[a]	ACTIVE STRENGTH	INDUCTEES ON ACTIVE DUTY	RESERVES ON ACTIVE DUTY	WOMEN ON ACTIVE DUTY[b]	ACTUAL MALE VOLUNTEERS
1950	1,460,261	26,546	100,351	22,069	1,311,295
1955	2,935,107	403,179	320,592	35,191	2,176,145
1960	2,465,065	176,818	219,765	31,550	2,036,932
1962	2,807,819	189,143	364,915	32,213	2,221,548
1964	2,687,409	205,188	230,351	29,795	2,222,075
1975	2,104,000	313	159,328	96,900[c]	1,847,459
1977	2,101,000[d]	?	?	119,000[e]	?

a/ - All years as of June 30 except 1975 (Nov. 30) and 1977 (Sep. 30)
b/ - Some in this column could be counted as RESERVES ON ACTIVE DUTY.
c/ - As of June 30, 1975. Number expected to rise by Nov. 30, 1975.
d/ - Proposed.
e/ - Estimated.

-"Military readiness is being strained by shortages and cost cuts . . . general purpose forces are constrained by funding deficiencies resulting (in) reduced training opportunities . . . these limitations impact on the capability to execute general war or major contingency plans" (General George S. Brown, Chairman, Joint Chiefs of Staff)

- Resulting "teeth-to-tail" reductions in support units have caused considerable concern for the readiness of the active forces. Air Force people are working longer hours (without overtime pay) to keep what planes they can flying. Marine and Army combat units are not fully manned because of the need to reassign personnel to support-type duties. And just recently, the Navy's Chief of Personnel reported to Congress that some 35% of the Navy's ships and 50% of its aircraft squadrons are marginally ready (or unready) because of personnel deficiencies.

- Reenlistments are declining. Service officials consider erosions in benefits, adjudicated by the all-volunteer force, as one of the main reasons.

- Morale in the armed forces is slowly but certainly deteriorating because of continued attacks by the Administration, Congress and the press on personnel emoluments. When morale falters, disciplinary problems increase and combat readiness suffers immeasurably.

e. Reserves.

- Naval reserve strengths were ordered reduced to 52,000 paid-drill spaces. The net reduction of 46,000 will greatly affect the Navy's capability to reinforce its active forces in the event of an emergency. This reduction was ordered by the Office of Management and Budget (OMB) without coordination or the approval of the Joint Chiefs of Staff and the Navy Command.

- Reducing the requirement of 48 or 24 training drills annually and a transfer to Pay Category D will cause many reserves to leave the armed forces. For the few who may accept the transfer, two weeks training each year will not provide sufficient exercise or acquisition of skills required.

- Do the Individual Ready Reservists (IRR) want to drill? "It is pertinent to note . . . that the House Appropriations Committee Report 94-517 . . . states: 'The committee desires that all persons called to active duty for two weeks of annual training be volunteers. Can Navy get IRRs? Look at the record:

FY	ENLISTED ELIGIBLE	OSD QUOTA	ACDUTRA PERFORMED	PERCENT ELIG/PERT.
'73	2,100	550	98	5%
'74	1,242	100	80	6%
'75	1,100	100	32	3% "

(THE OFFICER, March 1976)

- Reduction in reserve forces will cause many base closures. The result will adversely affect not only the community but those reserves already in a non-pay status who are committed to mobilization plans.

- Reductions will cause a serious drain on skilled and trained reserve members available for immediate or early mobilization. Once the reductions are approved and effected, it will take considerable time to rebuild reserve strengths to adequately augment active forces.

- The reserve forces are being undermined in the Total Force Concept because of fiscal restraint. Just some time ago the Department of Defense advocated strengthening the reserves to reduce active duty strengths. What happened to that rationale? Without sufficient reserve forces and an inactive selective service system the active forces, as small as they are, may be "slaughtered" by a highly-mechanized and sustained attack before replacements can be provided to assist in countering the enemy onslaught.

70-508 O - 76 - 18

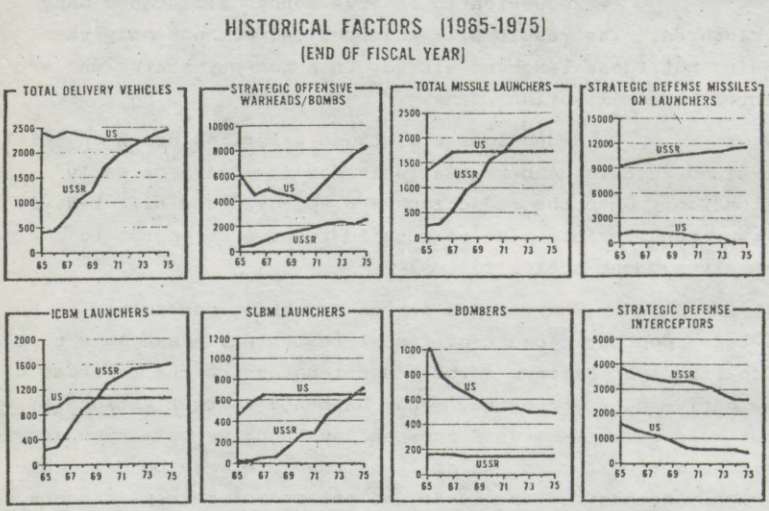
- Instead of supporting cutbacks in reserve forces and in emoluments for reserve members, the United States had better start thinking of incentives to attract and retain present and future members of the reserve and guard.

f. Weapons and Equipment.

- The General Accounting Office (GAO) reports that shipments of military weapons and equipment to foreign countries have decreased the readiness capabilities of the U.S. armed forces. Continued support of U.S. allies from the stocks of the active and reserve components will further degrade U.S. combat readiness.

- The former Secretary of Defense, James R. Schlesinger, is deeply concerned over the real decline in American military power in relation to that of the U.S.S.R. (See charts below.)

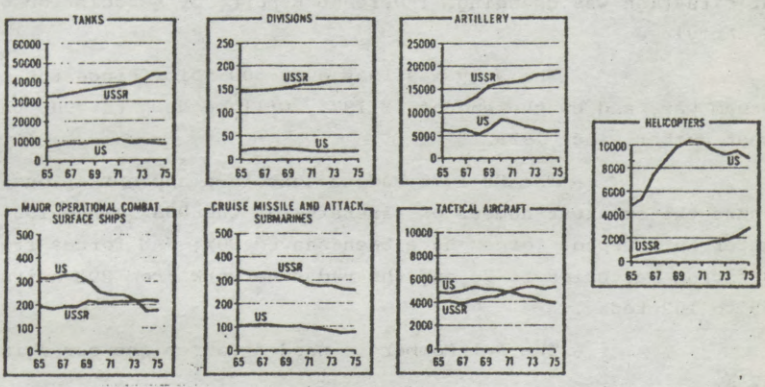
STRATEGIC WEAPONS



CONVENTIONAL WEAPONS

GENERAL PURPOSE FORCE TRENDS (1965-1975)

(END OF FISCAL YEAR)



(Charts - Courtesy of Association of U.S. Army - AUSA)

- Senator Sam Nunn (D-GA) recently told his colleagues,"a simple head count will suffice. . . . 'on average from 1972 to 1974 the Soviets produced 3000 tanks per year compared to 462 in the United States. They produced annually 1200 cannon, compared to 170 in the United States; 930 tactical aircraft were produced by the Soviets compared to 540 in the United States; 39 surface ships per year for them, compared to 11 for us.'" ("Inflation and the Defense Budget." by R. W. Komer, THE WASHINGTON POST, Jan. 6, 1976)

- "The United States may have to spend $30 billion in the next decade to replace its present force of land-based strategic missiles to combat a growing Soviet threat." (The Pentagon, as quoted by George C. Wilson, THE WASHINGTON POST, Jan. 28, 1976)

- Army Chief of Staff, General Fred C. Weynand . . . "The Soviet possess a 4-1 numerical superiority in tanks and 3-1 superiority in armored fighting vehicles." He added that this situation used to be offset by our technological advantages, but that situation was changing. ("Defense Report" by Association of U.S. Army)

- The Navy has lost over 500 ships since the Vietnam war, and by the end of FY 1976, will be down to 490, the lowest number since 1939.

- The FY 1976 budget contained appropriations to procure the smallest number of aircraft for the USAF since 1936. Fighter interceptor forces have been shaved 80%; SAM forces from 263 firing batteries to 7, and the radar network from 292 units in 1965 to 102 today.

- The B-1 Bomber is needed to replace our aging B-52's.

g. Personnel Emoluments. Based on reports from NCOA officials, field representatives and chapter officials; the former Sergeant Major of the Army, Leon Van Autreve U.S. Army (Ret.), who is now coordinating his efforts with NCOA officials; Command Sergeant Major Fred E. Darling U.S. Army (Ret.), formerly Command Sergeant Major of the U.S. Military Academy and now Executive Coordinator of Military and Veterans Affairs for the NCOA; and other inputs from senior noncommissioned and petty officers of the armed forces stationed around the world, there is much concern being voiced by U.S. military personnel over the continued erosion in pay, allowances and benefits suggested by the Executive Branch of the Federal Government and acted upon by the U.S. Congress. Since 1973, military personnel have borne the brunt of the fiscal axe. They have witnessed over 40 separate actions that have curtailed, reduced or terminated certain emoluments to which they were entitled under previous statutes. Of great concern have been:

1) - reductions in CHAMPUS programs, 2) - termination of reenlistment and variable reenlistment bonuses, 3) - termination of reenlistment travel pay, 4) - reductions in pay increases so that basic pay and eventually retired pay will be further reduced, 5) - reductions in receipt of pay for unused leave accruals, 6) - curtailments in special pay allowances, 7) - termination of proficiency pay, 8) - reductions-in-force for commissioned officers, and 9) - so-called "qualitative management programs" that have thrown tens of thousands of career-oriented, enlisted personnel out of the armed forces with honorable discharges, but without so much as one red-cent for them to readjust to a civilian lifestyle.

There are of course other threats of further erosions. They are: 1) - termination of GI Bill and reduced delimiting periods for entitlement to future education benefits, 2) - dual taxation by state and local municipalities, 3) - sales taxes on military commissary and exchange purchases, 4) - loss of commissary subsidies, 5) - higher utility charges, 6) - postal cuts, 7) - loss of one-percent "kicker" on retired pay CPI increases, 8) - DOPMA (Defense Officers Personnel Management Act), 9) - a new retirement system that will reduce retired pay and offset social security benefits, 10) - another plan to change the computation of military pay increases so that more is applied to quarters allowances thereby reducing basic pay increases and eventually retired pay receipts, 11) - reduce academy cadets' and midshipmen's pay to $125 monthly which is not sufficient to cover costs of uniforms, personal services, insurance, books, stationery, and etc. and still leave them with pocket money, 12) - increased social security taxes, 13) - reduced spending for family housing construction, 14) - further reductions and changes in CHAMPUS, 15) - reductions in permanent change of station funds, 16) - making Hawaii a sustaining base for rotation of overseas assignments, 17) - reductions in construction of new hospitals and other medical facilities, 18) - further reductions in number of persons eligible

for selective reenlistment bonuses, 19) - end active duty training pay for federal employees who are members of the reserve components, 20) - changes in overseas tours, 21) - cut paid drills for reserves, and 22) - continue ceiling on pay raises and for retired pay increases.

Except for the active military member, no other employee of the federal government, or employee of government-subsidised enterprises (i.e. - postal service, railroads, etc.) has faced the brunt of the federal fiscal chopping block. And no other employee noted above has had to satisfy himself or herself with less gross pay in 1975 than earned in previous years.

It is time that Congress realized that the All-Volunteer Force concept is in greater jeopardy than ever before. Retention is down, and with the economy on the upswing, initial enlistments will be harder to obtain. Morale in the services is showing an adverse swing to the left. Many military members are thinking seriously of joining a union to protect their interests. Even older "professionals" are worried. As one Command Sergeant Major (E-9) from Aberdeen Proving Grounds recently stated, "I'm getting out (of the Army) before I wanted to, but I can't stay in and lie to my troops any longer. I just don't have the stomach for it."

- The Congressional Budget office states that a federal pay raise of 12% would be needed to keep federal and military employees on a par with workers in the private industry.

- In the past 11 years (1964 to 1975) military pay has gone up an average of $5,554 while federal employees' pay has increased $7,642.

- "'Adjustments' in benefits for Navy and other military people may be adversely affecting retention in the All-Volunteer Force." (NAVY TIMES, Mar. 8, 1976)

- ". . . our Congressmen should go slow whenever they are tempted to trim military and-or veterans benefits - so they don't drive these two groups together or separately, into the arms of union organizers who would dearly love to have them and the tremendous financial tribute they'd bring with their membership" ("Buffalo Territory - Unionizing GIs, Vets" by Jack Evans, JAMESTOWN (N.D.) SUN, Feb. 27, 1976)

> "The career military man must be assured that whatever commitments have been made to him will be honored. In this regard, many careerists look to the Qualitative Management, TOPCAP, and Selective Retention Programs as threats to their careers. We believe that the Departments have been somewhat lax in explaining these programs to senior enlisted personnel. It is not enough to point to increased promotional opportunities which screening programs will create for the top enlisted grades. It must be made absolutely clear to senior enlisted personnel that all commitments to military careers will be honored provided satisfactory performance is maintained." (REPORT OF THE SPECIAL SUBCOMMITTEE ON RECRUITING AND RETENTION OF MILITARY PERSONNEL - H.A.S.C. No. 92-46)

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- THE WASHINGTON STAR - Jan. 21 & Mar. 16, 1976.

Summary Statement of C. A. "Mack" McKinney

Mr. McKinney. Mr. Chairman and members of the subcommittee, the Noncommissioned Officers Association of the United States of America extends appreciation for affording its representative the opportunity to appear today before this distinguished panel.

The association, by the way, represents the largest membership of active duty personnel in the U.S. Armed Forces.

In its statement, the NCOA has covered many items in the fiscal year 1977 defense budget, but this morning we wish to address ourselves exclusively to military personnel emoluments.

There is much concern being voiced by U.S. military personnel over the continued erosion in pay allowances and benefits proposed by the executive branch of the Federal Government and acted upon by the U.S. Congress.

Since 1973 military personnel have borne what we feel is the brunt of the fiscal ax. They have witnessed over 40 separate actions that have curtailed, reduced, or terminated certain emoluments to which they were entitled under previous statutes.

Of great concern have been reductions in the CHAMPUS program, termination of reenlistment and variable reenlistment bonuses, termination of reenlistment travel pay, reductions in pay increases, reductions in unused leave accruals, curtailments in special pay allowances, termination of proficiency pay, reductions in force for commissioned officers and so-called qualitative management programs that have thrown tens of thousands of career-oriented enlisted personnel out of the Armed Forces with honorable discharges, but without so much as 1 red cent for them to readjust to a civilian environment.

There are, of course, other threats of further erosion. They are: Termination of the GI bill, dual taxation by State and local municipalities, sales taxes on military commissary and exchanges purchases, loss of commissary subsidies, higher utility charges, postal cuts, loss of 1-percent kicker on retired pay; the Defense Officers Personnel Management Act, a new retirement system that will reduce retired pay and so on.

Except for the active military member, no other working employee of the Federal Government or working employee of Government-subsidized enterprises—for example, Postal Service, railroads, and so forth—has faced the brunt of the Federal fiscal chopping block and no other employee noted previously has had to satisfy himself or herself with less gross pay in 1975 than what may have been earned in previous years.

We believe it is time Congress realized that the all-volunteer-force concept is in greater jeopardy than ever before. Retention is down and with the economy on the upswing, initial enlistments will be harder to obtain.

Many military members are talking and thinking seriously of joining a union to protect their interests. Even older professionals are worried.

As one command sergeant major at Aberdeen Proving Ground recently stated, "I am getting out of the Army before I want to, but I can't stay in and continue to lie to my troops any longer. I just don't have the stomach for it."

In conclusion, I offer a couple of more quotes for this distingiushed panel to consider.

One is by Jack Evans, written in his article, "Buffalo Territory—Unionizing GI's" in the Jamestown, N. Dak., Sun, February 27, 1976.

> Our Congressmen should go slow whenever they are tempted to trim military and veterans's benefits so they don't drive these two groups together or separately into the arms of union organizers who would dearly love to have them and the tremendous financial tribute they bring with their membership.

The second quote is from the report of the Special Subcommittee on Recruiting and Retention of Military Personnel, House Armed Services Committee Report No. 92–46.

> The career enlisted military man must be assured that whatever commitments have been made to him will be honored.

The NCOA urges Congress to appropriate sufficient funds to carry on the programs that are all necessary for the morale and well-being of the military community. We must not lose sight of the importance of our military personnel.

The United States can possess an arsenal of superiority but without the people to man the weapons, it cannot be prepared to defend its citizens in the event of an attack by an aggressive force.

Thank you, Mr. Chairman. I stand ready to answer any questions.

Mr. BURLISON. Are there questions?

Thank you very much for your appearance.

TUESDAY, APRIL 6, 1976.

NAVAL RESERVE ASSOCIATION

WITNESSES

DR. ROBIN D. GOODENOUGH, NATIONAL PRESIDENT
REAR ADM. J. E. FORREST, U.S. NAVY (RET.), EXECUTIVE DIRECTOR

Mr. BURLISON. We are delighted to have Dr. Robin Goodenough of the Naval Reserve Association at this time.

Mr. KEMP. It is a pleasure for me to welcome Dr. Robin Goodenough, an old friend.

Dr. GOODENOUGH. Mr. Chairman, thank you very much.

I would like to present our executive director, Admiral Forrest, and I would like to say there is one advantage to being near the end of the totem pole just before lunch. Studies have shown that a hungry body thinks faster—that is, until it gets too hungry.

I concur in all the testimony that has been presented this morning. I can see certain lines of commonality. I can see we are all pulling in the same direction. I can see your challenge is a perennial one—cutting taxes and providing more services. I know it is an awesome job.

[The statement follows:]

NAVAL RESERVE ASSOCIATION

MISSION: To promote the interest of the Navy Department and that of the Naval Reserve to the advantage of the country's welfare and security; to support the military and naval policies of the United States; to provide an educational program designed to be informative and professionally helpful to Naval Reservists and to potential members entering the Naval Service as commissioned Officers; to encourage and promote the interest and activity of Naval Reservists in understanding and attaining the highest professional standards in the Navy; to collect, evaluate and disseminate information to our countrymen and members of bodies politic, relating to our nation's welfare and security; to promote a deep sense of individual obligations of Naval Reservists to the Navy and the interest of the Navy in its Reserves; to stimulate and support the naval sciences and programs and maintain the traditions of the Naval Service.

PRESIDENT
NAVAL RESERVE ASSOCIATION

DR. ROBIN GOODENOUGH

Professor, International Law - University of Baltimore, School of Law
Member of Pennsylvania and District of Columbia Bars

72-74 Special Assistant to Acting Assistance Secretary of Defense for International Security Affairs.

Member of DOD "Total Force" Study Group

55-72 President of California corporations dealing in real estate, insurance and securities.

Education: B.A. - Yale
M.A. - California State University at San Diego - Education
J.D. - University of San Diego, School of Law
Ph.D.- U.S. International University-Psychology

Military Education:

Navy Justice School
Naval War College
National War College
Industrial College of the Armed Forces

Public Service: Mayor of Coronado, California - 2 terms
Vice Mayor and Councilman, City of Coronado - 7 years
San Diego County Central Committee (elective) - 18 years
California State Central Committee (appointive) - 2 years

California League of Cities "Distinguished Citizen Award", 1971.

Military Service: Naval Reserve Captain. WWII service in Pacific. Three tours in Korea with Underwater Demonition Teams (Navy Frogman). Purple Heart, Bronze Star w/V, Navy Commendation w/V, Joint Services Commendation Medal. DOD Commendation for service with "Total Force Study" Group, 1974. Various USNR billets including CO of largest NROS in nation. Administrator, Nat'l Security Seminar of Industrial War College, 1969. Qualified CO, UDT; Parachutist;

STATEMENT OF DR. ROBIN W. GOODENOUGH

Mr. Chairman and Members of the Subcommittee. Thank you for the opportunity to make an appeal to you of the greatest urgency. The Naval Reserve is about to be scuttled and once again the Congress is our "court of last resort".

All of you are aware of the disastrous proposal to decimate the Naval Reserve by dissecting it in half - by cutting the drilling reserves in two. Such a proposal is a blind stab at the heart of the Naval Reserve program and is fraught with the gravest consequences for our Nation.

There is a saying among old Navy Frogmen, "If you get that sinking feeling, for God's sake swim...you're going down". Today we have that sinking feeling in the Reserve. We have been going down, down, down. And if the Congress doesn't stop the trend, we shall soon be "out". It is absolutely imperative that the Selected Naval Reserve strength be continued at 102,000 for FY 77, the same level which Congress wisely funded for FY 76.

The Secretary of the Navy, the Chief of Naval Operations, and the Fleet Commanders all know the true mobilization requirement is for a MINIMUM of 102,000 Selected Reservists and a MINIMUM of 17 SeaBee Battalions. A recent Navy study validates this force structure. This study--called the OP 605 Study--was a much-needed initial effort by the Navy to determine Reserve requirements in the total Naval Force. It validated the Naval Reserve mobilization requirements through careful scrutiny at all levels from the Fleet Commanders to the Secretary of the Navy. Every individual and every unit called for by the OP 605 Study is mission-oriented. The entire Navy leadership--civilian and uniformed--knows that

102,000 is the MINIMUM acceptable level of drilling Reservists. If the gag rule had not been imposed on them, they would testify to this fact. I emphasize that even this figure of 102,000 provides drilling status for only about one third of the 300,000 personnel that must be mobilized in the first 90 days of a crisis. Under the OP 605 Study, no individual scheduled to be mobilized after the first 90 days would be in drilling status.

Mr. Chairman, the Naval Reserve Association strongly supports the Emergency Call-up Legislation (S.2115) which has been passed by the Senate and introduced into the House. We recognize the importance and necessity of this legislation and urge passage of the bill. We believe this limited mobilization legislation will add immeasurably to the credibility of the Reserve Forces. It will dispel the myth that some individuals hold that the Guard and Reserve will never be called. It will make it easier for the Active Forces to support the release of additional missions and assets to the Reserve Forces. This legislation gives credence to the Total Force Policy and the Naval Reserve Association considers it "must" legislation.

The proposed dismantling of the draft and the current austere Active Force levels require a stronger, more ready Reserve Force, capable of instant mobilization. But what a tragedy if this new call-up authority were given only to find that, in time of need, there were no Naval Reserve Forces available to respond to the call. In all candor, I must report to you that this latest savage attack on the Naval Reserve has dismayed, demoralized and demotivated Naval Reservists. The 1 Drilling Reservist out of the 3 who are required for mobilization, see that the budget proposal would sum-

marily eliminate half of them from the drilling Reserve. By severing the drilling Naval Reservists in two, we will have a real problem in providing highly motivated, trained reservists for the President if the remaining 52,000 see that there is no future for them in the Naval Reserve. Certainly the 50,000 to be summarily dismissed from the Navy's Selected Reserve will have lost their equity. They will have lost their faith in a nation that has broken faith with them. Others will be deterred from volunteering their time and talent in the Naval Reserve. They know that it is a waste of time; for to attempt to get a satisfactory year with only 2 weeks training is impractical or nearly impossible. Certainly no one could depend on a completed career after the big massacre of the 50,000 drillers. Other services know only too well that this same senseless pattern of destruction will be applied to them.

Navy Secretary McCullen told your Committee that the Navy would be in deep trouble without the 102,000 minimum. He went on to say that somehow the Reservists' "can do" spirit might possibly help make up for the cuts. This is "whistling in the dark" and wishful thinking at best. The Naval Reserve is being hacked to death. Now the Administration hopes that in this moribund state they will somehow "make do". I tell you that they will either join a union, or quit in disgust - or both.

The planned reduction includes many reserves who are the spearhead and lifeline of combat forces. For example the "beachmasters" must master the beaches and set up markers BEFORE the assault troops and logistical forces can land. The SeaBees are frequently in the thick of combat. In fact, they were used to wade into the surf and destroy obstacles so the assault troops could

land. This gave birth to the Navy Frogmen - for the first frogmen were SeaBees. Special forces are sent in behind enemy lines to scout beaches and targets days and months BEFORE any landings or invasions. Communicators and electronic specialists are the nerve center of all Navy operations. Intelligence and medical specialists serve such obvious and specialized military purposes, that their elimination from drilling status would be as absurd as ignoring their combat role. Without these reservists properly drilled, equipped and motivated - the finest battle plan will fail; the finest equipment will lie idle.

When we consider contingencies for a future war, we do not necessarily speak of a distant event--a war could engulf us next year, next month, or tomorrow. And there is no one who can appear before this or any other Congressional Committee and honestly testify that a 50 per cent cut in our Naval Reserve drilling strength would not seriously degrade our response capability. The Secretary of the Navy, in answer to a question in this regard from the Senate Committee on Appropriations, said: "Personnel to be dropped are currently assigned to paid drill units and are available for immediate reinforcement and expansion of major fleet and command operating staffs, key shore commands in direct support of combat operations..... The degree of readiness for personnel in this category will be reduced without periodic training in addition to the two weeks active duty training per year." A 50 per cent slash in the size of the drilling Naval Reserve could hardly be interpreted by the Soviets as an indication of American determination to maintain adequate sea power.

The proposed reduction in the drilling Reserve is a serious

misjudgment and must be rejected. There is no compromise position --National Security requires a MINIMUM drilling strength of 102,000. Training is the key to readiness and when a man is denied the opportunity to drill, his military skills and proficiency decline rapidly and eventually evaporate. Training in peacetime conserves lives in time of war.

Secretary Middendorf stated that Navy's position, after completion of the OPNAV Report (OP-605 Study), supported a Selected Naval Reserve strength of 102,000. This position was expressed by the Navy through program change requests and major budget issue discussions. However, fiscal constraints did not allow the required strength.

The transfer of 40,000 members of the drilling Reserve to a category which would restrict them to one two-week training period per year would be tantamount to eliminating them from the Reserve. Experience has proven that at least 95 per cent of our enlisted personnel will not voluntarily participate in such a program.

We have been asked several times recently what alternatives should be considered if it were not possible to have 102,000 drilling Naval Reservists, or if they all couldn't be in a 48 drill category. Mr. Chairman, the Navy Study I referred to earlier calls for over 300,000 Reserves to augment the active Navy in the first 90 days in time of war or national emergency. Of that number Secretary Middendorf said the Navy needs an absolute minimum of 102,000 drilling Naval Reservists to make maximum use of its equipment. That means that we have 200,000 <u>unmanned</u> billets to be filled by non-drilling, and even non-participating, Reservists. We believe, based on OSD's own studies, that the 200,000 are not available from the expected sources. As far as cutting down on the

number of drills, we probably can find isolated instances where this could be done although a risk is involved by the degradation in readiness of the personnel involved--but if someone does locate some of these we would like the Navy to substitute others, from among the 200,000, who need at least 48 drills and two weeks training per year to maintain their skill levels.

We must remember that the Guard and Reserve are already at a minimum training level. To cut into that training is inviting disaster. We are now taking our most economical defense asset, the trained and ready Selected Reservist, and then cutting his training to where he will be untrained, unready, and an uneconomical resource.

Secretary McCullen acknowledged that the OMB slash was primarily for economic reasons. Yet if you really want to save money, INCREASE THE RESERVES. We have a saying that goes "one will get you five". Reservists are cost-effective; a Reservist costs only about 1/5th the cost of a member of the Active Force. Economics dictate that we must derive the maximum for our manpower dollar and greater reliance on the Reserve is a way to help us do that. We are all taxpayers and demand the highest return on every defense dollar. It should be obvious to all that when the Guard and Reserve can provide over 30 per cent of the total military manpower for about 5 per cent of the defense budget, maintenance of a strong Reserve Force serves the public interest. This does not suggest that Active force levels be reduced--we think the Active Force manpower level is dangerously low. But we are suggesting that this Nation can and should maintain 102,000 drilling Naval Reservists, the MINIMUM force level needed to support our

"bare bones" Active force.

Another judgmental call that must be rejected is the unwise and unsound proposal to eliminate 9 SeaBee Battalions from the force structure. The proposal to cut the Selected Reserve to 52,000 has often been presented as "not a reduction in the size of the force, but just a transfer from drilling status to non-drilling status." But 10,000 Reservists, including 7,000 who serve as SeaBees, are to be completely eliminated. Congress wisely rejected a similar proposal last year. SeaBees cannot be replaced by Civilian construction crews. SeaBees come under enemy fire and they must be combat-trained in perimeter and personal defense. Reluctant as political leaders were to mobilize the Guard and Reserve for service in Vietnam, it became necessary to mobilize and deploy two Naval Reserve SeaBee Battalions in 1968. The outstanding performance of these two units is ample evidence of the value of keeping trained and ready drilling SeaBee units in the force structure. If the analysts who concocted the proposal to replace SeaBees with civilians could only have seen the SeaBee operations in Vietnam, I'm certain they would call for continuance of all 17 Reserve SeaBee Battalions.

What has been the track record of reservists? A brief summary might help prove their worth. In fact citizen-reserves were the catalyst which gave birth to this nation exactly 200 years ago. What else?

World War I	6 of 10 Navy men on active duty were RESERVISTS.
World War II	8.7 of 10 on active duty, RESERVISTS
Korea	1 of 4 active Navy men - RESERVISTS
Berlin Crisis	8,000 Naval Reservists for ASW force

Vietnam	6 Air Reserve Squadrons & 2 Reserve SeaBee Battalions activated. 111,000 Reservists on active duty.

We are well aware that the proposed emasculation of the Naval Reserve was put forth under the guise of economy and efficiency. But the fact is, an investment in the Naval Reserve is a sound investment. To those who see a conflict with the need to budget more for social services, let me quote a British World War II leader, Sir John Slessor:

> "It is customary in democratic countries to deplore expenditures on armaments as conflicting with the requirements of the social services. There is a tendency to forget that the most important social service that a government can do for its people is to keep them alive and free."

The American people are alive and free today because the citizen-reservist responded faithfully in every instance when our way of life came under challenge by foreign nations. Let us not abandon the citizen-reservist concept that has served us so well for 200 years.

Mr. Chairman and Members, this completes my statement. The Naval Reserve Association deeply appreciates your courtesy in hearing us today. I welcome the opportunity to answer any questions you might have.

SUMMARY STATEMENT OF DR. ROBIN D. GOODENOUGH

Dr. GOODENOUGH. I would like to point out, as you gentlemen know, that we are training Reserve forces in about 46 nations around the world, while our own Reserve forces and active forces are falling into disrepair, and we are spending billions to do it.

There is one item in the President's budget which is seemingly insignificant. It represents only one-half of 1 percent of the entire Defense budget. The OMB "fiscal experts," ignoring the professional Navy's recommendation, has recommended that, for a savings of approximately $50 million, they eliminate one-half of the drilling Naval Reserve.

As ROA pointed out this morning, this is the single most important item in their program and this particular move on the part of OMB would be a death blow to the Naval Reserve.

We would like to ask this committee, to do as you have done in the past, to salvage our Naval Reserve.

We have about 1 million voices behind us in our plea, many of whom are represented here this morning. The American Legion, ROA, Mack McKinney from the NCOA, the Fleet Reserve Association, VFW, Navy League, and last but not least, the Naval Enlisted Reserve Association.

As you know, there is a Navy study, the first comprehensive one they have ever done, validated in the field, which recommended 102,000 as a bare bones bottom figure for drilling reservists. These drilling reservists includes only one-third of those needed during the first 90 days of any action. There is no provision at all for drilling reservists if the conflict goes over 90 days. They are only proposing that you drill 1 out of 3, or the 300,000 required to augument the active Navy that they will need in the first 90 days, to do their minimum work.

As a fiscal committee you know the cost effectiveness of Reserves. I know many of you are very much up to speed on Reserve matters, but then maybe we can both join the congregation when the service is over.

As you do know, only 5 percent of the Defense budget is needed to provide over 30 percent of the military manpower and this is due to the fact that Reserves and Guard are cost effective. They are a bargaining package. Many of us still remember World War II when we were rather shocked to find out that 9 out of 10 of the sailors aboard each ship were Reservists. Nine out of ten!

In World War I over half were Reservists. In Korea 1 out of 4. With the Navy frogmen, with whom I was privileged to serve, over 90 percent were those funny Reserves back on active duty. Ninety percent!

Even in Vietnam they still had to call on Naval Air Reserve squadrons and Seabees who, incidentally, were the first frogmen.

Even with the 102,000 drilling naval reservists you are still in deep trouble.

If you need 300,000 men to augment the active Navy for the 90-day conflict-plus, and you have no draft and you are having trouble with the volunteer program, drilling only 1 out of the 3 who are required in the first 90 days is an inadequate program. You should be drilling at least 2 out of 3. We should be talking about 200,000. If OMB conducted their radical surgery the way they wanted to, you would

only be drilling 1 out of 6. They are proposing to cut the one drilling reservist out of the three required, in half.

What has happened? You have heard some of it this morning. The Reserves are dismayed, demoralized, demotivated. They are either quitting, new people won't enlist, recruiting is going downhill, or they are thinking of unions. They are looking into other services. They see that maybe half of them will be fired overnight without any apparent cause.

The fleet itself, as has been reported this morning, is smaller than pre-Pearl Harbor. Without a Naval Reserve, nobody will be there to steam the ships.

Certainly this has a very clear message for our competitors in the world today. I notice the politicians, in the last issue of U.S. News & World Report, are arguing about the quantity of the various forces. I think much more significant are the trends. You can't argue the trends and the trends are dangerous. You have a conference going on up in New York where 156 nations are trying to set up some ground rules for dividing up 70 percent of the Earth's surface, which is water. For dividing up more oil, which is under water, than there is on land. For dividing up priceless food resources and for dividing up trillions of dollars worth of strategic materials.

You must have a strong Navy and a strong Naval Reserve to protect your interests, you will never do it with leaky boats and unmanned ships.

There was a proposal to put 40,000 of the reservists in a 2-week training program only. The facts show that over 95 percent of them won't volunteer for it.

Today we budget billions at home for social services and yet the greatest social service a nation can render is to keep our country free and able to enjoy those social services.

Gentlemen, the Navy professionals validated a minimum—not an optimum—but a minimum of 102,000 drilling naval reservists. Please put your money where their mouth is, as you have before, and support a strong Naval Reserve.

Thank you.

Mr. CHAPPELL. I would like to commend the gentleman on his statement.

Mr. ROBINSON. I would like to express a concern, in addition to subscribing to what my colleague from Florida said, to say yours is the second statement this morning to mention the possibility of unionization within our armed services. This is a very deep concern as far as this committee is concerned, indeed, as far as the Congress is concerned; one which I personally find both impossible and abhorrent.

It will certainly make an impact on us that you have for the second time today mentioned this as a prospect, unless we move in the right direction.

Dr. GOODENOUGH. Thank you very much.

Mr. BURLISON. Thank you very much.

TUESDAY, APRIL 6, 1976.

HUMAN FACTORS SOCIETY

WITNESSES

HAROLD E. PRICE, CHAIRMAN, SELECT COMMITTEE ON HUMAN FACTORS AND LEGISLATION
DR. EARL A. ALLUISI, UNIVERSITY PROFESSOR OF PSYCHOLOGY, OLD DOMINION UNIVERSITY

Mr. BURLISON. We will now be glad to hear from Mr. Harold Price of the Human Factors Society.

Mr. Price, who accompanies you?

Mr. PRICE. Dr. Earl Alluisi, one of my colleagues.

Mr. BURLISON. We are pleased to welcome you. Your statements will be received for the record and we will hear your brief summary.

[The statements follow:]

STATEMENT OF HAROLD E. PRICE

Mr. Chairman and members of the committee: My name is Harold E. Price. I am here today representing the Human Factors Society, a national organization of multidisciplinary professionals, concerned with man's relations to machines and his environment.[1] Specifically, I am chairman of an ad hoc committee established to develop a better understanding of the legislative process and its relationship to the human factors profession. With respect to the Department of Defense budget, our interest is in the manpower and human resources development program or training and personnel technology program, which is part of the R.D.T. & E. category.

Until this same DOD budget and legislative process occurred last year for fiscal year 1976, most of our members were pathetically unfamiliar with the process. Suddenly, in September of last year, just before the annual meetings of the Human Factors Society in October, we learned that the House Appropriations Committee had reduced the human resources and manpower budget by 50 percent. The contemplated consequences of such a drastic reduction alarmed the members of our profession when we considered the impact on national security. We therefore decided to try and understand the budget and legislative process and, when possible, inform personnel in the executive and legislative branches of the Government about the work of our profession, and its application to military systems effectiveness and combat readiness.

One of the first things we did was try and understand why the human resources and manpower program was cut last year. While we don't pretend to comprehend the wisdom of this committee or the Congress, it did appear to us that there was an overall misimpression of the type of research and development accomplished under this program element. Therefore, one of the next things we did was to have our committee collect material that gives evidence of the kinds of research and the high leverage the results have on military weapons systems effectiveness and force readiness.

As chairman of our committee, I have asked Dr. Earl Alliusi to present some of that evidence for your consideration. Before turning to Dr. Alliusi, I would like to emphasize that the part of the DOD budget dedicated to human factors type research is probably less than 1/1,000 of the total budget. Yet, at that point in time, when our adversaries may have military hardware as sophisticated as ours and perhaps in greater numbers, it may be the human factor that makes the difference in a confrontation.

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[1] The Human Factors Directory and Yearbook states: "The Human Factors Society is an interdisciplinary organization of professional people involved in the human factors field. The society promotes the discovery, exchange, and application of knowledge concerning man's relation to his machines and his environment. It furthers the assignment of appropriate roles to humans and machines in systems. It advocates the consideration of operators, maintainers, and users in the design of equipment and facilities. The society supports the development of working and living environments which are comfortable and safe. It encourages the appropriate education and training of those who conceive, design, develop, manufacture, test, manage, and participate in manned systems."

STATEMENT OF DR. EARL A. ALLUISI

Mr. Chairman and members of the committee: My name is Earl A. Alluisi. I reside at 1421 Rylands Road, Virginia Beach, Va., and am employed as university professor of psychology at Old Dominion University in Norfolk, Va. I currently serve as the immediate past president of the division of military psychology of the American Psychological Association, and due to the untimely death of an incumbent president, I am currently in a second year of service as immediate past president of the Society of Engineering Psychologists, which is also known as Division 21 of the American Psychological Association.

Professionally, I am a psychologist, with specializations in (a) engineering and systems psychology, (b) research methodology and statistics and (c) the perception and human performance area of experimental psychology. I have worked in Government laboratories, industry, and universities as a researcher, educator, administrator, and manager. Much of my professional work has been in the broad area of military psychology, just as much of my young adult life was spent in military service, as an enlisted man in the U.S. Army during World War II and as a junior officer during the Korean conflict. I am currently active in the U.S. Army Reserve in the grade of lieutenant colonel, Medical Service Corps, with mobilization designation to the Army Medical Research and Development Command, Office of the Surgeon General, Department of the Army.

From June 1974 until March 1976, I served as Chairman of the Defense Science Board Task Force on Training Technology, and during the summer of 1975, I served as Chairman of the Subpanel on Environment and Life Sciences of the Defense Science Board Task Force on Technology Base Strategy. Much of my statement is based upon my experiences with these two task forces.

This statement is in two parts. The first part, which is the more general, has been endorsed by the select committee of the Human Factors Society and the executive committees of the Society of Engineering Psychologists and the division of military psychology of the American Psychological Association, and I have been authorized to present it to you as representing the consensus of professional judgments of those organizations. The second part of the statement, which is more detailed, took longer to prepare, and there was insufficient time to submit it to the committees for endorsement. However, it represents my best and honest professional judgment, which, I am confident, does not deviate in any substantial way from that of my professional colleagues in these three organizations.

PART I: GENERAL ASPECTS OF HUMAN RESOURCES AND MANPOWER

The fiscal year 1977 DOD budget includes an estimated outlay of some $51.8 billion for personnel costs, representing 52 percent of the total DOD outlay. As shown in table 1, the general trend over the last 13 years has been for increasing manpower costs in absolute current-dollar terms, even with the decrease of 34 percent in total manpower from fiscal year 1968 to the present; I have not computed the costs in constant-price terms. The drops in relative personnel costs, from 55.4 percent in fiscal year 1975, to 53.0 percent in fiscal year 1976, and 51.7 percent in fiscal year 1977, reflect inflationary increases in materiel costs. As indicated in table 1, DOD personnel costs have constituted more than 50 percent of the total DOD outlay since at least 1973.

TABLE 1.—DOD OUTLAY FOR PERSONNEL, AND MANPOWER TRENDS

[Outlay in billions, manpower in million man-years]

	Fiscal year—						
	1964	1968	1973	1974	1975	1976	1977
Total DOD outlay	50.8	78.0	73,8	79.5	85.8	92.8	100.1
DOD personnel costs: Military, civil service, and retired military pay and allowances	22.0	32.6	41.2	43.9	47.5	49.2	51.8
(Percent of total)	(43.8)	(41.8)	(55.8)	(55.2)	(55.4)	(53.0)	(51.7)
Other than personnel	28.8	45.4	32.6	35.6	38.3	43.6	48.3
(Percent of total)	(56.7)	(58.2)	44(.2)	(44.8)	(44.6)	(47.0)	(48.3)
Total DOD manpower	3.7	4.7	[1]3.4	3.2	3.2	3.1	3.1
Military	2.7	3.4	[1]2.3	2.2	2.2	2.1	2.1
Civil service	1.0	1.3	[1]1.0	1.0	1.0	1.0	1.0

[1] Does not add to total because of rounding.

Note: Fiscal year 1964 through fiscal year 1975 from Schlesinger, J.R., "Annual Defense Department Report fiscal year 1975", pp. 21, 235, 237. Fiscal year 1976 from Schlesinger, J. R., "Annual Defense Department Report, fiscal year 1976," pp. D–1, D–3, Fiscal year 1977 from Rumsfeld, D. H., "Annual Defense Department Report, fiscal year 1977," pp. 262–263.

Human Resources and Manpower R. & D. in the DOD aims directly at the development of techniques, methods, and procedures to achieve maximum effective use of military manpower at minimum costs. Its specific objectives are (a) to maintain and improve the performance of miltary service personnel, (b) to pro- for the accession, classification, training, utilization, sustainment, and career management of an adequate manpower base to accomplish the DOD mission of national defense and security, (c) to develop human resources information and data banks that can be used to reduce the life-cycle costs of weapon system ownership, (d) to enhance combat readiness by improvement of living and working conditions in military service, and (e) to develop data and investigate the decisionmaking process to enable the managers of the DOD better to make sound, factual, cost-effective decisions about personnel, training, and manpower matters. Obviously, this is an area of Defense R.D.T. & E., the findings of which are directly relevant to the high-cost personnel and manpower categories of Defense appropriations and management.

The requested fiscal year 1976 funding for the "people-related" areas of the Defense program of R.D.T. & E. (Medicine and Life Sciences, Human Resources and Manpower) amounted to $224.8 million, of which 79.2 percent ($178.0 million) was in the technology base. Within these amounts, the funding requested for Human Resources and Manpower R. & D. was $84.8 million, with 74.9 percent ($63.5 million) in the technology base. The "technology base" consists of Research (6.1), Exploratory Development (6.2), and nonsystem-related Advanced Development (6.3A). It is that part of Defense R.D.T. & E. which the Director of Defense Research and Engineering, Dr. Malcolm R. Currie, has characterized as being ". . . devoted to (the) basic and applied research and technology from which most of our options for new systems and better manpower use evolve. It is obviously of critical importance to DOD as the source of our future capability. . . ." [Currie, M. R., The DOD Program of R.D.T. & E., Fiscal Year 1977, p. VII–1.] In short, investments in the technology base are investments in America's future Defense capabilities.

However, the scale and scope of the technology base program in the "people-related" areas may be summarized as follows: The DOD spends about $1 on medicine, life sciences, human resources, and manpower technology base R. & D., for each $276 of personnel outlay, in contrast to spending $1 in the remaining technology base R. & D. areas for each $30 of other-than-personnel outlay. Put another way, for every $1 spent in the other areas of technology base R. & D., the DOD spends less than 12.5 cents in the "people-related" areas, of which about a third (4.4 cents) is in human resources and manpower R. & D. Yet, personnel and manpower costs account for more than half of the total Defense budget.

The technology base human resources and manpower R. & D., program is highly user and problem oriented and supports personnel management and training, manpower development, and human factors engineering in weapon system development and operation. It is a high-leverage program area that provides substantial return of investment in terms of cost savings and cost avoidances resulting from improvements in training, personnel, and management techniques, methods, and procedures, as well as in the operation and maintenance of military equipment and systems. If anything, it is currently underfunded, perhaps by as much as a factor of eight, if indices based on proportions like those used above are valid. This is not to say that such increases should be made at present. Rather, in our judgment, the fiscal year 1977 budget request should not be reduced, and the DOD should be encouraged to increase substantially its technology base "people-related" R. & D. efforts in future years so as to provide the Nation with viable options for new Defense systems and better manpower use.

This concludes part I of my statement, the part that represents not only my own view, but also that of the Human Factors Society and two divisions of the American Psychological Association—the Society of Engineering Psychologists (Division 21), and the Division of Military Psychology (Division 19).

PART II: SOME DEMONSTRATED BENEFITS OF HUMAN RESOURCES AND MANPOWER R. & D.

Secretary Schlesinger in his annual report last year called attention indirectly to the importance of the DOD's "people-related" R. & D. He said: "The Department of Defense recognizes that its human resources—military and civilian, active and reserve—are both its most precious and its most costly asset. Making effective use of these resources, while simultaneously doing the very best that we can for our people and assuring that we adequately man our planned forces on an all-volunteer basis, represents significant challenges to which we are giving priority attention. . . ." [Schlesinger, J. R., Annual Defense Department Report, Fiscal Year 1976, p. V–1.]

Secretary Rumsfeld makes the point even more forcefully in this year's annual report. He says: "The escalating cost of manpower is having a major impact on the composition of the defense budget. . . . Looking to fiscal year 1977 and beyond, Congress and the Executive face difficult choices if we are to sustain an adequate defense capability. We must slow the growth of defense manpower costs in order to assure an adequate level of resources for development, procurement, maintenance of equipment, and the operation of our forces. The options are further civilian strength reductions, further restraints on increases in the average cost per member of the Department, or some combination of the two. . . ." [Rumsfeld, D. H., Annual Defense Department Report, Fiscal Year 1977, p. 219.] The creation of additional options is the mission of the "people-related" technology base R. & D. program for the most part, and I mean to give some examples of how Human Resources and Manpower R. & D. has been, is, and can be successful in moving toward that goal.

First, however, I must note that although the importance of Defense personnel costs and manpower problems has been recognized, the fiscal year 1976 budget request for human resources and manpower R. & D. was reduced by congressional action. The reduction amounted to 25 percent of five major technology base programs. A total of $10 million was cut from R. & D. in education and training, training devices and simulators, and human factors engineering, as well as in manpower, personnel, and contemporary issues. Dr. Currie has reported to you the actions taken to restructure the human resources and manpower R. & D program in ways that are responsive to the indicated congressional interests and advice. About the fiscal year 1977 budget request he says:

"The fiscal year 1977 funding request for the five program elements reduced in fiscal year 1976 has been held to the fiscal year 1976 budget request level.

This represents a substantial reduction from the growth planned for this area. I have allowed two specific exceptions to this guidance. One is a $400,000 increase in the manpower area requested to initiate a new project to support the Navy manpower planning system. The effort is responsive to congressional advice and will enable Navy manpower planning to relate ashore manpower to specific fleet functions and then to fleet readiness. The second is a $1,700,000 increase for Air Force night simulation technology, an area which was severely limited by the fiscal year 1976 reductions. This program is responsive to the DOD goal to reduce actual flight hours by 25 percent by circa 1980. . . ." [Currie, M. R., The DOD Program of R.D.T. & E., Fiscal Year 1977, pp. VII–16 and VII–17.]

It is my honest judgment that the reductions made last year were ill-advised, and the fiscal year 1977 request falls short of correcting the damage except in the two cases cited by Dr. Currie, and additionally in the area of training devices and simulators where substantial increases are proposed. Now let me present some examples of the kinds of returns-on-investments produced by human resources and manpower R. & D.—one in each of the five major areas of the restructured program.

1. *Training Technology.*—The DOD's training requirements are enormous and costly. During fiscal year 1976, 1.7 million officer and enlisted personnel will complete some type of formal military training at a cost in excess of $7.1 billion. In the individual training and education areas of recruit training and specialized skill training alone, the time to be spent in training by the successful trainees—those who graduate from the programs—is estimated to be equivalent to at least 210,000 man-years during fiscal year 1976. That is the equivalent of 14 Army divisions of 15,000 persons each. Attrition and recycling of trainees would account for additional training time spent in these two areas. In fact, the total manpower commitments to individual training and education during fiscal year 1976 will amount to better than one-sixth of all military personnel—17 percent of all military man-years, 10 percent of trainees and 7 percent as instructors or in other training-support functions.

These data relate to individual training and education in formal courses by organizations whose predominant mission is training. They exclude the costs of on-the-job training and procurement of training courses and equipment for new weapon systems. They do not include the training of organized crews and units for the performance of specific military missions (i.e., "operational training" or "force support training"). Thus, the total cost of military training, which must also include some aspects of field exercises and operational activities that promote readiness, is extremely high by any method of reckoning.

The training technology R. & D. segment of the human resources and manpower R. & D. program is charged, in the technology base, to provide new options for producing improved cost-effectiveness ratios in training. Let me present one example of the kind of contribution that has been, is being, and can be made by this area in the future. The example is cited from testimony presented by Maj. Gen. Paul F. Gorman, of the Army's Training and Doctrine Command at Fort Monroe, to the Defense Science Board Task Force on Training Technology on January 22, 1975.

"In June 1974 an experiment in engagement simulation for U.S. Army armor was conducted at Wildflecken, Germany, pitting a tank company against an infantry force equipped with TOW's. A simple simulation of target acquisition and gunnery was used, employing telescopes and large numbers on the participant TOW's and tanks; the training devices cost only $1,600. The exercises required the TOW force to engage the tanks in repetitive contests over the same ground. In the final 'battle,' losses sustained by the tankers were 33 percent less than in the first. Assuming the validity of the simulation, the tankers had been taught how to use the terrain to better advantage in coping with a long-range guided missile system. Roughly, this improvement could be equated to providing each U.S. Army tank company so trained with an additional tank platoon during its final engagement with the enemy. Or, the $1,600 invested for training devices to train the Wildflecken company could be said to have returned $1,600,000, the procurement cost of a tank platoon, i.e., 1000:1. [Gorman, P. F., Statement on "Analyzing Training Effectiveness (Draft)," presented to the DSB Task Force on Training Technology, January 22, 1975, pp. 11–12.]

The training technique that General Gorman was reporting had been developed as part of the human resources and manpower R. & D. program by the U.S. Army Research Institute for the Behavioral and Social Sciences and is known as Realtrain II (tanks) and Realtrain III (antitank). The techniques obviously

provide cost benefits, but we cannot rest our case there for we have said nothing of the other side of the cost-effectiveness equation; namely, the improvements in performance effectiveness that are attributable to the implementation of this training technology R. & D. product, Realtrain. I cite further from General Gorman's presentation to the Task Force:

"The Wildflecken test was also interesting in that the participating tank company was considered 'well trained' when it started. Its heavy losses in the initial iterations of the engagement simulation brought consternation to the colonel commanding, which gave way to elation when he perceived the tactical proficiency being developed in each successive run. But that colonel had seriously underestimated the vulnerability of his tanks to modern weaponry and just such miscalculation occasioned exorbitantly high losses among Israeli armor early in the Yom Kippur War. The U.S. Army cannot afford to fight the first battle of the next war with less rates comparable to Israeli attrition. If we did we could lose more tanks than we now have in Europe within a few days. We need, therefore, the Wildflecken edge. . . ." [Gorman, P. F. Op. cit., p. 12.]

2. *Training Devices and Simulators.*—About 1 year ago, the Air Force Human Resources Laboratory's Flying Training Division at Williams Air Force Base accepted delivery of what is without question the most powerful research tool in flight simulation existing today, the "Advanced Simulator for Undergraduate Pilot Training," or ASUPT. This tool will permit investigation of the relations between the characteristics of flight simulation and the requirements of flight training, as well as the effects of both on the acquisition of flying skill. It will impact the procurement of simulators and flight training systems, for it will permit on the basis of objective, quantitative data, decisions to be made regarding the specifications of such simulators and the design of the training systems. The output of ASUPT research is already being used in two ways: (a) in the development and evaluation of a flight training program that will use the new generation of UPT flight simulators now under procurement, and (b) providing information to the procurement system for its specifications of requirements in flight simulators. ASUPT's use has not been limited to UPT or aircraft and simulators employed in UPT, but rather has been extended to operational systems such as the A–10.

3. *Human Factors Engineering.*—Of the many contributions of human factors R. & D. that could be cited for cost benefits, performance effectiveness, and equipment maintainability improvements, one of the most interesting to me is a recent study dealing with the design of a new ship's bridge. This study was sponsored by the U.S. Navy Ship Research and Development Center at Annapolis and was conducted under contract by Human Factors Research, Inc., of Goleta, Calif.

The design of the bridge abroad Navy surface ships has not changed substantially since World War II. As a result, currently the communication links, information displays, and ship control systems are unnecessarily slow, require excessive manpower, and are susceptible to human error. In the extreme, this can contribute to the occurrence of calamities like the collision of the USS *Kennedy* and the USS *Belknap*. The R. & D. goal was the design of a bridge that would both increase the safety of operations and reduce the manpower necessary.

In conducting the study, a detailed analysis was made of all information requirements associated with every phase of ship control under all types of missions, operational activities, weather conditions, emergencies, and navigational constraints. More than 1,300 information requirements were identified, and these were translated into a new bridge design using state-of-the-art displays, controls, and data-analysis equipment.

The resulting design may make it possible to perform all usual ship control functions aboard a ship like the FF–1052 with as few as three bridge personnel, as contrasted with the 13 that were formerly required. Also, because of the greatly improved communication links and an automated collision-avoidance system, it is expected that the safety of operations will be greatly improved. The design specifications have been highly endorsed by operating Navy personnel, and the development of a prototype unit is now nearing completion, whereupon it will be employed for operational trials and evaluation.

Although the study was directed specifically at improving the bridge of the FF–1052 class of ships, the design principles that evolved can be extended to many other classes of Navy surface ships. This holds potential for significant manpower reduction as ships of many types are modernized in this way. In

short, this project appears to have been quite successful in providing additional new options for improving the cost-effectiveness ratios of these systems.

4. *Manpower and Personnel Technology.*—R. & D. at the Air Force Human Resources Laboratory's Personnel Division at Lackland Air Force Base has produced advances in occupational-job analysis techniques that provides for much better specification of the tasks that have to be performed in a given job or occupational field. This has led to much better job-person-performance matching than has previously been possible, and the methods developed have been implemented not only in the Air Force, but also in the Army and Navy.

The techniques and method provide quantitative information regarding the tasks in the job or occupation to which it is applied, and the results impact not only selection and classification, but training and job-occupational design as well. For example, in many instances it permits the training requirements to be cut, as the training and evaluation are oriented more directly toward the performance requirements of the job. Application of this occupational-research methodology in the Air Force has already resulted in estimated cost avoidances of $15 million annually through reduction of the length of technical-training courses.

This work represents a major breakthrough in industrial psychology, certainly one of the major contributions of the last decade, and it has important and beneficial applications in the civilian community, especially in light of the judicial rulings requiring that business and industry employ only peformance-validated tests in the hiring and promotion of employees. The value of the Defense-sponsored manpower and personnel technology R. & D. that produced these techniques and method is only beginning to be realized by the civilian community, but its potential is recognized and its availability apprecated more and more with each passing week.

5. *Contemporary Issues.*—This area of human resources and manpower R. & D. has to do with social science research, attitudes, affirmative action, equal opportunity, and race relations. Handbooks for company-grade leaders in the Army dealing with ways of handling problems of affirmative action, equal opportunity, and race relations have been developed by the U.S. Army Research Institute for the Behavioral and Social Sciences, adopted as Army pamphlets, and given Army-wide distribution. You know, a military unit that is torn apart by racial tension is less than cohesive, and its combat readiness is less than optimum. But that is not the example I want to give you; rather, I mention it only by way of introduction to a problem area that is difficult to comprehend because of the large numbers of individuals involved.

In fiscal year 1975, the military end strength was about 2.1 million, and during the year approximately 0.5 million persons entered military service with about an equal number leaving it because of retirement or separation. The tremendous personnel management problems associated with the handling of so many persons are increased and complicated by inefficiencies related to contemporary issues. However, the payoff obtained by even small improvements in personnel management through solutions of contemporary personnel problems is often dramatic. An example involves the use of interest inventories to aid in the selection of candidates for Naval ROTC and Naval Academy programs. Retention gains attributable to the use of these interest tests have reduced the average cost to train a career naval officer from $60,000 to $48,000; this represents an annual cost avoidance of about $2.5 million for the Navy. I cannot estimate its value in performance-effectiveness or combat-readiness terms, but it is not difficult to predict that a person who really wants to be a naval officer will be a better one than a person who really does not want to be a naval officer at all.

Mr. Chairman and members of the committee: I thank you for the opportunity of presenting these views to you, and I hope that your judgment will be that the human resources and manpower R. & D. budget request for fiscal year 1977 should be approved. Thank you.

Summary Statement of Harold E. Price

Mr. Price. I am here representing the Human Factors Society.

Specifically, I am chairman of an ad hoc committee established to develop a better understanding of the legislative process and its relationship to the human factors.

With respect to the DOD budget, our interest is in the manpower and human resources development program and the training and personnel technology program elements, both of which I think are parts of the R. D. T. & E. category.

I am told the same budget process occurred last year. Most of the members of our society were almost pathetically naive about the budget process, but currently in September of last year, just before our annual meeting, we learned that the House Appropriations Committee has reduced the human resources and manpower budget by 50 percent.

The contemplated consequences of this alarmed the members of our profession when we considered the impact on national security.

We therefore decided to try and understand the budget and legislative process and, when possible, inform personnel in the executive and legislative branches of the Government about the work of our profession and particularly about its application to military systems' effectiveness and combat readiness.

One of the first things we did was try and understand why the reduction last year. While we don't pretend to comprehend the wisdom of this subcommittee or the Congress, it did appear to us that there was an overall misimpression of the type of research and development accomplished under these program elements. Therefore, the next thing we did was to have our committee collect material that gives evidence of the kinds of research and the high leverage the results have on military weapons systems' effectiveness and force readiness.

As chairman of the committee, I have asked Dr. Alluisi to present some of that evidence for your consideration.

Before asking him to do that, however, I would like to emphasize that the part of the DOD budget dedicated to human factors tvpe research is probably less than one-thousandth of the total budget. Yet at that point in time when he hardware of our adversaries, probably as sophisticated as ours, and perhaps in greater numbers, it may well be the human factor that makes the difference in the comuptation.

Summary Statement of Dr. Earl A. Alluisi

Dr. Alluisi. Mr. Chairman and members of the committee, my name is Earl Alluisi, a university professor of psychology at Old Dominion University at Norfolk. I appreciate the opportunity of presenting to you my views and those of the Human Factors Society and two divisions of the American Psychological Association, the Division of Military Psychology and the Society of Engineering Psychologists.

My full statement has been prepared and I have submitted it for entry into the record. I would like to sumarize its high points.

From June of 1974 until just last month, I served as chairman of the defense science board task force on training technology and last summer I served as chairman of a sub-panel on environmental and life sciences of the defense science board task force on technology.

It is from those experiences that I draw much of the information contained in my statement.

The statement is in two parts; the first part of which is endorsed by the three organizations I have mentioned.

The second part is in greater detail and it was insufficient time for me to submit it to their committees for endorsement, but it is contained fully in the statement.

We have heard both this morning, and we have heard previously, some concern about one aspect of the Defense budget; namely, the personnel cost. We know that they constitue over 50 percent of the total DOD outlay. We note an increasing and absolute amount for the last decade and a half, in spite of a reduction in manpower of 34 percent from 1968 to the present, and in fact except for the inflationary increase in material costs this year and projected for next year, they would have been increasing still in proprotion of total outlay.

Now, the part of the R. & D. budget and the part of the R. & D. that is aimed directly at reduction in personnel costs, aimed directly at increases in cost-effectiveness in personnel and manpower management is the human resources and manpower R. & D. budget, probably alined with the medical and life sciences to constitute what I will refer to as the people-related R. & D.

People-related R. & D. is a small part of the total R. & D. budget. About three-quarters of it is in the technology base. The technology base has been described by Director Currie as that part of the R. & D. effort which is aimed at providing options for the future. It constitutes an investment to the American defense options for the future. The technology base part of people-related research which constitutes three-quarters of that research, amounts to about $1 for every $276 of personnel oulay as contrasted with the other parts of technology base which amount to $1 per $30 of other than personnel outlays.

To put it another way, for every dollar in technology-based R. & D. spent by DOD, less than 12.5 cents is in personnel-related research, of which about one-third, 4.4 cents, is in human factors R. & D.

We believe, if anything, the program is underfunded. It certainly should not be reduced. DOD probably should be encouraged to increase it in the future if we are to achieve maximum, and I mean maximum, cost-effectiveness ratios in the personnel area.

I give five examples in my report, taking one from each of the areas of that research. I would like to give you just one right now and let the others stand in the record. I picked one from the area of training technology because my experience is deeper in that area, or at least more recently so.

First, let's put it into some context. The training requirements of the Department of Defense are enormous; they are costly. This year, 1.7 million officers and enlisted men will graduate from at least one course. The total cost for individual training will be in excess of $7.1 billion.

In the individual training areas of recruit training and specialized skill training alone, the time spent in training by those who succeed, those who graduate, will amount to in excess of 210,000 man-years.

Gentlemen, that is the equivalent of 14 Army divisions, of 15,000 men each.

These figures—well in all of the individual training, the total commitment is about one-sixth of all of our military forces; 17 percent—10 percent as trainees and 7 percent in support of training. Those figures refer only to individual training, not to group or troop train-

ing, not what we call force support training, not operational support training.

The part of the budget that has to do with the development of training techniques to make training more effective is the human resources and manpower part of the R. & D. effort. Let me give one example of a success from that outfit.

The Army Reserve Institute, located here in Arlington, developed a training procedure for small units called "Real Train." Real Train No. 1 was for infantry; No. 2 for tanks, No. 3 for planned attack.

Gen. Paul F. Gorman, who is at the Army Training Command at Fort Monroe, gave testimony before our task force concerning the effectiveness of Real Train in the training of tank troops. I have directly cited him in the paper. I can paraphrase it now.

I think I know it because I have found his presentation just exceptional.

He quoted to us the results of an experiment that was run in 1974 in Europe with a tank battalion and infantry unit in training. The infantry unit was equipped with ToWs, a guided antitank missile. The tank company, the tank battalion, and the company from which it was drawn were considered fully trained at the beginning of the exercise. The training devices that were used with this training techniques cost, for the infantry unit and the tank unit, $1,600. It consisted of telescopes and placards with numbers so that units could be identified specifically.

The tankers over a period of 2 weeks increased the effectiveness of their performance to the extent that at the end of training, in an engagement they were "losing" in the battle 33 percent fewer tanks than was the case when they started. The general goes on to point out that this is effectively like adding another tank platoon to every tank company in the Army, and the cost effectiveness, the cost benefits, if you want to look at it that way, just in equipment alone, those tanks for platoons cost $1,600,000.

The training devices cost $1,600. The cost benefit ratio is 1,000 to 1. But I can't press my case there because that doesn't look on the other side of the ratio, namely, the effectiveness side.

What had happened is that the vulnerability of those tanks to modern weaponry had been very badly underestimated. Such an underestimation accounts for the exorbitantly high rate of attrition of tanks by the Israel forces in the Yom Kippur war.

We in the United States, our Army, can't stand that kind of an attrition rate.

As General Gorman pointed out, if we did, if we had to sustain that kind of a rate, in just a few days we would have no tanks left in Europe.

Gentlemen, we have looked, we have heard about the hardware side of the budget and I don't mean to downplay its importance, but I do mean to say that failure to provide sufficient funds, failure to provide sufficient effort on the people-related research may come close to bordering on fiscal irresponsibility in a time when we need to reduce the total budget and at the same time increase total effectiveness.

I believe this part of the budget addresses that end.

Thank you.

Mr. ADDABBO. Many programs were dreamland programs, programs that had been funded for exotic programs and studies and investigations that show them not to be cost effective, or even of any value whatsoever and we felt there had to be a revamping within the community that we are getting cost effective and we are funding programs which are defense-oriented and not programs which should be funded over in HEW or somewhere else, so this committee has been giving careful attention to its cuts. It was not haphazard.

I deeply appreciate your expertise and your frank discussion here this morning.

Mr. BURLISON. If there are no further questions, we appreciate your appearing.

TUESDAY, APRIL 6, 1976.

NATIONAL CAMPAIGN TO STOP THE B–1 BOMBER

WITNESS

ROBERT BRAMMER

Mr. BURLISON. We will now hear from Mr. Steven C. Pearlman of the National Campaign to Stop the B–1 Bomber.

Mr. BRAMMER. Robert Brammer, appearing for the National Campaign to Stop the B–1 Bomber.

Mr. Chairman and members of the committee, we are really happy for the opportunity to speak before you today. I have offered testimony for the record which I will briefly summarize.

[The information follows:]

NATIONAL CAMPAIGN TO STOP THE B–1 BOMBER,
Washington, D.C.

NATIONAL ORGANIZATIONS ON RECORD OPPOSING THE B–1 BOMBER

American Federation of State, County, and Municipal Employees (AFSCME), 1155 15th St. NW, Washington, D.C.

American Friends Service Committee (AFSC), 1501 Cherry Street, Philadelphia, Pa. 19102.

Americans for Democratic Action (ADA), 1424 16th St. NW, Washington, D.C.

Business Executives Movement for New National Priorities (BEM), 901 N. Harvard, Baltimore, Md.

Catholic Peace Fellowship, 339 Lafayette St., New York, N.Y. 10012.

Clergy and Laity Concerned (CALC), 235 E. 49th St., New York, N.Y.

Coalition on National Priorities and Military Policy, 110 Maryland Ave. NE, Washington, D.C.

Common Cause, 2030 M St. NW, Washington, D.C.

Council for a Livable World, 100 Maryland Ave. NE, Washington, D.C. 20002.

Environmental Action, 1345 Connecticut Ave. NW, Washington, D.C.

Episcopal Peace Fellowship, 61 Gramercy Park N., New York, N.Y.

Federation of American Scientists (FAS), 203 G St. NE. Washington, D.C.

Fellowship of Reconciliation (FOR), Box 271, Nyac, N.Y. 10960.

Friends Committee on National Legislation (FCNL), 245 2nd St. NE, Washington, D.C.

Friends of the Earth, 620 C St. NE, Washington, D.C.

Indochina Mobile Education Project (IMEP), 1322 18th St. NW, Washington, D.C.

International Longshoremen's and Warehousemen's Union (ILWU), 128 C St. NE, Washington, D.C.

70-508 O - 76 - 20

National Farmers Union, 1012 14th St. NW, Rm. 1200, Washington, D.C. 20005.
Jesuit Conference/Office of Social Ministries, 1717 Massachusetts Ave., Washington, D.C.
Movement for Economic Justice, 1609 Connecticut Ave. NW, Washington, D.C. 20036.
National Association of Social Workers, 1425 H St. NW, Washington, D.C.
National Taxpayers Union (NTU), 625 E. Capitol, Washington, D.C.
NETWORK, 224 D St. SE, Washington, D.C. 20003.
New Jersey Federalist, 600 Valley Rd., Wayne, N.J. 07470.
Oil Chemical & Atomic Workers International Union (OCAW), 1126 16th NW, Washington, D.C.
SANE, 318 Massachusetts Ave. NE, Washington, D.C.
Textile Workers Union of America (AFL–CIO), 1126 16th NW, Washington, D.C. 20036.
United Chruch of Christ Board of Homeland Ministries, 287 Park Ave. So., New York, N.Y.
United Church of Christ Center for Social Action, 110 Maryland Ave. NE, Washington, D.C. 20002.
War Resistors League, 339 Lafayette St., New York, N.Y. 10012.
Women's International League for Peace and Freedom (WILFP), 120 Maryland Ave. NE, Washington, D.C. 20002.
Women Strike for Peace, 120 Maryland Ave. NE, Washington, D.C. 20002.
World Ministries Commission/Church of the Brethren, 110 Maryland Ave. NE, Washington, D.C. 20002.
World Federalists USA, 1424 16th St. NW, Washington, D.C.

STATEMENT PREPARED BY STEVEN C. PEARLMAN

SUMMARY

This year's request for $1.53 billion for the B–1 bomber program is designed basically to set up a production capacity to build 244 B–1 bombers. Since it would be economically absurd and militarily valueless to set up a production line in order to produce a mere handful of planes, the Congress is, in effect, being asked to commit itself this year to the production, maintenance and arming of the entire B–1 fleet. Yet, domestic political realities, including the Presidential election, and future strategic requirements render continuation of the B–1 program past fiscal year 1977 dubious.

B–1 expenditures for the next 8 years will severely tax the Air Force's overall procurement budget, and sharply increased costs for strategic bombers will continue the trend of spending an ever-larger share of the Triad budget on the very component whose importance is steadily declining. Moreover, such a fleet will actually cost as much as $92 billion over the next 30 years.

There is no strategic need for the B–1 program in the foreseeable future. Manned bombers are useful only as a hedge against the practically inconceivable contingency of a total failure in SLBM and ICBM capabilities. Moreover, continuing advances in technology appear to make any penetrating strategic bomber obsolete. In any case, our present strategic bomber capacity is adequate to meet any Soviet threat level until the 1990's.

Even without building the B–1, present strategic programs will put the U.S. at the maximum nuclear armament limit prescribed by Vladivostok guidelines.

Finally, building unneeded military hardware is inflationary, does not produce jobs as compared to spending in other economic sectors, is not a useful capital investment for further production, is environmentally hazardous, and diverts America's resources from programs that are desperately needed.

Mr. Chairman and members of the subcommittee, the national campaign to stop the B–1 Bomber is a coalition of labor, church, environmental, professional, and public interest groups, including:

The American Friends Service Committee;
Americans for Democratic Action;
Clergy and Laity Concerned;
Common Cause;
Environmental Action;
Episcopal Peace Fellowship;
Federation of American Scientists;
Friends of the Earth;

Indochina Mobile Education Project;
International Longshoremen's and Warehousemen's Union;
Jesuit Conference/Office of Social Ministries;
Movement for Economic Justice;
National Association of Social Workers;
National Taxpayers Union;
NETWORK;
SAME:
United Church of Christ Board of Homeland Ministries;
United Church of Christ Center for Social Action;
Women's International League for Peace and Freedom;
World Ministries Commission/Church of the Brethren;
World Federalists, USA.

It is our concern not merely to oppose the production of a single weapons system, the B–1 bomber, but rather to insure that the U.S. Government invest its limited resources in ways which will best meet the real requirements of genuine "national security."

PROCUREMENT DECISION THIS YEAR MEANS THIRTY YEAR COMMITMENT

This year's relatively "modest" request for $1.53 billion in B–1 funds[1] is primarily to be used to create the production capacity for manufacturing 244 B–1 bombers over the next 8 years. Congress is therefore being asked, in effect, to commit itself this year to the expenditure of tens of billions of dollars in the immediate future, not only for production, but for the arming and maintenance of the entire B–1 fleet. Such a commitment is necessitated by the fact that it would be economic madness to create a multibillion dollar production line to build a mere handful of aircraft.

PROCUREMENT COSTS

Assuming that the entire fleet of 244 B–1's is produced, the cost of the B–1 bomber may be as high as $109 million per copy,[2] with total production costs at least $21.2 billion over the next 8 years.[3] Defense Secretary Rumsfeld, in response to our inquiry into per-plane costs should the B–1 program be terminated in fiscal year 1978, told us that such a decision would be the equivalent of setting up the General Motors assembly line, and then producing only three cars.

ASSOCIATED COSTS

In addition to production costs, the total price to fully arm, operate and maintain the B–1 fleet may come to an estimated $70.9 billion over 30 years.[4]

These costs, of course, are above and beyond the costs of arming and maintaining our present strategic bomber force, since "Department of Defense plans call for retaining B–52G/H's even after the B–1's are deployed."[5]

RISE IN COST, DECLINE IN PERFORMANCE

The costs of the B–1 program have gone up astronomically at the same time as performance capabilities have time and again been downgraded. While ten out of eleven important performance parameters of the B–1 will fail to meet original estimates,[6] the production cost estimates have risen from $9.85 billion

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[1] Testimony of Gen. David C. Jones, Air Force Chief of Staff, in hearings before the National Security Task Force, House Budget Committee, Feb. 25, 1976.

[2] This figure has been reported to be the Department of Defense estimate recently given to Congress. Clarence A. Robinson, Jr., "U.S. Air Force Manned Bomber Need Challenged," Aviation Wek and Space Technology, Mar. 24, 1975, p. 19.

[3] A. A. Tinajero, B–1 Strategic Bomber Program, issue brief No. IB75046, Library of Congress, Congressional Research Service, Jan. 20, 1976, p. 3.

[4] Center for Defense Information "Fact Sheet," June 1975. Also Center for Defense Information Defense Monitor, vol. IV, No. 4, June 1975, p. 3.

Also, see Members of Congress for Peace Through Law, Report on the B–1 Bomber Program, Congressional Record, vol. 120, No. 70, May 20, 1974, 93d Cong., 2d sess.; and Alton H. Quanbeck and Archie Wood, Modernizing the Strategic Bomber Force, pp. 36–37, published by the Brookings Institution, c. 1976.

[5] Quanbeck and Wood, ibid., p. 21.

[6] Ibid., p. 28, citing the report of the Bisplinghoff committee, Department of Defense Appropriations, 1975, hearing, pt. 4, p. 575.

The M.C.P.L. Report on the B–1 Bomber Program, op. cit., notes specifically that there has been a 25-percent reduction in capacity for SRAM and SCAD missiles, the avionics package has been greatly reduced, projected gross takeoff weight increased to more than the level calculated for maximum range, distance decreased for takeoff and landing, maxi-

in 1970 to a current $21.2 billion as of July 30, 1975.[7] The current Selected Acquisition Report sets the cost at $21.4 billion. Thus one can only speculate what the final cost of the B–1 program will be.

EFFECTS ON AIR FORCE BUDGET

Another clear implication of a decision to proceed with the B–1 program this year, is the inevitable loss of revenues which would go to other strategic and tactical programs. The Brookings Institution notes, for example, that the B–1 bomber procurement costs will be so high in the next few years that Congress will be forced to choose between at least doubling the Air Force's present aircraft procurement appropriation or asking the Air Force to "forego modernization of its tactical air forces during the late seventies and early eighties."[8]

EFFECTS ON STRATEGIC "MIX"

Also to be considered are the financial constraints which may be imposed on the other two legs of the TRIAD (ICBM's and SLBM's), if bombers continue to take an ever-increasing percentage of strategic appropriations. In 1975, for example, bombers accounted for about 33 percent of the nuclear weapons in our strategic forces, and represented 41 percent of the cost of our total landbased, seabased and bomber nuclear forces; by 1980, projections are that bombers will only account for 23 percent of the U.S. nuclear weapons capacity, yet they will take 54 percent of the cost of our offensive nuclear weapons systems.[9] Considering the serious controversy now surrounding the modern-day need for any strategic bomber force, Congress must question whether the problem of ever-increasing economic investment in bombers should be further exacerbated.

NEXT PRESIDENT MAY TERMINATE B–1 PROGRAM

Every candidate for the Democratic presidential nomination, with the exceptions of George Wallace and Henry Jackson, has publicly stated his opposition to the B–1, and even Jackson has indicated strong reservations about proceeding with the program. Congress should thus be wary of committing itself to an expensive project like the B–1, which would provide no strategic benefits if terminated in the next few years.

THERE IS NO STRATEGIC NECESSITY FOR THE B–1 BOMBER—SUMMARY

1. The strategic bomber is not essential at any level of nuclear conflict, since ICBM's and SLBM's alone can successfully attack all targeted Soviet positions in about one-twelfth the time required for bomber attack. Thus, bombers are only useful as a hedge against the exceedingly remote prospect of sudden, massive Soviet technological breakthroughs in antisubmarine and anti-ICBM warfare.

2. As the recent report of the Brookings Institution demonstrated, the present strategic bomber force of B–52's, which has been and will continue to be upgraded with the latest technological advancements[10], is adequate to meet any forseeable Soviet threat well into the 1990's.[11]

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mum altitude decreased, payload decreased, fuel consumption increased at some speeds and altitudes, and the low altitude supersonic capacity dropped completely.

Also dropped were specifications for a titanium airframe, variable geometry inlet controls (Tinajero, op. cit., p. 8), and crew escape capsule (Quanbeck and Wood, op. cit., p. 28).

[7] Tinajero, ibid., p. 3.

[8] Quanbeck and Wood, op. cit., p. 29.

[9] Figures on distribution of nuclear weapons come from the CDI Defense Monitor, op. cit., p. 4. Figures on comparative costs of land-based missiles, sea-based missiles, and bombers and tankers were taken from Alton Quanbeck and Barry Blechman, Strategic Forces, Issues for the Mid-Seventies, a staff paper of the Brookings Institution, p. 2.

[10] Quanbeck and Wood, op. cit., pp. 1, 2; CDI Defense Monitor, op. cit., p. 1; CDI, The Strategic Bomber: Here To Stay? (A Center research study), pp. 9–10; Barry Miller, "U.S. Air Force Studies B–52G/H Retrofit Plan," Aviation Week and Space Technology, Feb. 23, 1976, p. 56.

[11] According to the recent Brookings study: "The effectiveness of the current bomber force is more than adequate now, and with minor force modifications will remain so in the future under foreseeable conditions. * * *

* * * a decision not to proceed with the B–1 production program would not mean that the bomber force would rapidly become obsolete and ineffective, because the present aircraft will be structurally sound well into the 1990's, and there is only a remote possibility that any potential enemy action could threaten the military effectiveness of the B–52 force before that time. Furthermore, U.S. sea-based and land-based missile forces are effective hedges against an enemy threat directed specifically toward the bomber force within the same time frame." Quanbeck and Wood, op. cit., pp. 93, 94–95.

Citing the Department of Defense Appropriations, 1975, hearings, pt. 4, p. 572, Quanbeck and Wood, ibid., p. 35, note that "(t)he Air Force estimates that the structural life of these aircraft will continue into the early to mid-1990's."

3. Advances in technology indicate that a manned, penetrating bomber like the B–1, if not already obsolete, will become so in the very near future. Costs of alternative forces are projected to be considerably lower than the B–1 bomber.[12]

4. Projected U.S. strategic deployment, without the B–1, will bring our strategic forces very near the maximum limits prescribed by the Vladivostok agreements.[13] Furthermore, the Salt II agreement, not yet reached, may well result in even lower ceilings than those announced at Vladivostok. Hence, as noted in the Library of Congress study on the B–1, a strong argument can be made "that Congress should not make this costly B–1 program commitment until after it has reviewed the Salt II agreement and decided what strategic force level and weapons mix the United States should have." [14]

SOURCES

We base these conclusions on a number of in-depth studies conducted over the past few years: Modernizing the Strategic Bomber Force, by Alton H. Quanbeck and Archie L. Wood, the recently issued report of the prestigious Brookings Institution; the Members of Congress for Peace Through Law Report on the B–1 Bomber Program (a research paper prepared by Senator George S. McGovern and Congressman John F. Seiberling), Congressional Record, 93 Congress, 2d session, vol. 120, No. 70, May 20, 1974; The Strategic Bomber: Here to Stay?, the report of the Center for Defense Information.

In the following pages we present some of the supporting evidence provided by these studies, which we hope you will study in their entirety.

SUPPORTING EVIDENCE—BROOKINGS STUDY

The following observations were made in the "Conclusions and Recommendations" section of the report: Only role of bombers, insurance against extremely remote possibility of ballistic missile failure.

"NEED FOR A BOMBER FORCE

"We consider the sea-based missile force to be the cornerstone of the future U.S. strategic capability and to be particularly well-suited to the retaliatory mission because of the relative invulnerability of sea-based missiles to a surprise or preemptive attack * * *

"We believe the proper military role of the bomber force in the future is to act as insurance against the failure for the ballistic missile forces * * *"

Earlier, the study stated that destruction of SLBM's (against which bombers are to act as a hedge) presents the Russians with a "nearly insoluble" problem: "Barring the most dramatic sort of antisubmarine warfare (ASW) breakthrough, U.S. strategic ballistic missile submarines (SSBN's) armed with nuclear missiles are likely to remain highly survivable. The problems associated with the development of an effective ASW threat to SSBN's appear to be nearly insoluble to the Soviet Union because of its limited access to the sea and its remoteness from waters in which the United States can easily and routinely operate its SSBN's. Furthermore, U.S. marine technology is superior to that of the Soviet Union. Even more implausible than the prospect of ASW threats is that they could materialize suddenly without the necessary development and testing activities being detected well in advance of deployment. As a consequence, the U.S. would have to implement a host of countermeasures, just as it has when other real and potential threats, such as air defenses have occurred * * *"

B–52's are a sufficient force will into the 1990's:

"The effectiveness of the current bomber force is more than adequate now and, with minor force modifications, will remain so in the future under foreseeable conditions * * * Thus there is no urgency to make major changes now, although modernization will be necessary eventually."

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[12] Ibid., pp. 93–97.

[13] The Brookings study states: "If the United States decides to build up to the prescribed overall level of 2,400 delivery vehicles and 1,320 MIRV-carrying missiles, it can do so by retaining existing delivery vehicles and adding 240 Trident launchers now planned. Additional bombers are not needed for this purpose." (Quanbeck and Wood, ibid., p. 11):

"With the planned deployment of 10 Trident submarines, U.S. strategic forces will rise approximately to the limits established in the Vladivostok guidelines." Ibid., p. 93.

[14] Tinajero, op. cit., p. 9.

"PRESENT PROGRAM

"The B–1 program has reached a point in its development-procurement cycle that calls for a key decision—whether or not to make a commitment to produce the aircraft. If the commitment is made, spending on the B–1 will increase rapidly from about $750 million in fiscal year 1976 to about $2.5 billion annually in the late 1970's. There will be additional costs for short-range attack missiles to arm the B–1 and for a new tanker to refuel it. On the other hand, a decision not to proceed with the B–1 production program would not mean that the bomber force would rapidly become obsolete and ineffective, because the present aircraft will be structurally sound well into the 1990's, and there is only a remote possibility that any potential enemy action could threaten the military effectiveness of the B–52 force before that time. Furthermore, United States sea-based and land-based missile forces are effective hedges against an enemy threat directed specifically toward the bomber force within the same time frame."

The United States is at the Vladivostok ceiling without the B–1:

"With the planned deployment of 10 Trident submarines, U.S. strategic forces will rise approximately to the limits established in the Vladivostok guidelines."

The Brookings "Conclusions and Recommendations" next discussed prelaunch survivability and penetration, the two areas where a bomber force is seriously threatened.

Prelaunch survivability:

(1) Sudden prelaunch threat to bomber force is highly unlikely.

(2) B–1 quick takeoff capacities on ground alert provide only very narrow margins of safety under severe prelaunch threats.

(3) B–1 is not adequately designed for airborne alert.

"PRELAUNCH SURVIVABILITY

"The value of the bomber force is greatest during a time of crisis because it can be placed on a higher alert status. We believe that either through assessment of a political crisis or through U.S. intelligence systems the United States will receive strategic warning adequate to increase the alert status of the bomber force. Secretary of Defense Schlesinger had expressed similar views in regard to strategic warning.

"The threat to bomber prelaunch survivability of a well-executed surprise attack is the most demanding problem for those charged with designing the bomber force. A surprise attack could be carried out by either depressed-trajectory ballistic missiles or strategic cruise missiles launched from Soviet submarines. The likelihood of a surprise attack during a period of relative stability is extremely remote, however, and U.S. submarine-based ballistic missiles provide protection against such an unlikely contingency. Thus we believe that the United States does not need to rely on the bomber force to hedge against the possibility. In addition, the bomber force as currently planned, including the B–1, is not well-adapted to cope with such a threat. The current solution to the problem is to depend on a quick-reaction ground alert posture for the bomber force in order to flush the bombers upon receipt of tactical warning. Even with a bomber like the B–1, this reliance on ground alert and dispersal provides very narrow margins of safety if severe prelaunch threats materialize, these margins degrade rapidly with adverse changes in the performance of tactical warning systems or alert forces * * *

"During the Cuban missile crisis the Air Force placed some of its bombers on airborne alert to assure their survivability and to demonstrate resolve. We believe that this mode is virtually invulnerable to any threats that can now be anticipated, but reliance on airborne alert in time of crisis would put a premium on designing a bomber force with greater endurance than the one currently planned."

B–52's adequate against present Soviet air defenses, B–52's can be modified to cope with highly improved Soviet defenses:

"PENETRATION

"The remaining threat to the retaliatory capability of the bomber force is the possible emergence of a high quality Soviet air defenses. A high quality Soviet air defense system might include look-down, shoot-down interceptors, guided by large airborne control centers and surface-to-air missiles with a low-altitude capability down to about 100 feet. Although this threat has been anticipated for

some time, there is no evidence that it will materialize within the next several years. If such a system does not emerge, then the present force of B–52's has sufficient capability.

NOTE.—The Defense Department has apparently come to a similar conclusion. See statement of Malcolm R. Currie, director of Defense Research and Engineering, the Department of Defense Program of Research, Development, Test, and Evaluation, fiscal year 1976. Hearings before the Senate Appropriations Committee, 94th Congress, 1st session, February 26, 1975, p. V–18.

Moreover, our analysis suggests that if the B–52's were equipped with armed decoys or with long-range cruise missiles, exploiting fully their existing payload capabilities, they could cope with substantial deployments of advance air defenses."

MEMBERS OF CONGRESS FOR PEACE THROUGH LAW, SUMMARY OF MILITARY ARGUMENTS AGAINST THE B–1 IN ITS "REPORT ON THE B–1 BOMBER PROGRAM"

"1. Strategic nuclear bombardment by aircraft now plays only a marginal role in U.S. deterrent or war-fighting posture. Bombers protect only against a massive failure or destruction of thousands of nuclear warheads which are based in hardened silos or under the oceans, and which can be delivered on target in about one-twelfth the time required for a manned aircraft to travel the same distance.

"2. Both the nature and the size of the planned strategic bomber force are based on preparations for a counterforce role which is wholly implausible—the premise that bombers would be useful in striking Soviet ICBM's on the ground after a nuclear war is already underway.

"3. Bombers do have utility in complicating still further the enormous defensive or counterforce problems which any adversary would have to solve to attain a first strike posture. But a force designed expressly for this purpose would be much smaller and less complex than the B–1.

"4. The B–1 has only slight advantages over the later model B–52's, and almost none that are likely to be relevant to its mission. The high altitude supersonic capability has no real relevance and could actually detract from the ability to penetrate at low altitudes. If Soviet defenses were massively upgraded, the most important countermeasures for U.S. bombers would lie in electronic countermeasures, decoys, stand-off missiles, and other technology which can be applied to the B–52 as well as to the B–1.

"5. There is no time urgency for a production decision on the B–1 by late 1976. The existing force B–52G's and H's and FB–111's can be operational through the 1980's. In fact, the B–1 is planned as an addition to, not as a replacement of, those forces. As such, it would represent in the 1980's an unnecessary increase from the present 21-million pound payload of U.S. strategic bombers to nearly 52-million pounds.

"6. Because of costs and risks, manned strategic bombers can have no sustained role in conventional wars except against targets—such as those in South Vietnam—which are almost entirely undefended. The United States lost 15 B–52's to Soviet SA–2's in 11 days of bombing North Vietnam in 1972. Ninety days at the same loss rate would have wiped out the entire B–52 force assigned to Southeast Asia. If B–1's, which are vulnerable to SA–3's, had been used, the loss of 15 would have represented nearly $1 billion worth of airplanes shot down—by missiles costing about $50,000 apiece.

CENTER FOR DEFENSE INFORMATION CONCLUDES B–52 ADEQUATE FOR FORSEEABLE FUTURE

"[A] bomber force of 8 B–52G (including one training squadron), 6 B–52H and 4 FB–111 squadrons, supported by approximately 27 KC–135 squadrons (1.5 tankers per bomber), would be capable of the same target coverage as the projected 14 squadron B–1 force, supported by 21 KC–135 squadrons (same ratio) in the early 1980's.

"Surely the projected force is at least as capable as the B–1 structure programed for the early 1980's. If the B–1 is bought as now planned, it will be in service before the B–52G/H—FB–111 squadrons have reached the end of their useful life. On Air Force evidence, improvements such as SRAM and SCAD make the older aircraft as survivable as the B–1 in the early 1980's. The B–1, indeed the entire viability of manned bombers in the post-1985 time period, requires more study * * *."

"If a force structure similar to the one proposed [by CDI] is adopted, the funds saved more than pay the development costs of the B–1, but do not provide for B–1 production. Production is premature under the Air Force's schedule. A decision should be deferred about 8 years during which alternatives to the B–1 or to its planned characteristics can be examined or undertaken as circumstances dictate."

CDI updated this conclusion in June 1975: B–52's will not become obsolete at least until 1990. CDI Defense Monitor, vol. IV, No. 4, June 1975, p. 1.

SOCIAL AND ECONOMIC COSTS OF THE B–1

Since the B–1 is not a necessary strategic program, we think it is imperative that Congress be made aware of the social and economic costs of unnecessary military spending. As President Eisenhower once said, "Because security is based on moral and economic, as well as purely military strength, a point can be reached at which additional funds for arms, far from bolstering security, weaken it."

NET LOSS OF JOBS DUE TO B–1 SPENDING

Perhaps the most important domestic factor is that military spending actuaally results in net loss of jobs when compared to a like amount of spending in other economic sectors. Economist Roger Bezdek, of the Energy Research and Development Administration, computed the following comparison of jobs generated by spending $1 billion for aircraft procurement and for other Government programs, while these sums are computed in 1958 dollars, the proportionate number of jobs created by the various programs remains essentially the same in 1976 dollars:

Total number of jobs

Program:	
Aircraft procurement	[15] 58, 591
Education	118, 191
National health program	133, 717
Law enforcement	75, 601
Social security	108, 196
Mass transit construction	83, 536
Sanitation	78, 954
Highway construction	[16] 84, 933

[15] Roger Bezdek, Long-Range Forecasting of Manpower Requirements: Theory and Application, appendix tables 3–5. (IEEE Press, New York, 1974).

[16] Roger Bezdek, "Toward Manpower and Energy Dimensions for the Federal Budget," Journal of Environmental Systems, vol. 5, No. 1, 1975, pp. 29–38.

For similar figures, obtained from various Federal agencies see Marion Anderson, The est Research Group in Michigan, inserted by Senator Edward M. Kenneth into the Congres- Empty Pork Barrel, Unemployment, and the Pentagon Budget, a report of the Public Intersional Record, vol. 121, No. 86, June 4, 1975, pp. S9666–S9672.

See, also, Wassily Leontief and Marvin Hoffenberg, "Economic Effects of Disarmament," Scientific American, vol. 204, April 1961; and testimony of Wassily Leontief before the Joint Economic Committee of the U.S. Congress, Hearings on the Economic Effect of Vietnam Spending, April 1967.

Thus, military procurement, particularly of sophisticated weapons systems like the B–1, is a very inefficient method of providing employment. Compared to other kinds of enterprise, a greater proportion of the military procurement investment goes for costly materials, fuels and technology, and less goes directly into payroll.[17] Of course the job impact of a decision to reduce the B–1 program now would be far less than it would be if the program were cut once the industry had geared up for full production. By that time, many more workers will have become dependent on the B–1, and the economic pressures to continue the program will be that much greater.[18]

B–1 IS A DEAD END CAPITAL INVESTMENT AND IS INFLATIONARY

Another factor which affects not only employment but the quality of American life generally is that such military spending is an economic "dead end." It entails a capital investment which provides no continuing productive capabilities. As Prof. Seymour Mellman of Columbia University points out, "A cannon, once made,

[17] MCPL Report, op. cit., p. 14.

[18] Ibid., pp. 13–14.

cannot be used to produce anything, as contrasted with a building or a piece of machinery, or a tool, or a pen." [19] Similarly, growth in technology is stifled in nonmilitary sectors by the fact that 80 percent of Federal research and development funds goes to the military.[20] And of course spending for military hardware creates demand-pull inflation, since income in the form of profits and wages inters the economy, yet no consumable or productive items are created to meet the resulting increased public demand.

ENVIRONMENTAL COSTS OF THE B–1

According to the Environmental Action Foundation, the B–1 bomber would lead to these environmental costs: [21]

Stratospheric flight of the B–1 would create a dangerous threat to the delicate layer of ozone which filters out 99 percent of the sun's deadly rays, raising the incidence of human skin cancer and destroying plant life essential to the food chain.

The B–1 would consume more than enough fuel to power all urban transit systems in America.

B–1 production would require astonishing levels of energy in order to produce tons of scarce metals such as titanium, and aluminum.

The B–1 would generate a more powerful sonic boom than any other aircraft, including the SST.

The B–1 would seriously pollute the lower levels of the atmosphere.

Last, and most important, money budgeted for the B–1 is money that can't be spent to meet America's urgent human needs.

Summary Statement of Robert Brammer

Mr. Brammer. You see on top of the pack the list of organizations on record opposing the B–1 bomber, most of which are in a loose coalition of groups and individuals working to stop the B–1 bomber. I will note for the record a few of the groups: Americans for Democratic Action; Common Cause; Environmental Action; Federation of American Scientists; the National Farmers Union; the National Association of Social Workers; the National Taxpayers Union; the Textile Workers Union of America; and Oil Chemical and Atomic Workers, and so forth.

I list a few of those groups because I think they illustrate some of the breadth of the opposition to the B–1 bomber.

I would like to point out that there are a lot of reasons why these people are against the B–1 bomber, but there has to be a common thread that runs through it all, and that is that we think the B–1 is not necessary for national security.

I am not an expert on military arguments or issues, but I would like to point out that we have constant reference and conversation with other experts upon whom we base our opinions.

I would like to very briefly summarize a couple of the military arguments that only suggest the numerous arguments that are available, but two of which seem almost sufficient to us. I would like to read them for the record.

First of all, does the United States need a new bomber in the missile age?

No; intercontinental ballistic missiles and submarine-launched ballistic missiles, ICBM's, and SLBM's, alone can destroy all targeted

[19] Seymour Melman, "Economic Consequences of War Economy," SANE report, Nov. 15, 1975, p. 3.
[20] Ibid., p. 2.
[21] James Conroy and Paul d'Eustachio. Boom and Bust, the B–1 Bomber and the Environment. pp. 5–45. (Published by the Environmental Action Foundation, Washington, D.C., May 1975.)

Soviet positions in 30 minutes. By the time the B–1 got to the site, 6 or 8 hours later, four rounds of missiles could have been exchanged. That is based on a study by Members of Congress for peace through law.

Thus bombers are merely insurance against the remote possibility of the failure of a ballistic missile force. That is a Brookings decision. Yet they note the Soviet Union's problems in developing an effective antisubmarine threat "appeared nearly insoluble."

This is from the recent Brookings Institution report on manned bombers.

Now even if the Soviet Union wiped out 50 percent of our SLBM's, 90 percent of ICBM's, and 80 percent of our B–52's, the United States would still retain 3,100 warheads, and this is 10 percent more than the Soviet Union possesses altogether, giving us the capacity to drop 13 warheads on every major Soviet city even after devastating attack. This is, I would say, one of our major arguments.

It seems common sense to us that this, in the minds of the people in the Soviet Union, will be an adequate deterrent: That even without the B–1 bomber and with a devastating attack, the counterattack on the Soviet Union would be disastrous.

Now, does the B–1 have substantial advantages over existing B–52's? No. The present force of B–52's continues to be updated with the latest technological advancements and "will be structurally sound well into the 1990's," according to the Defense Department, as stated in Mr. Rumsfeld's testimony this spring.

The Brookings concludes there is only a remote possibility that any potential enemy action could threaten the military effectiveness of the B–52 force before that time.

Now I will not go further into defense, but I would like to note for the record that many of the reasons given for favoring the B–1 bomber, that is, improvements in supersonic capacity, prelaunch survivability, penetration, payload, and callback capability are, in the minds of Brookings and other experts, marginal improvements, not significantly relevant to the major mission.

For instance, may I go into depth on one example, supersonic capacity.

The Members of Congress for Peace through Law have this to say:

> Since any strategic aircraft must penetrate at low altitudes, where the B–1 is subsonic, the high altitude supersonic capability is not delevant to the problem of penetrating Soviet defenses. Supersonic flight requires drastically more fuel, which detracts from payload.
>
> Further, when missiles can cover the distance in 30 minutes, the difference between the flight time of 10 hours at high subsonic speeds and 8 hours with some supersonic flight hardly seems likely to have a serious bearing on the bomber's role in a nuclear war.

The conclusion of that statement essentially applies to the other marginal improvements; that is, that they offer very little improvement on the B–52 force that seriously bears on the bomber's role in a nuclear war.

Well, the groups that I represent, once satisfied that the military necessity for the B–1 has not been demonstrated, are troubled by many of the other arguments against it; that is, the cost of the program in terms of dollars lost to the taxpayers and to other programs, the social and economic costs such as loss of jobs and a fueling of inflation,

and the environmental threats posed by the bomber itself, which I think will be spoken to later by environmental action.

I would like to explain just for a moment what the "Campaign To Stop the B–1 Bomber" is like, and then make a plea that you stop the B–1 bomber.

The campaign has two aspects. It is a group of national organizations, a Washington-based coalition, and it is fairly loosely organized and I am the campaign coordinator and there is one other staff person. Some of these organizations have full-time B–1 staff persons, but most of them have a person or persons working part time against the B–1 bomber and forming constituent networks.

In addition to the Washington-based coalition, we have a grassroots network around the country of people who have either heard about the campaign and written to us, or who have come out of these national organizations, expressing an interest in working actively against the B–1 bomber and perhaps organizing local activities in their own areas.

So there are two parts to this campaign, and I hope in the future both aspects continue to raise the issue with you and work with you further.

We also are very open to the possibility that additional arguments will be presented, or that our arguments will be discussed in a context with the military experts from the Pentagon and the contractors. We feel fully ready to stand up and discuss these arguments with them.

Finally, I would like to report on what is happening at this very moment. The authorization bill is coming up at the end of the week. We are supporting an amendment by Representative Seiberling to withhold the $1 billion of production funds this year until at least Febraury of 1977, when the tests and evaluations should be completed and the President could submit the B–1 tests and evaluations to the Congress, and the Congress by concurrent resolution could authorize spending the funds.

We think that the amendment is a healthy reassertion of civilian public control over a questionable new program being pushed by the Pentagon and by the contractors.

We were alarmed to hear a few weeks ago that the Air Force has already decided to produce the B–1, despite that fact that the decision is scheduled for next November after testing and evaluation, despite the fact that the testing and evaluation program is abbreviated and incomplete compared to other test and evaluation programs, and despite the fact that serious problems have arisen in testing to date. We think that the amendment would restore some integrity to the principle of "fly-before-buy."

Production restraints imposed by the Seiberling amendment are all the more important given recent revelations that the chief B–1 contractor, Rockwell International, secretly hosted half a dozen top Air Force R. & D. officials at its Maryland hunting lodge (among many other people they hosted), and that it entertained Malcolm Currie, Director of Research and Engineering, at its Bimini Island resort for a week. And this happened after the Secretary had given new directives to his people not to visit contractors.

The public deserves the withdrawal of these people from any role in the B–1 program. not their announcement that the production decision has been advanced.

That is the structure of the B–1 campaign and the basic outline of the arguments that are so far persuasive to us.

I would be happy to answer any questions that you have and I appreciate the opportunity to appear before you.

Mr. BURLISON. Thank you very much.

Are there questions?

Thank you very much.

TUESDAY, APRIL 6, 1976.

ENVIRONMENTAL ACTION

WITNESS

MICHAEL MANN

Mr. BURLISON. We are pleased to welcome Mr. Michael Mann of Environmental Action.

Mr. MANN. Mr. Chairman, with your permission, I have a brief statement which I would like to read.

STATEMENT OF MICHAEL MANN

Mr. Chairman and members of the subcommittee, my name is Michael Mann and I represent Environmental Action, a national organization with over 15,000 supporters working to preserve and protect the environment. I am here today to testify in opposition to the appropropriation for the B–1 bomber.

We at Environmental Action oppose production of the B–1 bomber because its environmental impact will be inestimably high. However, the Air Force has made no effort to study the proposed B–1 fleet's environmental effects. In fact, the single environmental impact statement on the B–1 bomber that the Air Force has submitted deals only with three prototypes. As you gentlemen are here today to discuss the initiation of the B–1 fleet's procurement, we believe it is only proper that a discussion of its impact on the environment take place. I want to make clear that what is at stake would be the security of the very planet that we all seek to protect.

The Air Force's disrespect for Environmental Impact assessment is illegal. The National Environmental Policy Act of 1969 explicitly states in section 102 (2) (C) that:

> The Congress authorizes and directs that, to the fullest extent possible: All Agencies of the Federal Government shall—Include in every recommendation or report on proposals for legislation and other major actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—(i) The environmental impact of the proposed action.

To the best of my knowledge the Air Force has not done this for the B–1 fleet. This inaction contradicts both the spirit and the word of a law Congress passed to insure that our Government never developed a program without first knowing its environmental impact. The fact is that the Air Force is asking you gentlemen to make a decision on

this bomber's procurement without giving you and the American public the necessary information.

As an example of the way the Air Force has approached the environmental assessment of the B–1, one only need note the fact that no impact statement was ever completed for the fourth B–1 prototype, which Congress procured money for last year. This aircraft was planned to incorporate the knowledge gained through the development and testing of the first B–1 prototype, and I presume that its testing mission will be significantly different from the other prototypes. But, to the best of my knowledge, no impact statement will be done for the fourth aircraft until this summer. What good will an environmental impact statement be after Congress has already appropriated money for it and its production has begun? Though the plane's production represented a 33-percent increase in the total program, this was not seen as a significant enough change to warrant any additional environmental comment until after Congress had already taken action. At present, it appears that this again will be the case for the B–1 fleet.

I would now like to briefly address some of the possible environmental impacts of a B–1 fleet based on the projection and estimates provided by the environmental impact statement dated February 1974, which was completed for the first three B–1 prototypes.

The B–1 is not just another aircraft. It is a supersonic aircraft—and for that reason presents a unique threat to the environment. Through the American SST and Concorde debates, Congress and the American people have been made aware of the environmental hazards related to supersonic aircraft. First, if they fly in the stratosphere, as most supersonic aircraft do when they fly faster than the speed of sound, they contribute directly to the destruction of the Earth's fragile ozone layer. Second, today's supersonic aircraft generate unacceptable noise levels in terms of civilian noise standards. These two impacts of supersonic aircraft are for the present inescapable, and unfortunately the only way Congress can legislate against their occurrence is to ban the aircraft responsible for them.

OZONE

Regarding the B–1's impact on the ozone layer, though the only EIS written addresses three prototypes, it says that every B–1 is expected to be slated for 3 hours of supersonic flight training a year. It is on this schedule that the Air Force bases its estimate of likely damage to ozone.

The ozone figures that the Air Force supplies lead one to believe that each flight crew will receive 3 hours of supersonic flight training. Through interpretation of the estimates the Air Force supplies with the EIS, one finds that this is not true. Each B–1 bomber is slated for 74 training missions of an 8.5-hour duration.[1] Each flight crew is slated for 75 hours of actual flight training. By multiplying this out, we find that this means each flight crew will receive a little more than three-tenths of an hour of supersonic flight training in the B–1 each year. I do not feel that the Air Force's regard for the supersonic function of the B–1 is reflected in the amount of flight training allocated each flight crew.

[1] Of the 74 training missions, 10 would have three-tenths of an hour of supersonic flight time. The others would be totally subsonic.

My point here is that if the Air Force does not fully train its flight crews to use the supersonic function of the plane, then it does not make sense to build the B–1. On the other hand, if the Air Force wishes to revise its estimate of supersonic flight experience for each crew, then the B–1's impact on the Earth's ozone layer will be much more severe. I think that this information is vital for Congress to have in order to make an informed decision on the B–1's procurement.

FUEL CONSUMPTION

Directly related to the B–1's supersonic capability is the inefficiency of its engines. In a time of fuel shortages, environmental action deplores the proposal of an aircraft that would consume over 7 billion gallons of fuel in a 25-year period. In engines similar to the B–1's F–101, fuel consumption is increased by a factor of 4 when operating supersonically in the maximum afterburn stage. This means that the B–1 would consume four times more fuel per pound of thrust obtained when flying supersonically than it would flying subsonically.

Beyond the fact that the B–1 would waste a great deal of fuel, the question remains unanswered as to what sort of constraints supersonic fuel consumption would have on the B–1's range. If it turns out that the B–1 would not be able to fly supersonically during its mission, then why are we building a supersonic bomber? In addition, if flying supersonically means that the B–1 would need to be refueled and might be in range of a Russian attack while refueling, then the whole argument concerning the plane's survivability is drawn into question. Environmental action questions the Air Force reasoning which would recommend the construction of a supersonic bomber that wouldn't have the capacity to carry enough fuel to fly supersonically to its target.

NOISE

Another drawback of supersonic aircraft is that at takeoff and during flight they produce ear-shattering noise. Though at present, the only guide we have for the noise levels of the B–1's engines is contained in the February 1974 EIS, the data provided by the EIS for the B–1 prototypes noise characteristics is misleading. First, the noise levels are merely estimates. Although the Air Force has had over 2 years to develop new information concerning noise, they have not done so. Thus, the only guide we have for determining the B–1's noise impact is contained in the EIS for the B–1 prototypes.

In the EIS, one chart compares Federal Aviation Regulation Part 36, FAR 36, standards with the noise expected to be generated by the B–1 for takeoff, approach, and sideline noise.[1] Although unaugmented [2] levels in all three categories of B–1 flight are lower than FAR 36 levels, maximum augmented levels are 9 decibels higher in both takeoff and sideline calculations, about twice as loud as FAA regulations permit.

While the Air Force goes on to state that the B–1 will be quieter than the B–52 it is intended to replace, and quieter than some other

[1] Measured at 0.35 nautical miles from the centerline at the point of maximum sound pressure.

[2] Regular engine operation—augmented is the mode in which the afterburner is used to provide extra power.

military aircrafts, the data presented demonstrates that at the crucial point of takeoff the B–1 will be noiser in standard augmented flight than the latest model B–52. Unlike the B–52, which requires an exceptionally long runway for takeoff and landing, the B–1 is capable of operating from conventional airfields, a factor which will distribute the aircraft over a greater number of bases throughout the United States, exposing more people to sonic boom and to the less dramatic but very serious impact of conventional noise. It is interesting to note that the B–1 is 28.5 percent louder than the Concorde, which generated vigorous public protest against its very noisy intrusions at civilian airports.

SONIC BOOM

In my discussion of the B–1's noise impacts, I would like to address the sonic boom issue. Unfortunately, with the information that is presently available from the Air Force we can present no meaningful discussion. Where the B–1 fleet would train, how often it would break the sound barrier, and at what altitude this would occur are totally unknown to the American public. We urge Congress to press for more information concerning the B–1's sonic boom and specifically where the supersonic testing will take place.

CONCLUSION

Whether the environmental questions concerning the B–1 will be answered before the procurement decision is made is for you gentlemen to decide. I am not here as a specialist but as a spokesman for millions of Americans who have already demonstrated their concern about the environment. In conclusion I would like to stress that environmental questions about the B–1 play directly into the bomber's strategic feasibility. If the B–1 operates within its maximum performance parameters, it will contribute to the destruction of ozone, generate unacceptable noise levels, and waste scarce natural resources. If the Air Force wishes to sidestep these environmental objections by flying the aircraft subsonically, then we would be wasting our economic and natural resources to build an aircraft that contributes little more to our national security than do our present forces.

Thank you.

Mr. BURLISON. Thank you, Mr. Mann.

TUESDAY, APRIL 6, 1976.

NATIONAL PTA

WITNESS

MRS. WALTER KIMMEL, PRESIDENT

Mr. BURLISON. We will be pleased now to hear from Mrs. Walter Kimmel of the National PTA.

Mrs. KIMMEL. Mr. Chairman and members of the subcommittee, I will not read my statement to you. You have it.

[The statement follows:]

STATEMENT OF MRS. WALTER G. KIMMEL, PRESIDENT

The National PTA and its overseas branch, the European Congress of American Parents, Teachers, and Students, request that particular consideration be given to the needs of the overseas dependents schools in your deliberation on the fiscal year 1977 appropriation for the Department of Defense.

As we have noted in previous years, our fellow citizens serving abroad have looked to you as their "school board." Now, because of your action on the appropriation for the current fiscal year, they must look to Washington to find their superintendent and his operating staff. Since your action came only recently—after the current school year was more than half over—and since the centralized system is still in the process of formation, we must reserve an expression of opinion as to its effectiveness. We do express some skepticism, however, that centralization will achieve any significant monetary saving; indeed, we may find just the opposite if high educational standards are to be maintained. We must express some concern, also, about the more limited opportunity which centralization provides parents to participate in the educational decisionmaking process. Many activities of the Defense Department must, of their nature, operate under strong central control and direction. As your own constituents have doubtlessly emphasized, though, American education has a long tradition of local citizen participation. Your constituents overseas will try to maintain this tradition under the new system and will evaluate its impact most carefully.

As in the past, there are problems in getting textbooks and other necessary school supplies into the classrooms. Aside from the inherent difficulty of distributing these items worldwide in a timely fashion, the basic problem appears to be funding which comes too little and too late. When budget cuts are made after the school year begins—which is long after these items should be ordered—the impact is heavy in this area. It appears that the problem will become even more severe under the new budget process unless advanced funding for these supplies is made available.

Every year in our testimony we have emphasized the need for increased school facility maintenance and repair. Every year the need grows because projects are deferred in the face of fund limitations. The reason is apparent. Such large elements of the budget as personnel and transportation are not capable of easy reduction, tied as they are to enrollment, geography, a weakening dollar, and worldwide inflationary trends. The soft areas of the budget—or so they may appear on this side of the ocean—are maintenance and repair. Yet, as these areas grow softer, so do the buildings—many of which were never built as schools in the first place. Remarkable imagination and initiative have been used to make schools out of them, but time has taken its toll. Structural, plumbing and electrical repair, and renovation are long overdue. In some schools, it is too late for such efforts and new construction is required. Many of these facility needs, reported since 1968 and noted in the General Accounting Office study conducted in 1974, still cry out for resolution.

Last year we reported on a European PTSA survey of school lunch programs and noted that meal prices overseas were grossly out of proportion to stateside prices and were still rising. More basic is the related facilities problem. Less than 40 percent of the schools in Europe have a school lunchroom or cafeteria of any kind. Even if a child eats only a brown-bag lunch—and about 60 percent do in Europe—as a minimum the school should provide an area separate from the classroom where he can eat in clean surroundings and be provided something nutritious to drink.

The restriction against the use of CHAMPUS funds for tutorial assistance to handicapped children who have emotional disorders—imposed in 1973 by the Department of Defense—has now been added as a specific restriction in the current appropriation act (section 751(b), Public Law 94-212). Despite assurances that this and other special education needs would be met in the overseas school budget, we are advised that these programs are still deficient and that where special education teachers or other resource persons are provided, they are often moved into regular classrooms when fund shortages lead to staff reductions during the school year. In some few cities in Europe, special education resources have been centralized to provide a more effective range of services. If our military parents were completely free to choose their place of work and residence, such an arrangement might provide adequate help for all those with handicapped children. Because of military needs, they do not have such a choice—nor did they

choose to have a handicapped child. I know you do not intend that these parents be forced to choose between continued careers in the service of their country and the proper education of their children, but these choices are being made now.

Pupil-teacher ratio, one of the standard measurements of school accreditation, is a special problem in the overseas schools. While this ratio is beginning to increase in many parts of the country because of fund shortages, it has always been higher overseas than it is in the better schools at home. In this connection, there are two factors you should bear in mind when considering staffing requirements. One is the flexible construction of many converted buildings now used for schools, which prevents an increase in the number of children which can occupy many of the classrooms. The other is the need for small schools in many remote areas where our forces are stationed. These are schools which, because of student composition, have more grade levels than teachers. Europe alone has some 60 of these schools. When extra teachers are assigned to these schools in an effort to minimize, but not eliminate, the problem of multilevel classes this drives up the pupil-teacher ratio in the larger metropolitan schools so that a prescribed systemwide ratio can be maintained.

We understand that the General Accounting Office will conduct another study of the overseas schools this year with a view to examining this and many of the other issues we have raised. We look forward to a comprehensive effort by that Office, since PTA does not have the resources for such an undertaking and the Department of Defense seems unable to perform its own in-depth analysis. Indeed, when the Department is only beginning to develop the detailed operating policies and procedures it must under the charter you have imposed on it, help from every quarter is needed. We trust that the GAO study group will seek input from those who are the most direct beneficiaries of the system: those American families who willingly serve their country abroad, and particularly those who have contributed significant time, effort, and money through the European PTSA to supplement the program you provide for their children.

Thank you for hearing our views on their behalf.

[Additional information follows:]

SCHOOL LUNCH PROGRAM

1. For several years, European PTSA has heard parent and student complaints about the quality and availability of school lunch programs. Analysis of the problem revealed:

Unlike U.S. schools, lunch programs (like bus transportation) are the responsibility of the local military commander, not the school system.

Regulations do not require a school cafeteria unless a significant number of children live so far away that they must be provided transportation to schools.

Unlike U.S. schools, cash subsidies under the National School Lunch Act are not available because these schools are not located in a State.

Lunch arrangements varied widely, from the standpoint of facilities and quality of food available.

Nobody considered the program important enough to evaluate.

2. During the 1974–75 school year, the European PTSA studied available program data in Europe and the United States and developed a questionnaire which was sent to principals and local PTA/PTSA presidents. A remarkably high return rate of 78 percent was achieved (164 of 211 schools). The survey revealed that:

Fifty-two percent of the students attending the schools which responded are bused to school (criteria for a cafeteria).

Forty-eight percent of the students attending the schools which responded eat a hot meal, other purchased food, or a brown-bag lunch (it may be assumed that the other 4 percent ate something, but were lost in the estimated returns).

Of these, 57 percent ate brown-bag lunches.

Eighty-six percent of the schools had students eating in the school (note this data is based on schools, not students). Of these schools 40 percent had a cafeteria or lunchroom; 26 percent had students eating in the classrooms; 15 percent had students eating in auditoriums, gymnasiums, and multipurpose rooms; and 5 percent had students eating in other areas such as hallways and basements.

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3. Since responsibility is local and not managed by the school, organized programs vary widely. The most predominant in-school program (24 percent of schools responding to the survey) is managed by the European exchange system (EES), which is the PX system run by an Army-Air Force nonappropriated fund agency. Under this plan:

The local command must provide a physical plant and equipment which is acceptance to EES, and must provide cleaning, maintenance, and utilities service.

The school principal is responsible for discipline in the lunchroom, but in about half of the schools this responsibility is exercised by paid or volunteer monitors provided by PTA or other groups.

EES provides the staff, prepares meals according to a systemwide menu (with authority to provide a la carte food to achieve a break-even status), and serves the meals. Payment is by cash or meal ticket.

4. Where the physical plant or student population is inadequate to meet EES standards, other arrangements are used. These include in-school nonappropriated fund cafeterias, special meals at the local officer or NCO club, or reserved time in the local PX snack bar. Since there is no central plan for these arrangements, food quality, prices, and physical plant standards vary.

5. The lack of school system responsibility for the lunch program and the varied lunch programs (if any) which exist tend to render ineffective such nutrition education as exists in the schools.

Special Education and CHAMPUS

1. The overseas schools attempt to include special education teachers, learning disability specialists and related resource personnel in sufficient quantity to meet student needs. If there are not enough students at a given school which require this help according to established staffing standards, the system attempts to "cluster" these students in one school, geography permitting.

2. Prior to 1973, this assistance was augmented in the case of emotional disorders and certain learning disabilities by the hiring of tutors with funds provided by the civilian health and medical program for the uniformed services (CHAMPUS), based upon a diagnosis and certification by the attending physician. CHAMPUS was never available for tutorial services for the poor learner whose condition was not subject to medical diagnosis.

3. In August 1973, the Department of Defense determined that the use of CHAMPUS funds for this purpose was beyond the intended scope of CHAMPUS as set forth in title 10, United States Code, chapter 55. Termination of funding for tutors by the end of calendar year 1973 was directed. A hasty survey revealed that about 500 students would be affected. Supplemental funding during that school year arrived too late for effective recruitment of tutors.

4. This action by the Department of Defense affected military children similarly circumstanced in the United States, as well as overseas, and additional burdens were placed on school systems in impacted areas. As a result, legislation was introduced to require reinstatement of CHAMPUS assistance and a class action suit was filed in California for the same purpose. Currently, H.R. 1704 and S. 109 have been referred to the Armed Services Committees but no hearings have been held.

5. In the Defense Appropriation Act for fiscal year 1976 (Public Law 94–212), section 751 provides that no CHAMPUS funds shall be available for special education except when provided as secondary to the active psychiatric treatment on an institutional inpatient basis.

6. When budget cuts and departmental "withholds" are imposed in midyear, survival of the basic classroom instructional program becomes paramount and special education staffing is reduced. Other areas of special need such as students whose primary language is other than English (30 percent in Europe enter school in this condition) suffer and, needless to say, there is no organized program for the gifted.

Summary Statement of Mrs. Walter Kimmel

Mrs. Kimmel. I am Mrs. Walter Kimmel, president of the national PTA. We represent 7 million members in the country and include the European Congress of Parents and Teachers and Students Overseas.

Very briefly I will say to you that we are constantly concerned for the education of our children who are overseas because of the service of their parents to this country. We have always looked to the Congress and to this committee and particularly at the School Board for the Overseas Schools and this is even more true due to the passage of legislation last year which centralizes the management of the schools in this country.

We are in Washington. We are concerned somewhat as to what this will do to the citizen participation of the parents who are overseas. There is a feeling that this moves the management of their children's education further away from them than it did before.

We are somewhat concerned as to whether this will really reduce the expenditure for overseas education but we are willing to have an open mind until there has been a test of this new plan for centralization of the handling of the overseas schools.

Very briefly, I would like to talk to you about just three problems which have been with us for many years. Some of us have appeared before you before. I have visited schools in Europe and in Italy, the overseas schools. Any budget cut that comes, especially after the school year has started, is very damaging to textbooks and school supplies, many of which should have been ordered long before the cuts came.

One of the great problems over school system maintenance and repair of school buildings—I am sure you understand many of these school buildings were never built to be schools anyway and because of the tremendous problems of personnel and transportation and the movement of children overseas, these appear to be things that cannot be cut and so the maintenance of the schools becomes a soft part of the budget, at least to those of us who look at them from abroad.

Many of the facilities that were reported as needing maintenance and care in 1968 are still crying out for this. I can attest to the fact from having been there that it is unbelievable what the parents themselves do in the maintenance of the schools there. You know they paint the whole interior of a building. I saw a building they rehabilitated with their own hands from the plumbing to the electrical.

They do tremendous things to help with the maintenance but there are some things they cannot do and you know that these go through the commander and, by treaty, it is my understanding that the maintenance services of the building must be done by nationals.

One of the things that concerned me as I visited the schools there was that there are never custodians in the schools during the day as we expect to find in this country. You know what that means, that any accident that a child has during the day, it is never attended to until the custodians come in at night.

Not to mention a broken window, but by the time it goes through the company commander, it takes a long time to fix.

One of the special problems that is increasing is the problem of handicapped education overseas. While Congress is giving a great deal of attention to the handicapped in this country, this becomes a more acute problem to our parents of children overseas. They do not choose to have handicapped children any more than the people here do. I will not elaborate on that but you know the legislation that has happened in CHAMPUS, they are no longer able to use much of the funds for the handicapped that they did before. It comes to the point that with

many military families they have to choose between staying in the service or providing for their children the special education that they need because there are simply not funds for this.

As funds are cut and teacher-pupil ratio gets higher, in the ordinary class, then even the teachers they have for special education are moved.

I draw a few of these things to your attention and ask that as a GAO is to do another study of the overseas schools and especially as it relates to the centralization, that you will include PTA people who have done a great deal of study of their own and have given a great deal of time of their own and money of their own to supplement the education of their children overseas.

All of you know that the people overseas, most of them, are going to return. They are our constituents. They are there just for a little while. These children belong to all of us and deserve at least as good an education as our children in this country.

Therefore, we urge you to give special attention to the schools overseas.

Mr. BURLISON. Thank you, Mrs. Kimmel, for a very able presentation.

TUESDAY, APRIL 6, 1976.

CHRISTIAN SCIENCE COMMITTEE ON PUBLICATION

WITNESSES

H. DICKINSON RATHBUN, MANAGER, WASHINGTON, D.C., OFFICE
DAVID N. WILLIAMS, ASSISTANT TO THE MANAGER

Mr. BURLISON. We will now hear from Mr. H. Dickinson Rathbun of the Christian Science Committee on Publication.

Mr. RATHBUN. We appreciate this opportunity to testify and will be as brief as possible. We have submitted our written testimony to be placed in the record at this point. In the interest of time I will summarize it for you.

[The statement follows:]

STATEMENT OF THE CHRISTIAN SCIENCE CHURCH PRESENTED BY H. DICKINSON RATHBUN

Mr. Chairman and Members of the Subcommittee:

My name is H. Dickinson Rathbun. I am Manager of the Washington, D.C. Office of the Christian Science Committee on Publication. My colleague is David N. Williams, an attorney and Assistant to the Manager. We appreciate this opportunity to appear before the Defense Subcommittee and to present this statement in behalf of Christian Scientists, everywhere in the world, who are entitled to coverage under the "Military Medical Benefits Amendments of 1966" (P.L. 89-614). Our reason for testifying is to show why the CHAMPUS program should be funded for Christian Scientists according to the language of the Act.

PURPOSE AND DURATION OF COVERAGE

Christian Science coverage was written into the original CHAMPUS draft because it was already included and working well in the Federal Employees' Health Benefits Act that served as its model. It was understood during the drafting stage that Christian Scientists under CHAMPUS should have equal benefits with their civilian counterparts who select coverage under the

Government-Wide Indemnity Benefits Plan. That's why the Act specifically provides for practitioners, nurses and sanatoriums (10 U.S.C. sec. 1079 (a)(4)).

After identifying the government's civilian coverage as "the so-called Aetna Indemnity program" the Senate report of August 5, 1966 explained our inclusion in CHAMPUS: "The bill would therefore provide benefits for the relatively small number of individuals, approximately 16,000, who as Christian Scientists rely only on spiritual means and their own sanatoria for the cure and prevention of disease" (Senate Report 89-1434).

Payments have been made for this form of care on a routine basis for nearly ten years. But now, because Christian Science is not diagnosed by physicians as medically necessary it is no longer covered. According to the Department of Defense, new language in the Defense Appropriations Act of 1976 eliminated this inexpensive but vital form of health care to Christian Scientists and thus has created a severe hardship for a loyal segment of the military and their dependents.

COST OF THE COVERAGE

So far as we have been able to discover, Christian Science coverage is the only provision in the original bill which has made fewer demands upon the program than originally expected. According to figures supplied by Blue Cross, payments were made in 1975 to only 73 Christian Scientists out of the estimated 16,000 at a total cost of $19,692.00 -- hardly more than

a dollar per person. We're talking here about a saving of three/one-thousandths of one percent of the CHAMPUS appropriation in return for depriving these people of their basic health care.

Since cost is the main focus of this subcommittee, I inquired of the Civil Service Commission to see how the parent program is faring. I was told they don't receive many claims either, but when they do they are always amicably handled. When I asked for the comparative costs between Christian Science and medical coverage, I was told, "We don't have the figures but if there were any problem, Aetna would surely be making complaints, which they're not doing."

Afterwards I checked with Aetna and was told they have no concern on that score. Actually, Aetna reported, whenever a case takes longer than usual the Christian Science practitioner reduces his fee.

We can appreciate your concern over a program that has quadrupled in cost from an estimated $142,000,000 in 1966 to a requested $582,000,000 in FY 1977. Also, we can certainly understand why you found it necessary to disallow some of the fringe aspects of health care. For most military dependents and retirees this paring removed only incidental benefits, such as pastoral and marriage counseling, etc. They still enjoy physicians' treatment, hospitalization, drugs and nearly the full range of care formerly available.

For the Christian Scientist, however, CHAMPUS offers nothing. Not since February 23, 1976.

EFFECTS OF THE CUT-OFF

As soon as the announcement was made in military publications that CHAMPUS would no longer honor the costs of Christian Science care, there was an immediate response throughout the services. Calls were made from retirees who are not yet 65 and so are ineligible for Social Security. These Christian Scientists have been most grateful for the provisions under CHAMPUS. It's the same with military dependents, and they are all distressed over being cut out. They feel they have been subjected to a kind of official discrimination.

We have reassured them all that we expect the program to be restored as soon as the Congress understands that basic health care has been denied to this small number of people. We are receiving strong urging from them to make their situation clear to you.

WHAT IS CHRISTIAN SCIENCE TREATMENT?

It's not always easy for those who rely upon the physical treatment of the physical body to understand a system that relies entirely on non-physical treatment. Some assume that a telephone call for help is the help itself. This is not the case. Merely talking to a patient is not considered "treatment" in Christian Science any more than it is in medicine. Christian Science treatment is not at all like psychiatry or religious counseling. It is a system of healing through prayer that has been depended upon by hundreds of thousands of Americans for over a century. It is provided, when requested, by Christian Science practitioners who keep themselves ready to

serve. They are paid for their services on a fee basis. These fees are covered by most major group health insurers: Aetna, Prudential, Metropolitan, John Hancock, Continental Casualty, Mutual of Omaha and many, many others.

Christian Scientists attest that their mode of healing does work. We are well satisfied with its results. This is what we pay for. We wouldn't rely on it at all if it were nothing more than talking, or counseling, or simply giving advice.

ABSENT TREATMENT

It may have been a lack of understanding that caused some insurance companies, early in their experience with Christian Science, to invent a phrase that is totally out of step with our practice. The term is "absent treatment." At first they assumed that since they don't pay for medical advice given over the phone nor for telephone consultation by psychiatrists, they shouldn't pay for telephone treatment by Christian Science practitioners. They were right, but as soon as they recognized that fees paid to our practitioners are not merely for consultation, the insurance companies corrected their mistake.

Submitted with this testimony is an insurance kit prepared by our office and containing twenty-one copies of letters from among the many sent to us by major insurance companies acknowledging their error and assuring us the false concept called "absent treatment" will no longer be used to deny payment for the services of our practitioners.

Unfortunately, the Department of Defense adopted this

same unnatural distinction in its CHAMPUS coverage and has not yet corrected its error as the insurance companies have done. The Congress was clear on this point from the beginning. Both the Act and the report language are silent on any separate modes of treatment. Neither does the distinction appear in any of the other federal or state statutes which provide coverage for Christian Science treatment. Even in proposed legislation currently before this Congress unrestricted practitioner services are included as alternatives to medical treatment in workers' compensation bills, criminal injuries compensation legislation, no-fault auto insurance proposals and others.

FUNDS WITHHELD

We believe that if the full facts had been available to the subcommittee when you were considering the 1976 Appropriations Act, Christian Science health care would have been continued. The chronology of events is not clear to us but the Director of CHAMPUS told us they did not have time to prepare thorough testimony on Christian Science care when the subject was being considered. Your staff reports that the warning from the Defense Department that Christian Science coverage was being excluded arrived in the reclama submitted after both Houses had reported the appropriations bill. There was no parliamentary avenue available to restore it in conference.

It seems probable to us that if you had been fully aware of the consequences you would not have denied this coverage to Christian Scientists who have served their country in the

military, or to their dependents, while civilian employees enjoy full coverage under the supposedly parallel government insurance. This is the only benefit specifically named in the Act which has been excluded and we believe it is the result of inadequate information.

This need never be the case again. Expert testimony on the practice of Christian Science healing is always available to you for the asking. No occasion comes to mind when you could not receive immediate information from our office here in Washington.

WHAT WE SEEK

We respectfully request relief from this oversight in two ways. We hope that your 1977 Appropriations Act will restore the funds necessary for CHAMPUS to provide Christian Science coverage as allowed in the Act, specifically: "the services of Christian Science practitioners [without the distinction called 'absent treatment'] and nurses and services obtained in Christian Science sanatoriums."

Also, we request interim relief for those who will otherwise be deprived of coverage between February 9 and the effective date of the new Act.

Thank you again for permitting us to submit this testimony.

H. Dickinson Rathbun
910 16th Street, N.W.
Washington, D.C. 20006
Tel: 833-3848

SUMMARY STATEMENT OF H. DICKINSON RATHBUN

Mr. RATHBUN. The purpose of our testimony is to urge the subcommittee, to restore funds to cover Christian Science health care that were deleted by the 1976 Appropriations Committee. At least by interpretaton by the Department of Defense of the 1976 Appropriations Act.

According to the original CHAMPUS design the purpose of the coverage of Christian Science care was to provide equally for Christian Scientists who are military retirees and dependents, as for Christian Scientists who are covered in the civilian health benefits program.

The Senate indicated in its report that Christian Science coverage should be on the same basis in CHAMPUS as in the Aetna, Government-wide indemnity benefits plan.

Christian Science coverage may be the only part of the original act that has required less than was estimated. Blue Cross gave us some figures yesterday. They said that last year there were but 73 cases paid under Christian Science coverage in CHAMPUS and at a total cost of $19,000.

The Senate estimated there would be perhaps 16,000 Christian Science retirees and dependents who would need to be covered. This comes to hardly more than $1 apiece in total cost of coverage.

We can understand why in the CHAMPUS program, which has quadrupled in cost from the original $142 million that was estimated to the $582 million that is being requested for next year, that it has been necessary to cut off some fringe aspects of health care.

We noticed when you were cutting off counseling and that type of thing, because it was not a basic part of the medical health program——

Mr. BURLISON. You would distinguish between the program that you are testifying for and the counseling programs?

Mr. RATHBUN. Absolutely.

First of all, counseling is not a part of Christian Science treatment. It is not always easy for someone who relies upon physical care of the physical body for healing, to understand a system or to appreciate a system that doesn't rely on any physical contacts at all with the patient.

I guess a lot of people feel that when a person calls a Christian Science practitioner for help that the call itself is a treatment. This isn't so. Treatment in Christian Science isn't talking to the patient any more than treatment in medicine is talking to the patient. Consultation is not a part of Christian Science treatment.

Now, when the Defense publications announced that CHAMPUS was no longer going to pay for Christian Science coverage, you can imagine that the Christian Scientists covered under CHAMPUS were quite surprised and have written and called and asked to have their situation made known to you.

You see, a retiree who is a Christian Scientist and not yet 65 is not yet entitled to social security payments and without the Christian Science coverage under CHAMPUS he doesn't have the same coverage under the military that he would have had if he had been a civilian employee, because the Governmentwide indemnity benefits plan specifically covers Christian Science treatment, just as the CHAMPUS

Act does and practioners' fees were paid under CHAMPUS until the 23d of February.

So the effects of the cutoff have been not so much to eliminate some fringe aspects of treatment for Christian Scientists, which is what has happened for those who rely on medicine, but to wipe out his basic method of healing. The Christian Scientist doesn't rely upon medicine. Treatment through prayer is his total method of healing. When that is wiped out, then the Christian Scientist who has served in the armed services is deprived of any coverage at all, because he won't use anything else.

Mr. BURLISON. Do the members of your church or your religion, do they customarily pay for Christian Science healing, practices, techniques?

Mr. RATHBUN. Yes. Healing is done by an accredited Christian Science practitioner who keeps himself ready to serve in this way, through prayer.

They are paid for on a fee basis the same as a physician is paid. If the Christian Scientist who is a retiree, or member of a family, doesn't have this——

Mr. BURLISON. Is this service provided for anyone who chooses to seek it?

Mr. RATHBUN. Yes, sir.

Mr. BURLISON. And he is required to pay for it?

Mr. RATHBUN. Yes.

There is a fee. He is not necessarily required to pay for it, but he knows what is involved when he employs a practitioner. He does expect to pay for it, yes.

The insurance companies, the major insurance companies, certainly, Continental Casualty, Aetna, Metropolitan, John Hancock, and practically all of the large insurance companies do cover this kind of thing, the payment for Christian Science treatment.

Mr. BURLISON. You gave some information earlier about Blue Cross and Blue Shield. They don't furnish that coverage?

Mr. RATHBUN. Not where they can help it. There are some places can't avoid it. There are a couple of States, I think, which have insisted if Blue Cross is going to pay for medical coverage, they will have to pay for Christian Science coverage and, of course, they have been paying for Christian Science coverage under the CHAMPUS program.

It is not hard to understand that a medically-oriented organization would not necessarily appreciate a nonmedical system of treatment and healing. We are not very amazed at that.

I was talking about the insurance companies that are covering Christian Science care. Blue Cross is not an insurance company.

At one time earlier in the experience of the insurance companies with Christian Science, the insurance companies invented a phrase that was based upon a misconception, called "absent treatment." Insurance companies felt since they don't pay for psychological counseling over the telephone, or any other kind of counseling where the patient is not with the counselor, they would not pay for any treatment that was given when the patient and the practitioner were not together.

Well, the Christian Science patient does not pay for consultation. He pays for prayer, select prayer. It is clear to both the practitioner and those who rely on Christian Science treatment that it is irrelevant whether the practitioner is sitting next to the patient when he prays or is in his office. As soon as the insurance companies recognized this was a misnomer, they began to correct their mistake.

We have a kit that we are going to leave with you which includes letters from 21 of the major insurance companies that have written to us and wiped out the "alesent treatment-misnomer. Most of the major insurance companies now pay for Christian Science treatment without regard for whether the patient is present or not. None of the companies are under any delusion that the telephone call is what they are paying for.

Mr. BURLISON. We will be pleased to accept the packet for inclusion in the committee files.

Mr. RATHBUN. The only thing I would like to say before making our request is that the amount of money involved here is extremely small. The importance to Christian Scientists, who have served in the armed services, and their families is quite high. If they don't have this coverage, then they have no coverage that they can use at all. Again, the cost is small. The importance of it is high. The retirees are quite urgent that we make this extremely clear to you and our request to you is that in the 1977 appropriations bill, you provide for the coverage of Christian Science under Champus, whether for so-called absent treatment or not, and we would also like, in the interim, for you to provide some sort of relief for those who will be without coverage until that correction is made.

Mr. BURLISON. Thank you very much, Mr. Rathbun, for your consideration and for your presentation.

The subcommittee is recessed until the call of the Chair at 2 o'clock.

TUESDAY, APRIL 6, 1976.

AIR FORCE SERGEANTS ASSOCIATION

WITNESSES

DONALD L. HARLOW, DIRECTOR OF LEGISLATION
ALBERT J. CONNERS, LEGISLATIVE ASSISTANT TO MR. HARLOW

Mr. MAHON. The committee will come to order.

This morning I was not able to be present at the hearing because I was across the Potomac River for the dedication of the Lyndon B. Johnson Grove, which is in Lady Bird Johnson Park.

The President was there and spoke, the Vice President was there and spoke, Lady Bird Johnson spoke, I spoke, Laurence Rockefeller spoke, and so forth, so I was unable to be at the meeting.

I believe Mr. Harlow is the first witness for the afternoon and Mr. Conners of the Air Force Sergeants Association, will follow.

Do you want to talk about the commissary program?

Mr. HARLOW. Yes, sir, Mr. Chairman.

Mr. MAHON. Were you satisfied with what Congress did last year about the commissaries?

Mr. HARLOW. Very much so, Mr. Chairman.

Mr. MAHON. Then why are you here?

Mr. HARLOW. I have a statement, Mr. Chairman, I would like to have entered into the record.

[The statement follows:]

STATEMENT OF DONALD L. HARLOW

Mr. Chairman, distinguished members of the subcommittee: I am Donald L. Harlow, director of legislation for the Air Force Sergeants Association, a position I have been fulfilling since my retirement from the position as the chief master sergeant of the U.S. Air Force.

Accompanying me today is Mr. Albert J. Conners, a retired chief master sergeant, serving our association as my legislative assistant.

We deeply appreciate the opportunity to once again appear before this committee to provide you and your distinguished colleagues with the importance of retaining the commissary system, providing our people in the military with a much-needed and significant benefit to their morale and well-being, while serving this Nation in defense of freedom.

I am pleased to inform you that, unlike our previous appearance on June 16, 1975, when I was speaking for approximately 37,000 members of the association, I am now speaking for over 52,000 men and women, and their families. Although our growth can be attributed to many things, it is obvious to us that our efforts to protect and continue to fight for those benefits having real meaning to their day-to-day living while in the service, and into retirement, is the kind of representation sorely needed in today's environment.

So much has been said by so many to the administration, the Congress, and anyone else willing to listen about the important benefit the commissary is to the military, we will only bring out a few additional, salient points to substantiate our strong opposition in eliminating the subsidy for the commissaries, as proposed by the administration.

In no instance, either in the private or public sector, are such unilateral actions to reduce the effective buying power of wages tolerable.

You, along with many of your colleagues in the House of Representatives, indicated your understanding of the importance of the commissary to the morale of our people last year, and had it not been for distinguished leaders such as you, the battle would have been lost.

Your concern is clearly exhibited once again this year; otherwise, why would you take up precious time to hold hearings and bring the issue out into the open? For this, we are indeed grateful.

In closing, we would urge your subcommittee to reject the administration's proposal to phase out the subsidy in support of the commissary until the Department of Defense has had the opportunity to invoke the sound management system already formulated. We feel that the predicted overall operation of the commissary system can, and will, reduce tht required Government subsidy without reducing the purchasing power of those who have the need for this important benefit.

Commissaries have always been considered a benefit and an integral part of the total compensation for the military families. Today, many thousands of our young enlisted people and retirees qualify for, and purchase, "food stamps" essential to their basic needs. A dramatic example of this is the $12 million worth of "food stamps" that were distributed to servicemen and retired military personnel last year.

The "*x*" factor of service life is being realized by the staffs of the Defense Manpower Commission and the Quadrennial Review of Military Compensation Committee. Briefly stated, the "*x*" factor relates to the hazards, hardships, frequent disruptions of family life, long separations from loved ones, many hours of overtime without benefit of overtime pay, special obligations under usually difficult circumstances, self-discipline, to name but a few. Comparing military and civilian jobs by applying the principle of equal pay for equal work is next to impossible when the "*x*" factor of military service life is applied.

The Air Force conducted a survey in January 1976, of 30,000 active duty Air Force members, in which their spouses were requested to participate. A total of 10,637 wives did complete and return the survey. Thirty-seven percent of the wives stated that the commissary privileges definitely influenced their mate's career intentions.

The elimination of the subsidy for the commissaries is the equivalent of reducing the purchasing power of those who need it the most—our younger enlisted people and their families—our older enlisted retirees—and especially the 122,000 veterans who are 100 percent disabled living on a fixed income.

Mr. HARLOW. I would like to read a few excerpts to substantiate our position for continued subsidy, which I think is quite essential.

Mr. MAHON. I, myself, don't anticipate there will be a major change in the program involving commissaries this year, but if you want to take out a little insurance by presenting certain views, you may proceed.

Mr. HARLOW. We appreciate this opportunity.

I am Donald L. Harlow and accompanying me today is Mr. Albert Conners, assistant for legislation.

Mr. Chairman, I am pleased to inform you and the members of the committee that, unlike our previous appearance on June 16, 1975, when I was speaking for approximately 37,000 members of the Association, I am now speaking for over 52,000 men and women.

Mr. MAHON. You were so successful before, you have more clients now.

Mr. HARLOW. Yes, sir.

Our growth can be attributed to a lot of things, but I think the fact that we continue to fight for benefits having real meaning for our members day to day living is the kind of representation sorely needed in today's environment.

So much has been said by so many to the Administration, the Congress, and anyone else willing to listen, about the important benefit the commissary is to the military, we will only bring out a few additional salient points to substantiate our strong opposition in eliminating the subsidy for the commissaries, as proposed by the Administration.

SUMMARY STATEMENT OF DONALD L. HARLOW

Commissaries have always been considered a benefit and an integral part of the total compensation for the military families. Today, many thousands of our young enlisted people and retirees qualify for, and purchase, "food stamps" essential to their basic needs. A dramatic example of this is the $12 million worth of "food stamps" that were distributed to servicemen and retired military personnel last year.

The "*x*" factor of service life is being realized by the staffs of the Defense Manpower Commission and the Quadrennial Review of Military Compensation Committee. Briefly stated, the "*x*" factor relates to the hazards, hardships, frequent disruptions of family life, long separations from loved ones, many hours of overtime without benefit of overtime pay, special obligations under usually difficult circumstances, self-discipline, to name but a few. Comparing military and civilian jobs by applying the principle of equal pay for equal work is next to impossible when the "*x*" factor of military service life is applied.

The Air Force conducted a survey in January 1976, of 30,000 active duty Air Force members, in which their spouses were requested to participate. A total of 10,637 wives did complete and return the survey. 37 percent of the wives stated that the commissary privileges definitely influenced their mate's career intentions.

The elimination of the subsidy for the commissaries is the equivalent of reducing the purchasing power of those who need it the most—our younger enlisted people and their families—our older enlisted retirees—and especially the 122,000 veterans who are 100 percent disabled living on a fixed income.

In no instance, either in the private or public sector, are such unilateral actions to reduce the effective buying power of wages tolerable.

You, along with many of your colleagues in the House of Representatives, indicated your understanding of the importance of the commissary to the morale of our people last year, and had it not been for distinguished leaders such as you, the battle would have been lost.

Your concern is clearly exhibited once again this year; otherwise, why would you take up precious time to hold hearings and bring the issue out into the open? For this, we are indeed grateful.

In closing, we would urge your subcommittee to reject the administration's proposal to phase out the subsidy in support of the commissary until the Department of Defense has had the opportunity to invoke the sound management system already formulated. We feel that the predicted overall operation of the commissary system can and will reduce the required Government subsidy without reducing the purchasing power of those who have the need for this important benefit.

We hope this will be the final answer.

Mr. MAHON. Thank you very much.

Are there any questions?

Thank you very much for your testimony.

Mr. SIKES. I am happy to have gotten here in time to hear this presentation, Mr. Chairman. This is a very fine group, a very distinguished group and their contributions to the defense of our country are appreciated by all of us.

TUESDAY, APRIL 6, 1976.

NATIONAL MILITARY WIVES ASSOCIATION, INC.

WITNESS

MRS. CAROLINE B. DAVIS, PRESIDENT

Mr. MAHON. Mrs. Caroline B. Davis, National Military Wives Association, Inc.

Mrs. DAVIS. Mr. Chairman, may I introduce some of our board members?

Mr. MAHON. We will be glad to meet them. This is an election year.

Mr. SIKES. Tell us where they are from.

[Introductions.]

Mr. MAHON. What are we going to talk about, Mrs. Davis?

Mrs. DAVIS. More of the same, I think.

Mr. SIKES. You have wounded this member of the committee very deeply. There is nobody here from Florida.

Mr. MAHON. When they get old enough to retire they will go to Florida.

Mrs. DAVIS. We will spend our money down there anyway.

Mr. MAHON. You may proceed with your statement.

Mrs. Davis.

STATEMENT OF MRS. CAROLINE B. DAVIS

Mrs. DAVIS. My name is Caroline Davis. I am president of the National Military Wives Association, Inc., a nonprofit organization which works for the benefit of the military family dependents, widows, and families of retired members of the seven uniformed services: Army, Navy, Air Force, Marines, Coast Guard, U.S. Public Health Service and National and Atmospheric Administration. In its 6 years of existence, the National Military Wives Association has grown to over 2,200 members in the 50 States of the United States and some U.S. bases overseas.

Our organization wishes to join other groups asking that the Commissaries continue to be funded as they have been for the past 30 or so years, and that they be operated to improve their efficiency.

The subsidy for commissaries is an exceedingly small proportion of the 112 billion Department of Defense budget request, but its benefit to service families is enormous.

I have asked many service wives how they feel about the possibility of losing commissary privileges. Everyone of them from young housewives and mothers to retired members' dependents and widows gives similar answers—that they value the use of the commissary. Many, whose husbands have been on active duty only a few years say commissary privileges and savings influenced their family decision to stay in the service.

Our association sent out a questionnaire to widows and found that everyone replied that she used the commissary and valued the savings.

The financial plight of elderly widows whose husbands died without Retired Serviceman's Family Protection plan or before Survivors' Benefits plan (1972) is desperate for some who must rely on social security or have total incomes near or below the accepted poverty level.

What happens if commissaries are phased out?

First. Highly skilled professional workers such as doctors, nurses, engineers, trained at high cost to the Government will be difficult to retain. They will seek more lucrative jobs on the outside.

Second. Retirees, widows, and young families will suffer since there is no plan to increase salaries for the loss of the 20 to 25 percent saving by shopping at the commissary.

Third. Service families will pay a larger percentage of their income to chain stores. This will be a particular hardship for those living in a high priced metropolitan area such as Washington.

Many service wives with small children have taken jobs to supplement the family income. They are frightened by the prospects of continuing inflation in health and education costs and decrease in service

benefits. Frankly, they are very worried! I am worried, too, about the uncertainty of this coming October cost of living pay adjustment.

If the benefits of the uniformed services are continually threatened, our country may find itself with a military service of unionized mercenaries who may or may not protect the citizens in time of national emergency.

Thank you, Mr. Chairman, for the privilege of testifying.

I would like to read a few excerpts from letters we have received.

From Rhode Island:

As a retired family, we find the savings at our local commissary a great savings to us and something we were lead to believe would be our privilege for the rest of our lives.

San Diego:

How about a raise in our compensation as widows? Our husbands served 30 to 35 years and you know what it means on our pay.

Denver:

Phaseouts of commissaries, PX's and medical benefits will leave me crippled (fiancially).
My age: 76 years.
Active naval duty: World Wars I and II.
Medical condition: Cancer outpatient Fitzsimmons Army Medical Center.
Monthly retired income:

Naval Reserve pay	$326
Social security	222
Total	548

San Diego:

I put in 22 years in the Navy. Forty months of this was spent in the South Pacific on submarines in World War II. I have two Bronze Stars and Presidential Unit Citation. Try and get a cup of coffee with these.

Mr. MAHON. Thank you very much.

Have you any further comments you would like to make?

Mrs. DAVIS. No. We would appreciate any cooperation from the committee.

Mr. MAHON. Your statement will appear in the record and we have been pleased to have you. Thank you very much.

TUESDAY, APRIL 6, 1976.

ARMED FORCES MARKETING COUNCIL

WITNESS

JAMES N. JULIANA, EXECUTIVE SECRETARY

Mr. MAHON. Mr. Juliana.

STATEMENT OF JAMES N. JULIANA

Mr. JULIANA. Mr. Chairman, my name is James N. Juliana. I am executive secretary of the Armed Forces Marketing Council, a league of business firms representing manufacturers supplying brand name

consumer merchandise to armed forces personnel and their families through commissaries, exchanges and clubs at military installations both in the United States and overseas. The council has its office at 1750 New York Avenue NW., Washington, D.C.

This committee and the House Armed Services Committee held extensive hearings on the funding of military commissary store operations in the spring of 1975. It was only 10 months ago that I last appeared before you and strongly urged you reject the Department of Defense proposal to make commissary operations self-sustaining over a 2-year period. The council respectfully requests that you again reject the Department's proposal and restore, to the DOD budget for fiscal year 1977, all funds required to continue commissary store operations as a fully appropriated fund activity.

Mr. Chairman, the following factors strongly support such action:

1. After all the testimony and arguments were presented last year, the Department's proposal was overwhelmingly rejected by the Congress; first, by the passage of House Concurrent Resolution 198, and; second, with the passage of H.R. 9861.

2. The proposal before you today in the Department of Defense budget for fiscal year 1977, to make commissary operations self-sustaining by October 1, 1978, is not based on any new factors or development. Recent testimony of the military service chiefs indicates less than full agreement at the Pentagon in support of the proposal. Nevertheless, and in definance of Congress, the Department again proposes action, which you rejected less than 1 year ago, on the very same issues.

3. The military services have already established management improvement goals for commissary operations based on the recommendations made last July by the DOD study group, and should be given every opportunity and a reasonable period of time to implement those goals.

4. The credibility of the armed services own efforts to develop the most efficient and effective commissary systems would be severely damaged if funds for commissary operations are prematurely reduced before major reorganizations of very complex systems are implemented.

5. The successful centralization of commissary management by the services should result in significant operating economies which will eventually result in reduced requirements for appropriated fund support without irreparably damaging their capability to provide the desired benefit to military patrons.

6. The fabric of any military organization is very fragile. The military is a close-knit society, in fact, it is a way-of-life. Families are separated by overseas assignments and by frequent moves. The close-knit military community assures family security. The commissary is a focal point of base activity and military family life.

7. The commissary benefit is a continuing moral commitment and a necessary and vital element of total compensation for the entire military community, active, retired and disabled. It is a basic benefit which must be continued to retain a strong and effective volunteer military force in the national interest.

Mr. Chairman, the Council recommends that military commissary operations continue as appropriated fund activities. We urge you to reject the proposal of the Department of Defense and to restore all funds required for commissary costs to the DOD budget for fiscal year 1977.

The Armed Forces Marketing Council will continue to assist and cooperate with the services in their efforts to fully implement the management efficiency programs already recommended. Thank you.

Mr. MAHON. Thank you very much.

TUESDAY, APRIL 6, 1976.

NATIONAL ASSOCIATION FOR UNIFORMED SERVICES

WITNESS

ROBERT B. LAURENTS, SENIOR LEGISLATIVE COUNSEL

Mr. MAHON. Mr. Robert B. Laurents of the National Association for Uniformed Services.

Mr. Laurents.

STATEMENT OF ROBERT B. LAURENTS

Mr. Chairman and members of the subcommittee, I am Robert B. Laurents, senior legislative counsel for the National Association for Uniformed Services. We welcome this opportunity to appear before you today to offer our comments on one facet of the Department of Defense budget. That is the appropriated fund support of military commissaries.

As a matter of background, our organization is composed of active duty, Reserve and retired, all grades of all the uniformed services and their wives and widows. We include officer, enlisted, wives and widows as full-fledged members. Also, our board of directors has representatives from among all groups within our membership. We say this to emphasize that by including all categories of personnel, we receive a very diverse feedback and obtain a broad understanding of the impact of policy changes.

In Secretary of Defense Donald H. Rumfeld's Annual Defense Department Report to the Congress on the fiscal year 1977 budget, Mr. Rumsfeld recommended a "* * * phaseout of the subsidies for labor and utility costs of military commissaries." He said, "That proposal will involve budget reductions (in current prices) of nearly $400 million annually by fiscal year 1979."

This recommendation, as well as the similar one last year which was rejected by the Congress, has caused tremendous apprehension among active and retired military members, their families, their survivors, and totally disabled veterans. They look upon the privilege to shop in commissaries as a historical benefit without which it may be impossible for some to survive economically. In the past 2 months, we have received over a thousand communications which dealt with this subject.

The most often heard remark in connection with this issue is that

it constitutes a breach of faith on the part of the Government. Recruiting pamphlets and other official documents offer commissary store shopping as one of the benefits of active and retired personnel. It is one of the overall benefits traditionally considered part of military compensation. It is an important factor both in attracting individuals to the military and in retaining them once they have joined.

With inflation eating away at family budgets, the plan to reduce commissary store support and in turn increase prices will have a drastic effect on many of our Nation's lower grade military retirees, a large number of whom retired at the E–6 and E–7 levels and below at a time when pay scales were severely depressed. About half have incomes below $4,000 a year. This is considerably below the national poverty level for a family of four. Many are now at such an advanced age that they are no longer able to hold jobs. They are not eligible for social security, and they are entirely dependent upon their retirement pay.

Also adversely affected are lower grade active duty personnel, about two-thirds of whom earn less than $7,000 per year. To them an increase in the cost of groceries at the commissary is equivalent to a reduction in pay.

We are told that 63 percent of those active duty personnel who use the commissary are enlisted personnel and their families; 45 percent of the commissary patrons are retired; and of this number, some 60–70 percent are retired enlisted personnel and their families. We are told too that food stamps represent some $18 million a year in commissary purchases. We mention this to emphasis that the appropriated funds allocated to the commissaries help those who need assistance the most and who are far from being affluent.

At a time when we witness an increase in fringe benefits in almost every other walk of life, we in the military are being told that one of our traditional fringe benefits, the commissary, must be made more expensive and less attractive.

Almost every group of people working today has a wage and a fringe benefits package. To a great extent, it is the fringe benefits package that makes a particular job attractive. These benefits have a direct impact on the retention of desirable personnel. In the case of the military, a basic reason that fringe benefits have been made available in the past is to offset recognized undesirable conditions of military service.

Consider what some other groups of people receive as compensation for their labor:

1. Those groups represented by the AFL–CIO have cash wages and fringe benefits.
2. The Federal Civil Service have annual wage scales and fringe benefits.
3. The Postal workers have annual wage scales and fringe benefits.
4. The U.S. Congress has annual wage scales and fringe benefits.

The Office of Secretary of Defense and the Office of Management and Budget take the position that today's military pay is comparable with that of the private sector and Federal employees. Therefore, these

agencies reason there is no requirement for appropriated fund support of commissaries. The comparability issue is a myth. It is perpetrated by OSD and OMB staffers who, at best, are transient policymakers. We contend that there is no firm basis for the claim of comparability.

At least three major Department of Defense studies have undertaken to establish pay grade linkages between the military and the Federal Civil Service. None were successful. Some comparisons were possible in the area of level of work. Left out, however, were purely military jobs that have no private sector analog. Only civilianlike components of the jobs offered a basis of comparison. The military-unique aspects of the jobs were explicitly excluded. Unique conditions of military service, including its hazardous aspects and long family separations, were explicitly excluded.

The main disadvantages of service life that have no comparable condition in civilian life are the following:

Risks of death or injury in training or combat.

No right to quit at will.

Subject to duty orders at any time, without regard to irregular or longworking hours or holidays.

No overtime pay or compensatory time off.

Frequent moves, often on short notice, normally without choice of the location.

Family separations, disruptions, lack of stable ties to a home community, lack of school continuity for children.

Reduced opportunity to buy a home or other property investments in a community to build equity.

Loss of certain individual rights.

No vested retirement equity before completion of 20 years service.

If military pay is anywhere near comparable, it is only because of the inclusion of the very fringe benefits that are now under attack. Remove these benefits, and any semblance of comparability disappears.

The OSD proposal, if placed in effect, will greatly undermine morale.

We understand the need to use tax dollars wisely. We too abhor waste, but we cannot accept the argument that the way to reduce defense spending is to reduce benefits to military personnel. We believe there are many other places to save; and if sacrifice is called for, then all segments of our society should share in it equally—not the military community alone.

The saving we are talking about is less than three-tenths of 1 percent of the total military budget. We submit that full appropriated fund support of the commissary stores is economically sound and morally right.

That completes my statement, Mr. Chairman. Thank you again for the opportunity to appear here today. I will attempt to answer any questions you or members of the subcommittee may have.

Mr. MAHON. Thank you very much for your excellent statement.

Mr. SIKES. Mr. Chairman, would you say the lack of questions indicates that this is hard to argue with?

Mr. MAHON. I would say that is perhaps so.

TUESDAY, APRIL 6, 1976.

RETIRED OFFICERS ASSOCIATION

WITNESS

COL. GEORGE F. HENNRIKUS, JR., U.S. AIR FORCE (RET.), CHIEF LEGISLATIVE COUNSEL

Mr. MAHON. We have now a representative of the Retired Officers Association, Col. George F. Hennrikus, Jr.

Colonel HENNRIKUS. Mr. Chairman, we too are concerned as others are, and I would like to present a brief summary of our statement.

STATEMENT OF COL. GEORGE F. HENNRIKUS, JR., USAF (RET.)

Mr. Chairman and members of the subcommittee, I am Col. George F. Hennrikus, Jr., U.S. Air Force Retired, Chief Legislative Counsel of the Retired Officers Association, which has its national headquarters here in Washington at 1625 I Street Northwest. Our association has a membership of over 229,000 retired former and active duty officers of the seven uniformed services. I also represent the Retired Enlisted Association (REA) whose headquarters is in Colorado Springs, Colo.

Since the conditions which motivated our appearance before this subcommittee last June still exist today, Mr. Chairman, I will merely summarize our arguments, which are a part of the record of last year's hearing, and add one or two additional points.

We fully support continued funding of military commissary stores and contend that the proposal to phase out the current subsidy would ultimately lead to the elimination of the commissary system.

The commissary store extends purchasing power for all its patrons. This is most significant for those at both ends of the military career spectrum: the young enlisted people and the junior officers who have served 5 to 10 years and have growing families, and the older retiree—beyond age 60, who is unemployable, and does not have social security to supplement a retirement pay based on the depressed pay scales of the years prior to the mid-60's.

For the military departments, the commissary continues to serve as a strong incentive for recruiting and, in particular, retaining people. It is highly publicized in recruiting literature. Few would dispute the implied moral obligation to continue its operation.

Less well understood, but in our thinking, far more important, is the fact that the commissary is a significant symbol distinguishing the military profession from other occupations. When the Office of the Secretary of Defense elected to base its compensation policy on the principle of pay comparability or competitiveness, it, in effect, negated this distinction. It equated the military careerist with his peers in civil service and the private sector.

If this policy were pursued, the consequences would be catastrophic. For one thing, such course would soon bankrupt the country. Of course, the prohibitive cost is already beginning to be recognized. The 5-percent limit placed on last year's active duty pay raise and this year's budget proposal to limit the next increase to an average 4.7 percent are indicative of this recognition.

But, also, if this course were pursued, our Armed Forces would be manned by people whose only motivation was pay. The kind of dedication so essential to a responsive, responsible force is fostered by more subtle and less expensive means. For the typical individual serving in uniform, service has great meaning, and the rights, entitlements, and benefits which are a part of a military career are perceived as expressions of the Nation's gratitude for that service.

Military department leaders understand this and now it appears some representatives of the Secretary of Defense acknowledge it to a degree. In a hearing held last month in the Senate, Senator Nunn was told by Defense manpower witnesses in answer to his question that, if the Congress accepted this phaseout of the commissary subsidy, plus other reductions being recommended, there would be a negative impact upon retention, morale and readiness.

There are too many people who would permit continued reduction of personnel benefits on the false premise that, if we were forced into an armed conflict, those in uniform at the time would simply hold the line until sufficient numbers were mobilized to achieve victory. As you well know, the time constraints implicit in the most likely scenario for a future major conflict preclude participation by the citizen soldier-patriot of past wars. We will win or lose with the force in being, which, hopefully, would include the Ready Reserve.

We submit that adversaries are not deterred, nor wars won, by caretakers or mercenaries.

Finally, Mr. Chairman, you will recall that last year you reminded Defense witnesses of your repeated requests to make commissary operations more cost effective. You are also aware that, as the result of last year's in-depth study by the Defense Department, the Military Departments are restructuring management of the commissary system and are effecting operational changes. I have had an opportunity, in recent weeks, to talk to some of the people who have been charged with this responsibility. They have confirmed what many of us suspected. There is considerable room for reducing cost without seriously impairing service. Given the opportunity, the improvements that are now being put into effect should result in significant savings.

We ask, therefore, that funding support for the military commissary store be maintained and that consideration of reductions be delayed until every reasonable effort has been made to achieve optimal economies through enlightened management.

Mr. MAHON. Thank you very much.

Mr. SIKES. Mr. Chairman, I think we are fortunate in having representatives from all of these distinguished organizations appear to give us food for thought and reason for considering their recommendations.

In particular I would like to commend the Retired Officers Association for their long years of service to this country. They have been an effective organization for Defense and for fair and proper treatment for the uniformed services for many, many years, and I think we are in their debt.

Colonel HENNRIKUS. Thank you, sir. It is a real honor coming from you.

Mr. MAHON. Thank you for appearing.

TUESDAY, APRIL 6, 1976.

FLEET RESERVE ASSOCIATION

WITNESS

ROBERT W. NOLAN, NATIONAL EXECUTIVE SECRETARY

Mr. MAHON. We now have Mr. Nolan of the Fleet Reserve Association.

Mr. NOLAN. Thank you, Mr. Chairman. The Fleet Reserve Association testimony is slightly different in that the commissary subsidy is one of the five short topics that we would like to address regarding military personnel in the Department of Defense proposed budget.

I have a full statement prepared for the committee. I request permission to proceed with it.

STATEMENT OF ROBERT W. NOLAN

Mr. Chairman and members of this distinguished subcommittee, I am Robert W. Nolan, National Executive Secretary of the Fleet Reserve Association. I represent 128,542 career enlisted personnel and their families of the U.S. Navy, Marine Corps and Coast Guard. It is my privilege to present the views of my shipmates regarding the administration's proposed "Restraints on Defense Planning" in fiscal year 1977.

PRESENTATION

The administration is establishing the priorities of its fiscal year 1977 defense budget had decided to purchase hardware at the sacrifice of achieving equitable compensation for personnel of the armed services. Secretary of Defense Rumsfeld in his initial presentation to the House Armed Services Committee on January 27, 1976, cited nine proposed cost reducing steps in the defense budget. Five of these steps will impact adversely on military personnel compensation. Allow me to comment on each of the five proposals.

RESTRAINING THE GROWTH IN MILITARY COMPENSATION

The fiscal year 1976 5-percent pay cap on Federal employees' pay placed those employees 3 percent behind in pay comparability. The President's pay proposals for these employees in fiscal year 1977 will increase the comparability gap to 6 percent. Service personnel receive basic pay and allowances. The Department of Defense further compounds the pay inequity by proposing that one-quarter to one-half of the proposed pay increase be placed in basic allowance for quarters. Thus, military personnel will receive at best a 2- to 3-percent increase in basic pay. Compare this proposal with the compensation agreement just negotiated between the truckers' unions and the trucking industry and you can understand why the prospect of unionizing military personnel is rapidly becoming a very real threat to our armed services.

ELIMINATION OF "DUAL COMPENSATION" FOR THE NATIONAL GUARD AND RESERVE

For the past several years the administration has been urging employers in the private sector to allow their employees to participate in Guard and Reserve training without penalty in their civilian employment. This year the administration is proposing that civilian Federal employees participating in Guard or Reserve training must choose between their civilian Federal pay and their Guard or Reserve pay. How does the administration expect private sector employers to support the Guard and Reserve if it refuses to do so? We solicit your wholehearted support of the House Armed Services Committee's position on this issue.

REDUCTION OF TEMPORARY DUTY AND PERMANENT CHANGE OF STATION TRAVEL

The Fleet Reserve Association recognizes the real need to reduce unnecessary expenditure of funds for personnel travel. However, we hope that in acting on this proposal you will recognize the Navy's justifiable need for more personnel travel funds than the other services. We urge that any planned reduction of permanent change of station travel be exercised in a manner which will not aggravate the Navy's sea duty to shore duty rotation program.

REDUCTION OF THE PAID DRILL STRENGTH OF THE NAVAL RESERVE

The administration has proposed a 50-percent reduction in the paid drill strength of the Naval Reserve to 52,000 billets. We fear that such a cut will cost the Naval Reserve dearly in the loss of experienced personnel and the ability to attract new personnel. Therefore, we urge you to support the action of the House Armed Services Committee by appropriating funds to support a Naval Reserve strength of 102,000 and to increase the number of units of the junior ROTC to 2,000.

THE MILITARY COMMISSARY SUBSIDY

I am sure that each of you are very familiar with the arguments pro and con regarding the administration's proposal to phase out the military commissary subsidy. Last year this issue was resolved by the House's overwhelming vote of 364 to 53 adopting House Concurrent Resolution 198. All of the reasons that were valid last year for continuing the commissary subsidy are just as compelling this year. A reduction in the commissary subsidy is a reduction in military pay.

The results of the Fleet Reserve Association's survey on commissaries last spring clearly demonstrates the value of these stores to military personnel. Almost 117,000 FRA members were polled. Eighteen percent responded within a 6-week period. In answer to one question, almost 91 percent of the active duty replies stated the availability of commissary privileges in retirement influenced their decision to continue their military careers. The complete poll and its results are provided in enclosure "A" to this statement.

The Fleet Reserve Association's opposition to the administration's proposal to phase-out the commissary subsidy has not eased. There-

fore, we ask that you adhere to your previously expressed support of House Concurrent Resolution 198 in the same strong manner as the House Armed Services Committee has done in its recent action on H.R. 12438.

THE PARADOX IN GOVERNMENT PRIORITIES

The administration and the Congress have placed great emphasis on domestic social programs in recent years. The Department of Health, Education and Welfare's share of the national budget has doubled in the last decade to its current 46 percent. During the same period, the Department of Defense's share of the budget has decreased by half to its current 23 percent. As new billions are being appropriated and spent on welfare and other "people" programs, the Department of Defense continues to whittle away and erode the compensation of the service personnel. We remind you that the men and women of our Armed Forces are productive workers, contributing to the Nation's economy as well as its defense. They are hardworking, dedicated and patriotic taxpayers. American service personnel and their families deserve the opportunity to attain the same standard of living which they are protecting for others.

CONCLUSION

Mr. Chairman, this concludes our statement. We thank you for the opportunity to express our views on this vital issue. I will do my best to answer any questions the committee may pose.

[Attachments follow:]

THE RESULTS OF THE FLEET RESERVE ASSOCIATION'S MEMBERSHIP SURVEY
ON THE SUBJECT OF SELF-SUSTAINING COMMISSARIES

SURVEY POLLED 116,836 F.R.A. MEMBERS VIA THE "NAVAL AFFAIRS" MAGAZINE
FOR MARCH 1975. AS OF 30 APRIL 1975, 21,032 REPLIES WERE RECEIVED

QUESTION #1: WHAT IS YOUR STATUS?

	TOTAL
A. ACTIVE DUTY	10.7 percent
B. FLEET RESERVISTS	15.9 percent
C. RETIRED	71.0 percent
D. WIDOW	1.0 percent

QUESTION #2: WHAT IS YOUR PAY GRADE:

	TOTAL	ACTIVE DUTY
E-1	1.0	2.0
E-2	0.2	1.0
E-3	0.9	1.4
E-4	0.7	1.0
E-5	4.0	7.9
E-6	16.1	25.8
E-7	46.0	29.9
E-8	10.7	10.8
E-9	6.7	8.3
W-1	0.8	0.4
W-2	2.0	1.1
W-3	0.9	1.6
W-4	0.3	0.0
O-1	0.2	0.2
O-2	0.7	0.4
O-3	1.6	1.8
O-4	1.4	2.2
O-5	0.5	1.1
O-6	0.2	0.4
O-7	O-1	-

QUESTION #3: LENGTH OF SERVICE?

	TOTAL	ACTIVE DUTY
UNDER 4 YEARS	1.2	1.6
6 YEARS	0.5	3.2
8 YEARS	0.6	3.3
10 YEARS	0.7	4.4
12 YEARS	1.0	7.4
14 YEARS	1.4	9.8
16 YEARS	1.8	13.2
18 YEARS	2.5	17.0
20 YEARS	41.8	13.2
22 YEARS	21.8	10.3
26 YEARS	15.7	10.3

ENCLOSURE A

QUESTION #4: IF RETIRED, WHAT IS THE RANGE OF YOUR NET MONTHLY RETIRED PAY?

	TOTAL
BELOW $200	2.8
$200 - $300	20.2
$300 - $400	33.0
$400 - $500	14.5
$500 - $600	6.3
$600 - $700	3.7
$700 - $800	2.3
$800 - $900	1.5
$900 - $1000	0.0
$1000 - $1100	0.9
$1100 - $1200	0.6
OVER $1200	0.9

QUESTION #5: ARE YOU:

	TOTAL	ACTIVE DUTY
MARRIED?	88.0	85.8
SINGLE?	2.9	4.7
WIDOWED?	2.7	1.2
DIVORCED?	2.9	3.5
SEPARATED?	0.6	1.0

QUESTION #6: HOW MANY DEPENDENTS DO YOU HAVE?

	TOTAL	ACTIVE DUTY
ONE	39.1	19.3
TWO	23.4	17.7
THREE	15.4	24.4
FOUR	10.1	20.6
FIVE	4.8	8.1
SIX	2.1	3.6
OVER SIX	1.4	2.4

QUESTION #7: DO YOU PATRONIZE A COMMISSARY?

	TOTAL	ACTIVE DUTY
YES	91.9	92.0
NO	1.7	2.5
NO COMMISSARY NEARBY	3.7	2.4

QUESTION #8: IS YOUR COMMISSARY LOCATED:

	TOTAL	ACTIVE DUTY
UNITED STATES?	89.2	86.5
OVERSEAS?	0.8	4.1

QUESTION #9: HOW FAR DO YOU DRIVE (ONE WAY) TO SHOP AT COMMISSARY?

	TOTAL	ACTIVE DUTY
UNDER 2 MILES	4.3	14.7
2 - 5 MILES	12.1	20.3
5 - 10 MILES	20.9	26.2
10 - 15 MILES	16.4	14.9
15 - 20 MILES	11.8	7.9
OVER 20 MILES	31.5	13.5

QUESTION #10: WHAT PERCENT OF YOUR NET MONTHLY BUDGET IS SPENT FOR FOOD?

	TOTAL	ACTIVE DUTY
10 - 15 PERCENT	6.5	8.9
15 - 20 PERCENT	19.2	22.8
20 - 25 PERCENT	29.9	31.0
25 - 30 PERCENT	24.7	23.7
OVER 30 PERCENT	17.4	11.8

QUESTION #11: HOW MUCH DO YOU FEEL YOU SAVE BY COMMISSARY SHOPPING?

	TOTAL	ACTIVE DUTY
10 PERCENT	15.5	16.8
15 PERCENT	26.3	27.8
20 PERCENT	31.6	32.0
25 PERCENT	14.2	12.8
30 PERCENT	5.2	4.4
OVER 30 PERCENT	3.9	3.1

QUESTION #12: DO YOU PREFER COMMISSARY SHOPPING TO COMMERCIAL STORES?

	TOTAL	ACTIVE DUTY
YES	91.1	86.3
NO	2.7	6.4
NO PREFERENCE	3.9	5.5

QUESTION #13: WAS THE AVAILABILITY OF THE COMMISSARY AS PART OF YOUR MILITARY RETIREMENT PACKAGE A FACTOR WHICH INFLUENCED YOUR DECISION TO CONTINUE YOUR MILITARY CAREER TO RETIREMENT?

	TOTAL	ACTIVE DUTY
YES	93.3	90.9
NO	4.6	6.3

QUESTION #14: IF YOUR ANSWER TO THE PREVIOUS QUESTION IS "YES", HOW IMPORTANT WOULD YOU SAY THIS BENEFIT WAS IN INFLUENCING YOUR DECISION?

	TOTAL	ACTIVE DUTY
"SOMEWHAT A FACTOR"	27.4	33.5
"AN EXTREMELY IMPORTANT FACTOR"	53.9	50.8
"I WOULD NOT HAVE REENLISTED"	13.1	8.0

QUESTION #15: DO YOU FEEL THAT COMMISSARY PRIVILEGES ARE (OR WERE) AN IMPLIED BENEFIT OF YOUR ENLISTMENT CONTRACT?

	TOTAL	ACTIVE DUTY
YES	92.9	91.8
NO	4.4	5.8

Mr. SIKES. Mr. Chairman, I am very glad Mr. Nolan, speaking for the Fleet Reserve Association, has covered the wide range of problems that he did.

I find myself strongly in agreement with his statements and here again is a great organization, a very effective organization composed of patriotic men and women who have served effectively in our Nation's defense. We are in your debt, sir.

Mr. MAHON. Thank you very much, Mr. Nolan.

TUESDAY, APRIL 6, 1976.

AMERICAN LOGISTICS ASSOCIATION

WITNESSES

WAYNE DORSETT, PRESIDENT
GEORGE SARVIS, CHAIRMAN, CONGRESSIONAL LIAISON SUBCOMMITTEE

Mr. MAHON. We now have before us Mr. Wayne Dorsett, president of the American Logistics Association and we also have Mr. George Sarvis.

Gentlemen, we will be pleased to hear from you.

Mr. DORSETT. The American Logistics Association welcomes this opportunity to offer testimony on the Department of Defense budget proposals on appropriated funding for commissary operations.

STATEMENT OF WAYNE E. DORSETT

Mr. name is Wayne E. Dorsett. I serve as president of the American Logistics Association. With me is Mr. George Sarvis who serves as chairman of our Congressional Liaison Subcommittee. Also in the audience are William Lazarus, executive vice-president of ALA and others members of this subcommittee.

HISTORY OF ALA

The American Logistics Association was founded in 1920. Today, as a national trade association, we serve in a unique role as liaison between supply and logistical elements of both private industry and Federal agencies. Details on the evolution of our association are a matter of record in statements previously submitted to this and other congressional committees.

PURPOSE OF ALA

ALA's purpose is to promote activities, interests and objectives of companies and individuals actively engaged in the manufacture, sale and distribution of products and services to agencies of the U.S. Government, such as the Department of Defense, and those other Federal agencies and departments active in the procurement and sale of such products and services.

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It is apparent that from our unique beginning, we have maintained a vantage point at the center of U.S. logistical developments. This vantage point provides ALA a special insight into the entire logistical and support process, including commissaries.

ALA MEMBERSHIP

Currently, we have 3,000 industry and individual members of whom over 60 percent are directly concerned with commissaries, exchanges, and clubs. Others are involved in hardgoods, textiles, drugs, and automotive supplies, and have no direct concern with resale activities.

POLICY STATEMENT

The American Logistics Association has unanimously adopted the following policy statement on commissary funding:

The American Logistics Association strongly believes that full funding for commissaries should be continued by congressionally appropriated funds.

By its own actions over the past 20 or more years, and as recently as 1975, the U.S. Government has reaffirmed its commitment to providing meaningful food bill savings to active duty and retired military personnel as an integral part of their total benefit program.

This commitment has been universally recognized as a vital factor in the personal financial planning of military personnel and their families.

The legal status of commissaries should be enacted into law by Congress at the earliest possible date.

The American Logistics Association fully supports the recommendations of the OSD study of military commissary stores chaired by Brig. Gen. Emmett W. Bowers, USA, and firmly believes that centralized commissary management will result in increased operational efficiencies and significant cost savings. We strongly request the Congress of the United States to provide the military services adequate time and the financial support necessary to fully develop and implement their centralization and cost-savings programs.

I would like George Sarvis just to say a couple of words to support our position.

Mr. SARVIS. Thank you, Wayne.

STATEMENT OF GEORGE SARVIS

ALA's position on commissary funding remains unequivocally the same as when we appeared before you a short 10 months ago. ALA's position as stated on May 12, 1975, to the House Armed Services Committee and on June 16, 1975, to the House Appropriations Defense Subcommittee remains the same—reduction or removal of congressionally appropriated funds support for the commissaries is a totally unsound economic decision. The commissary benefit is a promised, necessary, and vital element of compensation for active and retired members of the military community.

The commissary system's growth, and the clear and major contribution this system has made to the growth of the exchange system is the best confirmation that the system is accomplishing its mission. It must be continued in order to retain a strong and effective military force in the national interest.

ALA strongly believes that dollar for dollar, appropriated funding for commissaries represents one of the soundest investments by the American taxpayer on a cost benefit basis.

The effects removal of this funding would have on military personnel recruitment, morale, retention, and readiness will be most adverse. We believe an in depth totally objective study would bear this out.

Several military chiefs in their appearances before your committee and others have indicated that they do not agree with nor support cutting these appropriated funds for commissary operations.

A reduction or elimination of these funds would mandate higher surcharges meaning higher prices in the commissary stores making it extremely impractical for active duty and retired military personnel to continue to use commissaries. And make no mistake about it, reduced store volumes would mean store closings. Commissary closings would have a major impact on the more than 25,000 full-time employees now working in commissaries not to mention a far greater number of people in industry whose sole employment is in support of military commissaries. Commissary closing will certainly add to the already critical unemployment situation existing in our country and likely to exist for several years to come.

A factor that is often overlooked especially by DOD is the negative impact on exchange sales and profit contributions to welfare and recreation if patron usage of commissaries declines. Just as supermarkets build traffic for department stores in shopping centers, current commissary savings induce patrons to shop the total military retail system including exchanges. Reduce the incentive to use commissaries and exchange sales and profits will be adversely affected. As an example, we know of one military shopping center where exchange sales drop 30 to 35 percent when the commissary is closed for formal inventory or alterations.

Additionally, serious concerns arise in an industry that was developed over the years to give commissaries and exchanges the services they require, and which were requested by the Federal Government.

Early in the 1950's, it became apparent that a new industry would be required to satisfy the unique and highly specialized distribution, warehousing, marketing, and pricing needs of the military resale system. Manufacturers invested in specialized marketing and administrative staffs. In many instances, manufacturers assigned selling and merchandising responsibilities to small business organizations, which could more effectively and economically provide the services required to insure the proper flow of product from manufacturer through the commissary, to the patron. Today, these marketing and selling organizations are well established businesses employing thousands of people. All of these jobs would be eliminated if commissary stores were to eventually close as a result of a discontinuance of funding.

I repeat what Mr. Dorsett said * * * The American Logistics Association fully supports the recommendations of the OSD study of military commissary stores chaired by Brig. Gen. Emmett W. Bowers, USA, and firmly believes that centralized management of commissaries should generate significant savings in the cost of operations and will eventually result in reduced requirements for appropriated funds support. Thus, the military patron will continue to realize a savings in food and other costs consistent with the historical and congres-

sional intent for which commissaries were established. We strongly request the Congress of the United States to provide the military services adequate time and the financial support necessary to fully develop and implement their centralization and cost-savings program.

We urge your sucommittee to continue the intent of the Congress as was overwhelmingly demonstrated last year by passage of H.R. 198.

The American Logistics Association strongly supports the continuation of commissary operations as a fully appropriated funded activity.

The ALA stands ready upon request to draw on its vast resources of industry knowledge and experience to assist the Government during this key transitional period of fully implementing the management efficiency programs for commissary operations already recommended.

Thank you for giving us this opportunity to present our views.

Mr. MAHON. Thank you very much, gentlemen.

TUESDAY, APRIL 6, 1976.

NAVAL ENLISTED RESERVE ASSOCIATION

WITNESSES

HOWARD E. SAYERS, U.S. NAVAL RESERVE (RET.), NATIONAL EXECUTIVE COUNCILOR

MASTER CHIEF QUARTERMASTER ALBERT N. CRAWFORD, NATIONAL VICE PRESIDENT

MASTER CHIEF HULL TECHNICIAN GEORGE A. LANGE, JR., NATIONAL TREASURER

Mr. MAHON. We now will hear testimony from the Naval Enlisted Reserve Association. I believe Mr. Howard Sayers will speak for the group.

Do you have someone else with you, Mr. Sayers?

Mr. SAYERS. Yes, sir.

STATEMENT OF HOWARD E. SAYERS

Mr. Chairman and members of the subcommittee, I am Master Chief Parachute Rigger Howard E. Sayers, national executive councilor of the Naval Enlisted Reserve Association. With me are Master Chief Quartermaster Albert N. Crawford, our national vice president, and Master Chief Hull Technician George A. Lange, Jr., our national treasurer. We are serving in our positions without pay and we are here as representatives of the Naval Enlisted Reserve Association, an organization of enlisted Navy, Marine Corps, and Coast Guard reservists. Our membership is primarily composed of enlisted naval reservists and our presence here is to ask you to investigate thoroughly and consider carefully, the rationale behind the proposed reduction in Naval Reserve pay billets. You are well aware that the fiscal year 1977 defense budget submission calls for a Naval Reserve of 52,000 in a paid drill status and the transfer of 40,000 to the Individual Ready Reserve—IRR—where the only training they would receive to maintain their skills would be 2 weeks of annual active duty for training.

In reply to our telegram of January 15, Assistant Secretary of

Defense, William K. Brehm states in reference to those naval reservists transferred from the Selected Reserve to the Individual Ready Reserve:

> Although these reservists will no longer participate in monthly drills, they will remain an important part of the Naval Reserve. They have not been eliminated from the Naval Reserve, and will still be able to continue their Reserve careers.

We take exception to Secretary Brehm's views. It is very difficult to see how these members of the Individual Ready Reserve would be able to continue their Reserve careers which requires the crediting of a minimum of 50 points each anniversary year to count that year as qualifying for Reserve retirement. Just what activity will generate those 50 points?

Certainly not service in the Individual Ready Reserve where the 2 week's training duty and the gratuitous point credit would only add up to 29 points, leaving 21 additional points to be earned each year. We are not here to beat the benefits drum, although there is much concern in the military community concerning the erosion of benefits. Our primary concern is not the ability to continue a Reserve career, or to receive a monthly drill paycheck, or the ultimate goal for faithful service, a retirement annuity at age 60, or any other thing that one could consider a benefit. Our primary concern is national security and our responsibility to do whatever is necessary to insure the survival of this great Nation. If the present philosophy of "get" that is prevalent throughout our society prevails over that of "give" then we will one day lose this Nation to foreign domination and the subject of any benefits for anyone will be a moot point.

In America today where our populace seems to have deviated from the principles of our Founding Fathers, love of God, love of country, love of flag, and love for fellow man, we still have those who voluntarily associate themselves with our Reserve Forces. Prior to the Vietnam debacle this was not hard to understand, as individual support for our Government and patriotism was the accepted norm, but in America in 1976, the fact that we still have those who will take time out from their primary pursuits to participate in Reserve programs and to obligate themselves to fight when called upon is sincerely heartwarming. They come from all walks of life, all professions and occupations, and they are saying to you, we believe in America enough to interrupt our civilian endeavors to separate ourselves from family and friends. To suffer in many cases a reduction in pay or other economic loss. To fight and to lay down our lives if need be so that this country may retain its freedom.

In fiscal year 1968 we had 976 ships in the Navy. In fiscal year 1977 there will only be 489 ships. Our Navy is shrinking, and lest anyone forget, the oceans of the world are not. We are still very much an island nation when we look to the worldwide source of many raw materials we need to sustain our economy and fire our industry. Freedom to transit the seas is a must for the United States at any time. In time of war, the denial of that freedom of transit would begin our strangulation. Loss of sea control would cut our supply lines and prevent us from aiding and supplying our allies. You know all too well of the tremendous increase in the strength of the Soviet Navy, and their continuing efforts to widen the gap with the U.S. Navy. The people of this

country do not want, and cannot afford to support a large Active Navy comprised of volunteers, and we have reduced the size of our forces drastically since our disengagement from Vietnam. If we can't match a potential enemy ship for ship, plane for plane, and man for man, then we must hold superiority in our Reserve backup forces. An improperly equipped and poorly trained Reserve is worse than no Reserve. At least with no Reserve we would have more dollars to put into Active Force hardware. But with a properly equipped and well trained Reserve we derive a force at one-fifth the cost of its Active counterpart.

The Navy's own "OP–605 study" concludes with:

The Selected Reserve should be maintained at a strength of 102,000. This is the minimum requirement if the Navy is to make maximum use of its available equipment in time of war.

The need for 102,000 is well documented and justified. And we stress that this is the acceptable minimum, not really sufficient or the number desired.

The proposal for 52,000 drill pay reservists assumes that 40,000 reservists will continue participating when transferred to the Individual Ready Reserve. Mr. Brehm acknowledges the need for these naval reservists when he states that those transferred to the Individual Ready Reserve will remain an important part of the Naval Reserve. For some unknown reason, Mr. Brehm assumes that those 40,000 reservists who are transferred to the Individual Ready Reserve will continue participating. He believes this when he says that: "They have not been eliminated from the Naval Reserves."

We of the Naval Enlisted Reserve Association feel that Mr. Brehm is being highly presumptuous and although he says they are important and he does not intend to eliminate these reservists, we feel that most of them would eliminate themselves.

The turbulence associated with the numerous studies of the Naval Reserve and the ongoing reorganization has resulted in a significant number of naval reservists transferring to other Reserve components. If the reduction in pay billets occurs, you can expect this exodus to increase. The greatest loss would be of those needed the very most, that is the junior enlisteds in pay grades E–3, E–4, and E–5. Men in these pay grades are for the most part younger men, with recent fleet experience who have returned to civilian life and have embarked on a Reserve career. They have also begun to establish roots as a civilian often involving marriage, children, homeownership, and assumed all the attending expenses. In many cases the money earned from drill pay is a necessity, and if deprived of this source of income, many would either transfer to another Reserve component or seek other means to supplement their income. It is highly doubtful that many would continue as an individual ready reservist subject to mobilization without being offered drill pay. Once lost to the program they would be a permanent loss.

Modern weapons systems have negated two things we used to our advantage in past conflicts. They are the security of distance and the comfort of time. The advantage of distance between our heartland and the enemy has been eliminated. And time to mobilize and train is at best uncertain and by no means guaranteed. This means maintaining

a Naval Reserve that is trained and ready to respond within 24 to 48 hours. Certainly, the first 30 days could well be crucial.

The Navy's total budget for fiscal year 1977 is $750 million. The amount to be saved by transferring 40,000 people to the IRR would be $49.6 million. One further point we would like to make is that the loss of these experienced people would deny our Chief of Naval Operations the training and the availability of one-half of his Selected Reserve Force in order to save one-fifteenth of the Navy's budget. This, we hope you will agree, is irrational and unacceptable.

Thank you, Mr. Chairman and the members of this committee for affording me the opportunity to express the views of the Naval Enlisted Reserve Association regarding the extremely important and crucial issues discussed here today. We stand ready to answer any questions you may have—or to provide additional information to the best of our ability.

Mr. MAHON. Thank you very much. We have been pleased to have your testimony in regard to the Naval Reserve Enlisted Association.

I would say we are pleased to have the testimony of other representatives who have spoken before us this afternoon.

We work, as you know, quite extensively through the year with defense matters. We are anxious to do a good job for our country and we welcome the advice and counsel of people who are involved in our defense programs in one way or another. We thank all of you very much.

Mr. CHAPPELL. I want to commend all of you on the very fine statements which you have made. I concur personally with every one of them.

I hope you will not go home after having made this statement and just leave it in the hands of those of us in Congress. I hope you will get the word to all the Members of Congress the way you feel about these matters.

Mr. SAYERS. Thank you, sir. That is our intention.

Mr. KEMP. I would concur with my friend, Mr. Chappell, and say not only should the Members of Congress get the message, but the people of the country, and anything that can be done to help build in this Bicentennial Year a better understanding of the problems of national defense, and some of the issues alluded to in this testimony is extremely important to those of us on this committee who are trying to stand with you and others in the issues to which you testified, yourself, and I am sure the rest of the witnesses.

I thank you too. I congratulate you on speaking out and standing up.

Mr. MAHON. The committee stands adjourned.

WEDNESDAY, APRIL 7, 1976.

TESTIMONY OF HON. BELLA S. ABZUG, 20TH DISTRICT, NEW YORK

WITNESS

HON. BELLA S. ABZUG

Mr. MAHON. Mrs. Abzug, We are delighted to have you before the committee and we would be pleased to have you present your statement at this time.

Mrs. ABZUG. I want to thank you, Mr. Chairman, for giving me the opportunity to testify today on the military budget for fiscal year 1977. The New York State Presidential primary prevented me from being here yesterday as originally scheduled.

Mr. MAHON. You may revise and extend and submit an additional statement for the record.

STATEMENT OF HON. BELLA S. ABZUG, 20TH DISTRICT, NEW YORK

Mrs. ABZUG. Mr. Chairman, the size of President Ford's fiscal year 1977 military budget and the programs it contains are unwarranted, unjustified and unacceptable. It is necessary to sound a loud and clear call against this budget.

It calls for 7-percent real growth for military spending over this year's budget—while social service programs are being forced to eat inflation.

It is designed to meet an alleged vast new Soviet military threat which seems to exist more on the Pentagon's charts than in the real world.

It calls for an immense real increase of 22 percent in the weapons account—even though our military stockpiles are already overloaded with lethal weapons which are more than adequate to protect this country.

It provides for a first-strike nuclear weapons option when our national policy should be never even to contemplate starting a new holocaust.

It calls for a naval presence on the oceans reminiscent of the imperial navies of yesteryear.

And it envisions the continued militarization of our foreign policy.

President Ford's request for $113.3 billion in obligational authority and $101.9 billion for the expenditure of taxpayers' dollars would make this the largest military budget in peacetime—and greater than for any war as well. Such a big expenditure is bound to please the giant defense corporations which receive annual bailouts from the Pentagon. But it will do far less to improve the real source of our national security—a vital civilian economy and the social well-being of our people.

Our military budget should be based on the following assumptions:

First, we need a military budget for our own needs rather than one which blindly follows the Soviet model.

Second, we need a nuclear policy which relies on deterrence and arms limitation agreements rather than one based on offensive weapons which destabilize the arms negotiations.

Third, American foreign policy does not require sizable forces all over the globe ready to intervene in other countries.

Fourth, our domestic economy can no longer afford a high level of military spending that brings with it inflation, unemployment and industrial decay.

Dire warnings about a new Soviet military threat have been given a wide hearing this year. But on closer examination, much of this threat turns out to be the result of statistical manipulation or of a misreading of the real meaning of the comparisons. There is no basis in fact for the impression of declining U.S. strength. A recent letter

from six members of the Armed Services Committee stated: "What we see today is not a shift, actual or impending, of the military balance toward the Soviet Union. What we see is merely the fruition of a highly capable and well-financed Pentagon public relations effort."

It is not necessary for us to duplicate everything the Soviets do. If they create new army divisions to patrol the Chinese border, there is no need for us to increase our Armed Forces proportionally.

Instead, we must agree on a military budget to fit American foreign policy needs which will take into account only those new threats which directly concern us.

One of the most serious features of President Ford's proposed military budget is that it will dangerously escalate the nuclear arms race. American strategic forces as they presently exist are more than adequate to deter any surprise attack from the Soviet Union. Yet the administration is asking for a 29-percent increase in spending for strategic forces—a larger increase than in any other defense program. Strategic procurement and research will rise an astounding 42 percent over last year because of the B–1, the Trident submarine and missile program, the cruise missile and a counterforce capability.

Mr. Chairman, I feel strongly that there is no need whatsoever for the United States to develop a first-strike or counterforce capability. Neither side today can destroy the other side's deterrent forces by a first strike. This is the core of the long-standing deterrence policy—to concern ourselves only with the security of our own retaliatory nuclear forces and not with wiping out the other side's in a surprise attack.

However, this budget funds programs to develop exactly such a first-strike option. There is over $300 million requested for the highly accurate M–K–12–A warhead and for the M–X ICBM program for placing more accurate missiles and deadly warheads on land-mobile launchers.

This first-strike capability is dangerous, not only because it gives the President the option of a surprise attack, but also because it destabilizes the nuclear balance. If the Russians know that our ICBM's are a threat to their missiles, then they will have a strong incentive to strike first at our ICBM's in order to forestall any such attack.

Unfortunately, the counterforce program is not the only destabilizing item in this budget which could greatly hinder efforts to achieve new arms limitation agreements. The other major danger to SALT is the strategic-range sea-launched cruise missile. Defense Secretary Rumsfield requested $164 million to develop it and the House Armed Services Committee recommended $100 million in authorization for it.

It is difficult to overestimate how unnecessary and dangerous the sea-launched cruise missile is in its strategic connotation. It is a perfect example of how a seemingly small appropriation now will committ us to spending big sums in the future.

The sea-launched cruise missile is militarily redundant because it has a range of only 1,500 nautical miles whereas the Navy's Poseidon submarine ballistic missile has a range of 2,500 nautical miles and the new Trident missile will have a range of 4,000 to 6,000 nautical miles. If the Navy has justified the Trident program on the grounds of maintaining an invulnerable submarine fleet—at a cost of $18 billion for only 10 Trident subs—how can they also justify buying a 1,500-mile range cruise missile which will make the submarines which carry

them more vulnerable because of their need to get closer to the Soviet Union before they are fired? The Navy can't have its cake and eat it too.

Moreover, it's plain that the cruise missile would be vulnerable to Soviet air defenses—generally conceded to be the best in the world—whereas our ballistic missiles would have practically a free ride to targets because of the ban on ABM's.

The fact is that the sea-launched cruise missile's origin was more political than military. After the SALT I Treaty was signed in Moscow in 1972, Defense Secretary Laird came to the Congress with a shopping list of new projects to take up some of the money he would lose because of the treaty. In that list for the first time since the mid-1950's was a submarine-launched cruise missile. Dr. Kissinger supported the program under the "bargaining chip" rationale.

However, this SALT bargaining chip could soon turn into a SALT roadblock. As we go ahead with the development of this militarily useless weapon, we are making any limitation on offensive weapons more and more difficult because it will be impossible to verify—and therefore to restrict—the number of strategic launch vehicles. The sea-launched cruise missile now being developed by the Navy could be launched from attack as well as from strategic submarines and from any specially outfitted surface vessel as well. This would turn every torpedo tube and ship in our Navy into a potential strategic threat to the Soviet Union. What significance would a ceiling of 2,400 strategic delivery vehicles have if each country can have 10,000 cruise missiles as well? The sea-launched cruise missile would in its strategic connotation make arms limitations ceilings into a fraud on the people of America and of the world.

But once the development and testing cycle have been completed and production begins, it will be impossible to control proliferation. The time to halt this threat to future arms agreements is now before production begins. Secretary Rumsfeld said in his posture statement that Soviet sea-launched cruise missiles are "generally short range" and that thus far "there is no evidence as yet that the Soviets possess the technology to pursue over the near term a strategic cruise missile development (p. 56)."

I urge this committee to restrict research, development, testing, and production of any sea-launched cruise missile with an operational range greater than 600 kilometers. Such a restriction would provide urgently needed time to permit an agreement on cruise missiles to be negotiated before production commences. A permanent cap on the cruise missile would be a real boost to our national security.

The other weapons program I would like to comment on is the B–1 bomber, which will account for almost $1.5 billion in the fiscal year 1977 procurement account. With projected costs of almost $100 billion to produce and operate the projected 244 B–1's, this will become the most expensive weapons program in history. I want to add my voice to the chorus of opposition against the B–1 which has arisen from a broad range of political, economic, defense, ecological, and peace organizations.

Militarily, the B–1 adds no significant operational advantage to our current Air Force. Ecologically, the B–1 would damage the delicate ozone layer while generating unacceptable noise levels. Eco-

nomically, the B–1 would waste precious resources and drain tax dollars away from 44 States. Politically, the B–1 would drain economic support away from social programs which benefit working people, the poor, and the elderly.

According to the GAO, the full research and testing program for the B–1 won't be completed until early 1977—almost a full year from now.

The B–1 is clearly the behemoth of next year's military budget. I feel strongly that it must be stopped now before production begins. I urge this committee to recommend against any appropriations for the B–1 bomber.

In conclusion, I would like to discuss the impact of this huge military budget on the Nation's economy.

"The general mood around here is bullish," a top Litton executive told "Newsweek" last week. With so much pure waste and inefficiency in the procurement budget—the Pentagon is requesting over $1.6 billion in cost-overruns for ships recently built—and with the decline in competitive bidding for DOD contracts, it is easy to understand why the big defense corporations may be the biggest winners of all in this budget.

Yet the old notion that a big defense budget produces prosperity is more myth than reality. Continued use of economic resources for military projects is doing irreparable harm to our Nation's economy. I believe it is time for the Congress to hold hearings on just how the shift of funds for capital development, research, and technology toward the military sector affects the rest of the economy.

There are several areas in which such hearings could examine how defense spending is hurting our economic growth and development. First, defense spending feeds inflation by producing goods which are not exchanged in the marketplace while at the same time creating more spending power. With more wages chasing fewer goods, the result is higher prices.

Second, defense spending diverts capital away from the civilian industrial plant and the improvement of our cities and mass transportation. The result is a lower level of productivity caused primarily by antiquated industrial machinery. At least $1,600 billion were spent for military purposes between 1945 and fiscal year 1976—an amount equal to two-thirds of all reproducible goods in the United States, according to Columbia University economist Dr. Seymour Melman. The wealth for rebuilding our economy and cities exists—except that it is being diverted to useless weapons and preempted by the military sector to a degree unwarranted by any security considerations.

Third, research indicates that dollars spent on defense result in fewer job opportunities than would be produced by a similar expenditure in areas of the civilian sector; $1 billion of U.S. Government spending, according to Dr. Melman, generates 80,041 jobs if spent on health care, 104,019 jobs if spent for education and 75,812 jobs if spent by the Pentagon.

We can see how this works in New York State with the B–1 bomber program. If the average annual amount in B–1 contracts given to New York over the 15-year life cycle of the B–1 production program—approximately $171,800,000—is divided by the average annual number of jobs created by these B–1 contracts—about 3,000—the astonish-

ing result is that the annual average cost for creating a single job in the B–1 program is $57,300. Imagine how many teachers or health workers or day care supervisors could be hired for a similar outlay of $57,000. At least 20 States with B–1 contracts would show an even higher cost per job than New York.

Fourth, huge defense burdens carried by the taxpayers result in a drain of resources away from States and localities and toward the Federal Government and the Pentagon. Where are the critics of big government when it comes to the Pentagon? If we examine the impact of the B–1 program in New York State, we find that over the 15-year period our citizens will be paying out over $500 million more in taxes to Washington for the B–1 than they will get back in State contracts. For the period fiscal year 1970 to fiscal year 1975, New York taxpayers have already paid out over $160 million more for the B–1 than they received through contracts and subcontracts. This represents an average return of only 19 cents for each tax dollar. These are the findings of research done by the American Friends Service Committee last month based on data from Rockwell International, the main producer of the B–1.

Mr. Chairman, we need a national defense structure capable of protecting our country from potential adversaries and for having the capacity to secure our most important and vital foreign policy interests.

But this budget calls for much more than that. It supports a force structure that makes it appear that our intention is to remain the policeman of the globe. We need sanity in the nuclear arms race, not first-strike capability. We need strong defense capabilities, not offensive weapons of provocation and intervention. We need reasonable and cost-effective purchasing procedures, not extravagant welfare schemes for the giant corporations. We need national priorities to support the total welfare of our country, not just a narrow military definition of national security.

Our biggest defense is with the American people and their welfare.

Mr. MAHON. Your point appears to be that you are in favor of an adequate national defense program, but you feel the President's budget proposes a program which is unneeded. I believe that is your point.

Mrs. ABZUG. That is correct. And I have indicated some of the areas where I feel that is the case.

Mr. MAHON. Of course we recognize that the Defense Department exists for the purpose of providing defense and security and should not be supported as an economic weapon against unemployment. Of course, we have to agree that if we should eliminate such programs as the B–1 and the Trident, there would be considerable unemployment in certain areas as a result.

Mrs. ABZUG. Based on the research I have seen, it seems to me that dollars spent on defense result in fewer job opportunities than can be reduced by a similar expenditure in areas of civilian production.

A billion dollars of U.S. Government spending, according to Dr. Melman, with whom I am sure you are familiar, generates 80,041 jobs spent on health care, 104,019 jobs spent for education, and 75,812 jobs if spent by the Pentagon.

There are many figures that support such a conclusion, Mr. Chairman.

I do not think that in this great country of ours we should say that the only way workers can be employed is if we continue to produce the weapons of death and continue to move this continent and this earth toward confrontation rather than toward a peaceful solution of our problems.

I think I have discussed this with you before, Mr. Chairman.

I realize that we have been through many difficulties in the international community. We do have differences with other political systems in this world.

But it is my opinion that, in the final analysis, that the most effective competition with those other systems is to make our system prove much more attractive than those systems. We have to provide, it seems to me, the opportunities in our system for a job for every human being who can work. We have not yet done that.

We have to find ways to solve the questions of disease and of hunger and the problems of the elderly. We must provide opportunities for education. We need to eliminate crime and drug abuses and the like in our society.

If we can show that the United States, which is the greatest democracy, can produce the most for a majority of its people, then we will have won the race against other political systems. That is how we win it, and not by overstocking our weapons stockpiles or by building bigger and bigger weapons which will ultimately become useless in our arsenal of destruction.

Mr. MAHON. There is room for difference of opinion as to what we should have done about an antiballistic missile program. We pursued an antiballistic missile program at great expense. We spent several billion dollars, probably as much as $5 billion on this program, but the planned deployment was outlawed by an arms control agreement with the Soviet Union to a very considerable extent.

On the other hand, if we had done nothing about building an ABM, it may be that we would be in a much more unfavorable position vis-a-vis the Soviet Union. Would you agree?

Mrs. ABZUG. Well, I don't agree, Mr. Chairman. I opposed the development of the antiballistic system which was current in debate at the time I first came to Congress in 1971. I said then—and I now have, I think, a certain amount of credibility because of what I then said—that the ABM was not going to provide any meaningful help to our defense posture.

I believe now that some of the weapons systems to which I have referred could be eliminated and we could still maintain the important defense posture of this country. I have testified to that in the past. I testify each time I can on this matter because I think there is a difference of opinion. We are being overwhelmed by a mechanism that just keeps growing and it is not being stopped.

I was a student at college when World War II broke out. We had lots of problems. We pulled our Nation together and we conducted a significant struggle and we were victorious. The democratic forces were victorious over fascism and the Fascist threat.

There has to be a national purpose. We had an enormous national purpose then. We were able to pull together and do what was necessary to defend and protect not only this country but the systems of democracy all over the world.

However, when we overemphasize military spending and distort the priorities in this country so much that we give people the feeling that we are not really interested in their defense and their security, we actually destroy the national will and the national purpose. We end up disillusioning people. We disillusion young people and others.

Our spending of $175 billion on the war in Vietnam is a perfect example. You and I have had differences on that subject, Mr. Chairman, but the fact is that we suffer a tremendous distortion of our economy as a result of that expenditure, not to mention the terrible human losses to our dear ones in this country and in Vietnam.

It is time that we recognize that we have to change and analyze what are the real priorities confronting this country, particularly in this Bicentennial period.

Mr. MAHON. We are pleased to have your views.

Are there further questions?

Mr. KEMP. I have a question, Mr. Chairman. Mrs. Abzug, in response to your suggestion that we are producing weapons of death—and I know that you favor as do I, military aid to Israel, let me ask you—why is the F–4 Phanton jet a weapon of death but a weapon of mercy and peace for the Israelis?

Mrs. ABZUG. We had the same discussion earlier when I appeared before this committee.

Mr. KEMP. The question is more relevant today.

Mrs. ABZUG. It is very relevant and your approach to that is quite evident.

Mr. KEMP. As is yours. I want the record to be clear.

Mrs. ABZUG. Let me make this clear to you: Throughout my statement I made it clear that we need a defense program which is proper for our own defense posture and which is consistent with our foreign policy.

I am not suggesting in this testimony anywhere that we should not provide certain weapons for our own defense and for the defense of democratic nations that are being threatened with survival such as Israel.

Mr. KEMP. How about identifying for the committee the weapons that you think would be consistent with your defense priorities?

Mrs. ABZUG. I have indicated what I think are inappropriate and I can't supply—I will supply it for the record if you like.

Mr. KEMP. You are against the ABM; you are against the intercontinental ballistic missiles; you are against the advanced technology of the intercontinental ballistic missile; and you oppose the cruise missile, the Trident, and B–1.

Tell the committee what weapons you think would best serve our defense needs?

Mrs. ABZUG. I object to at least most of the five or six that you have pointed out.

Mr. KEMP. But that includes the three legs of the triad upon which our whole deterrent to war is based.

Mrs. ABZUG. I disagree with you, that is all.

Mr. KEMP. How about identifying for the committee——

Mrs. ABZUG. These are the only ones I am objecting to now because they are the major items under discussion.

Mr. KEMP. We have spent months of hearings in this committee and take our responsibilities very seriously.

Mrs. ABZUG. I know that you have.

Mr. KEMP. And you have suggested that all of these hearings and all the testimony before this committee is solely predicated upon a Pentagon public relations campaign.

Mrs. ABZUG. No; not all of it.

Mr. KEMP. Well, your testimony alludes to that charge.

Mrs. ABZUG. I was just quoting what was stated by six members of the Armed Services Committee. There is a quote in my testimony.

Mr. KEMP. Then what justification do you have for suggesting that this is just a Pentagon campaign?

Mrs. ABZUG. Many of these weapons are not necessary and this has been suggested by testimony before this committee and testimony of persons who are expert as well as persons who were formerly in the Defense establishment, whose testimony I happen to agree with.

We can disagree, Mr. Kemp. I realize that you are much more expert than I.

Mr. KEMP. I am not an expert but I am trying to learn to look at the facts.

Mrs. ABZUG. I am reflecting what I think is my responsibility as a Member of Congress.

Mr. KEMP. You have been treated with respect in this committee and I will say this to you, one of the ways in which we learn is through the give and take of hearings, questions and answers, and indeed provocative questions. I believe you should take our questions in the spirit of that process.

Let me ask, what is your response to the Library of Congress study which suggests that the strategic quantitative balance continues to shift towards the Soviet Union while our qualitative superiority never in the first place compensated completely and in certain respects is slowly slipping away?

Mrs. ABZUG. What page are you reading from, Mr. Kemp?

Mr. KEMP. Page 41 of the study done for Senator Culver by the Library of Congress, "U.S./Soviet Military Balance," a report of January 21, 1976. Have you read that?

Mrs. ABZUG. No, I haven't read that. I am sorry. I will be glad to respond to it. I did, I think, allude to the general proposition in my remarks. There have been several documents which I am sure you have read which indicate that there have been some distortions in the comparisons of our various defense capabilities and the expenditures, both in the Soviet Union and the United States. I am sure you have read those documents. Some of those were produced by Mr. Aspin and others through GAO. I take that very seriously.

I have looked at the comparison of United States and Soviet defense capabilities in a very interested way as I am sure this committee has.

Mr. KEMP. I would hope you will read that and I ask that it be added to the record immediately following our remarks.

Mrs. ABZUG. I am glad you called that to my attention. I certainly will be very happy to.

Mr. KEMP. When Mr. Rabin was here, Prime Minister of Israel, he made a statement that got great applause in the Chambers of Congress from both sides of the aisle, and I will never forget it. He said, "Weak-

ness is no precondition to negotiation." In other words, when you negotiate you cannot enter into successful negotiations from a position of military weakness. I suggest that had this committee followed your advice and unilaterally stopped all these programs we would be helpless at the negotiating table. We wouldn't have an ABM treaty because if it hadn't been for the ABM system there wouldn't have been an ABM treaty. Russia would have had no reason to enter into an agreement with us and I suggest there would be no reason for the Soviets to enter into an agreement with us at SALT over cruise missile if we are unilaterally, as you suggest, going to stop a program which they show no sign of anything but full development.

When you make unilateral concessions, you prevent the success of negotiations and indeed may precipitate adventurism on behalf of adversaries.

Mrs. ABZUG. I want you to understand my point on the cruise missile. It is very important that you do. I am suggesting that, in view of the fact that there are bilateral negotiations already taking place, that we stop any testing of the cruise missile long enough for us to ascertain whether we are able to achieve any kind of agreement on this system.

My concern about the cruise missile is that should be proceed with it, since that is a subject of possible negotiation and is a subject of negotiation in the SALT talks, that we might be foreclosing the possibility of ever reaching an agreement on it.

I am merely suggesting that we halt testing long enough to ascertain that. That has been my position.

Mr. KEMP. You don't think the development of it would help force them into that position?

Mrs. ABZUG. I find that difficult to understand. You produce a weapon so you can have a treaty to outlaw it.

Mr. KEMP. Why are the Soviets so anxious for us to stop? Why would they be interested in negotiations if it is such a useless military weapon? It isn't useless to them; they've already deployed it as a tactical weapon and are working on a strategic one.

Mrs. ABZUG. I don't speculate into the minds of the leaders of the Soviet Union. You know, Jack, I am a little older than you are. As I indicated, I was a student at college during World War II. Ever since that time and that is a lot of years—I am 55 now so that was a long time ago in the forties—we have been talking about an attack from the Soviet Union.

Mr. KEMP. Hasn't our military strength helped deter that attack?

Mrs. ABZUG. And we have developed this enormous Military Establishment and Defense policy.

Mr. KEMP. What has deterred that attack in your mind?

Mrs. ABZUG. Well, I think that neither country at this stage of nuclear capability wants to destroy the other because it would mean destroying the world. A deterrent policy, which has been our posture, is an appropriate one. It has worked in its own way but I don't think that it can go on endlessly.

After World War II, there was one nation with a nuclear capability. Now there are five. Perhaps 22 have the potential to join the club. So nothing can go on forever. That nuclear doomsday clock is ticking away and if we don't realize that we are either going to spend ourselves out of existence or blow ourselves out of existence, then we are

really making a mockery of everything that we do in the Congress of the United States.

Mr. KEMP. Well, not having been in college in 1941, but my understanding of history tells me that it was the weakness of the 1930's that was provocative. Unilateral military concession did not bring peace to Europe; it did not bring peace to the Czechs or the Austrians or the Rhineland or the Sudetenland or to Poland, France or Britain, on the contrary it led to the worse war in the history of mankind.

Mrs. ABZUG. Let me tell you something about that war if you want to know something about it. The real problem was the rise of fascism in the countries in Europe. Let's not raise some other issues that have nothing to do with it.

Mr. KEMP. I respectfully disagree. Concessions to Nazi Germany that had a lot to do with it by feeding his appetite. The more we appeased Hitler the more bold he became until it was almost too late.

Mrs. ABZUG. By the way, fascism is also a system of force. That is what disturbs the peace in the world.

Mr. KEMP. In 1941–45 it was the military capability of this nation that helped bring peace to Europe and the world, but today we have an even greater threat to world peace by Communist Russia.

Mrs. ABZUG. I never underestimate the contribution made by the armed forces in this country, but we also had an enormous national will and purpose which we have not had now for a long time. Of course, there is a big difference of opinion as to what served the national will.

Mr. KEMP. It seems to me that to allow ourselves in this committee and in this Congress to follow your advice and put an end to the programs to which you have testified against, it would unilaterally consign the United States to second place and I think it would be provocative; it would mislead this country into believing that weakness brings about peace when in fact it does not; it leads to aggression as it did in the 1930's.

Mr. Solzhenitsyn the other night on television for an hour told the British people and the West that the spirit of Munich is as alive today in the world as it was in the 1930's, and that spirit is the willingness to trade in other people's freedom in the hope of peace.

Frankly, the only thing standing between the free world and slavery is the ability of this Nation to stand up militarily to aggression.

Mrs. ABZUG. Well, that is an interesting comment. I don't agree with you entirely, as you know. I think this country is capable of maintaining the freedom that it has and of helping other countries that are committed to democracy maintain their democracies by demonstrating through example the way we manage the richest country in the world, use our resources to feed and clothe and house our people, use our resources to aid other nations through economic assistance so that they can develop their own resources and their own strengths. We need to use our capacity to help other nations militarily when they are threatened with extinction or survival as Israel has been.

I don't agree that the only path is this path. That was the argument used in Vietnam. You were a strong proponent of it; I was a strong opponent of it. I think my position turned out to be correct. Yours turned out to be——

Mr. KEMP. Mr. Chairman, I will be glad to yield further but I just refuse to sit here and allow myself to be accused of proposing the Vietnam war.

Mrs. ABZUG. No, no, no, no, no. I mean its continuation. Excuse me.

Mr. KEMP. I was not a proponent.

Mrs. ABZUG. Certainly not. You were busy doing other things at the time. Playing football and enjoying yourself. You are, after all, a young man.

Mr. KEMP. I just want to make sure that the record is clear, when I came to Congress in 1970 I wanted it ended as quickly as possible, but ended in such a way that would not lead to further aggression and that would not lead to the forced communization of 18 million South Vietnam citizens. I hope you will provide for the committee those programs that you think would help assure the survival of the precious gift of freedom which I consider to be as much a requirement of people as life itself.

Mr. MAHON. We have a rollcall and we have to go vote.

It is easy to argue about the issues of the past as to who is right and who is wrong. It is difficult to prove who is right. But, as you know, after World War II this country embarked on a policy of containment of the spread of communism. That policy led us to Korea, that led us to land troops in Labanon at one time; it led us into many areas. The American people would still like to see communism contained. How to do it, of course, is another problem.

Mrs. ABZUG. I think the American people have got to understand that certain assumptions which underlie that policy are incorrect and that, as I tried to indicate earlier, Mr. Chairman, the way to show the world and our own people which system is superior is to show which can produce the most for its people. We went into Vietnam to contain communism. In many other places we have propped up and supported dictatorial regimes against the interests of the people in those countries. This interventionism has only resulted in the reversal of our policy and I think we have to reassess that whole policy that was developed, Mr. Chairman.

Mr. MAHON. All right. Thank you very much, Mrs. Abzug. We will suspend until we have an opportunity to vote.

[The study referred to by Mr. Kemp follows:]

94th Congress
2d Session

COMMITTEE PRINT

UNITED STATES/SOVIET MILITARY BALANCE

A Frame of Reference for Congress

A STUDY

by

THE LIBRARY OF CONGRESS

Congressional Research Service

JANUARY 1976

Printed for the use of the Senate Committee on Armed Services

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LETTER OF TRANSMITTAL

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, D.C., January 22, 1976.

Hon. JOHN C. STENNIS,
Chairman, Senate Armed Services Committee,
212 Russell Senate Office Building,
Washington, D.C.

DEAR MR. CHAIRMAN: At my request, the Congressional Research Service of the Library of Congress has prepared a detailed study on "The United States/Soviet Military Balance" as a frame of reference for consideration of the Defense Department budget request. A copy is enclosed.

I believe that this study is balanced, detailed, and thought-provoking. It has been reviewed by over 100 knowledgeable persons in the Executive and Legislative Branches. It contains the most comprehensive and current unclassified data on the relative strengths and weaknesses of the Soviet Union and the United States. It also suggests questions (rather than answers) which the Committee and the Congress might want to ask in evaluating our national security needs.

In order to give this study the wider circulation which it deserves, I respectfully request that it be published as a Committee Print.

Sincerely,

JOHN C. CULVER.

Enclosure.

THE UNITED STATES/SOVIET MILITARY BALANCE

A Frame of Reference for Congress

A STUDY

by

JOHN M. COLLINS
Senior Specialist in National Defense

JOHN STEVEN CHWAT
Research Assistant

THE LIBRARY OF CONGRESS
Congressional Research Service

January 21, 1976

ABSTRACT

The Soviet Union, alone among all countries in the world today, has sufficient strength to challenge America militarily in many areas of mutual interest overseas and bring power to bear on our homeland. Other countries, large and small, routinely pose additional threats that our leaders may wish to deter or deal with successfully, but the balance between U.S. and Soviet armed forces generally offers the best yardsticks with which to measure U.S. national defense requirements. Appraisals contained herein therefore afford a unique frame of reference for reviewing U.S. military posture in general and the defense budget in particular.

Part I, which introduces evidence, identifies a strong shift in the quantitative military balance toward the Soviet Union over the past 10 years. That conclusion comes as no surprise. It crops up annually at budget time, when Pentagon spokesmen call for more dollars with which to shore up this country's defense.

Raw statistics, however, are significant only in context. What each side *has* is less cogent that what U.S. armed forces can *do* on demand, despite Soviet opposition.

This study, which begins analysis at the point where most others stop, consequently compiles and applies a set of force sufficiency factors for ascertaining "how much is enough?", a question often asked by U.S. leaders, but never objectively answered.

Part II identifies some imbalances as important, others as immaterial, then goes on to examine the match between U.S. ends and means. One salient finding seems evident: misplaced priorities in many cases make poor use of available funds, by stressing inadvisable policies and inessential capabilities at the expense of critical sectors.

Part III, keyed to 45 multipart questions for Congress, suggests ways to mate realistic ends with measured means, minimizing risks in the process.

—Step One is to ascertain real requirements, predicated on imperative U.S. interests, objectives, and commitments.

—Step Two is to reshape U.S. force structure, defense policies, and fund allocations so they correspond.

—Bolstering budgets is the *last*, not the *first*, resort.

A national defense debate, with serious participation by parties of all persuasions, would sharpen issues and identify optimum options. This study of the U.S./Soviet *military* balance (as opposed to the total *strategic* balance, which involves political, economic, social, and other aspects of national power) is intended to lay part of the groundwork for Congressional contributions, not just this fiscal year, but in the future.

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A Frame of Reference for Congress

> It is not true that more is always better than less, or that the nation could always use more. The United States could have ten times as many . . . forces as the Soviets and still not have enough, or one-tenth as many and have too much.
>
> ALAIN C. ENTHOVEN
> K. WAYNE SMITH
> *How Much is Enough?*

BACKGROUND, PURPOSE, AND SCOPE

The Soviet Union, alone among all countries in the world today, has sufficient strength to challenge America militarily in many areas of mutual interest overseas and bring power to bear on our homeland. Other countries, large and small, routinely pose additional threats that our leaders may wish to deter or deal with successfully, but the balance between U.S. and Soviet armed forces generally offers the best yardstick with which to measure U.S. national defense sufficiency.

Comparing military credits and debits, however, is a complex matter. Good big armed forces, for example, are almost always superior to good small ones. Quality commonly prevails over quantity only up to a point, beyond which numbers clearly take precedence. Still, great size can impede rather than improve performance, unless calculated to serve essential interests. Technology, in turn, is a poor substitute for first-class strategy. Reserve components augment active elements. Allies sometimes add to or detract from regional capabilities. Present status may be less meaningful than projections. A cornucopia of constraints condition capabilities. Consequently, some asymmetries between U.S. and Soviet armed forces are important, others are immaterial.

The purpose of this paper therefore is twofold:

—First, to furnish the Congress with an objective analysis of the United States/Soviet military balance.[1]

—More importantly, to provide a starting point for Congressional debate on the subject.

Coverage comprises three sections:

—Part I introduces evidence as dispassionately as possible.

[1] The *strategic balance* between two countries or coalitions involves all elements of national power: political stability at home and leverage abroad; national institutions and values; geographic strengths and weaknesses; the economy, especially natural resources, industrial capacity, and finances; the people, including their numbers, location, character, morale, and education; the scientific and technological base; and, as the integrating factor, leadership. This study is devoted exclusively to the *military balance*, which is just one specialized aspect.

—Part II examines that evidence in ways that segregate significant U.S. shortcomings from those that are superficial.
—Part III suggests ways to remedy flaws by rematching ends with means.

Conclusions concerning Soviet intentions and certain qualitative considerations are strictly circumscribed by the absence of classified information in this study. Statistical summaries that form the framework for analysis coincide with official figures in some cases, and slightly conflict in others. Such deficiencies are matters of minor detail that do not affect any findings.

The end product, which supports no special brief, avoids branding the evident balance as either "good" or "bad." Instead, it affords the Congress a frame of reference for shaping its own consensus, if so inclined, in open and executive sessions.[2]

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[2] See Annex D for a glossary of specialized terms. Annex E summarizes abbreviations.

PART I. EVIDENCE INTRODUCED

THE QUANTITATIVE BALANCE

The quantitative military balance since 1965 has shifted substantially in favor of the Soviet Union (see Figure 1 and Annex A for present status and trends). Indeed, no less a scholar than Harvard's Samuel P. Huntington identifies "the relative decline in American military power" as the "preeminent feature in [contemporary] international politics." [1]

This section simply displays comparative statistics. Their true significance is revealed only in context with other relevant factors, which are reviewed in subsequent segments. Readers therefore should postpone personal conclusions until *all* pertinent evidence has been introduced and examined.

Strategic nuclear

This country's numerical superiority in strategic nuclear weapons, which was still evident a decade ago, has dissolved.

The United States had three times as many intercontinental ballistic missiles (ICBMs) as the Soviet Union in 1965 (854 to 224). The Soviets had more ballistic missile submarines (SSB, SSBN), but we had four times as many sub-launched missiles (SLBMs, 496 to 120), because U.S. boats mounted 16 tubes each and theirs averaged only three. Neither side had yet deployed multiple independently targetable reentry vehicles (MIRVs), but 176 of our Polaris A–3 SLBMs carried three multiple reentry vehicles (MRVs) each by June 1965, so the warhead totals stood at 1,702 U.S. and 344 Soviet. [2]

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[1] Huntington, Samuel P., After Containment: The Functions of the Military Establishment, The Annals of the American Academy of Political and Social Science, March 1973, p. 5.

[2] MRV data furnished by Office of the Chief of Naval Operations, January 16, 1976.

FIGURE 1.—*United States/Soviet numerical balance*

[See Annex A for details]

U.S. SUPERIORITY		SOVIET SUPERIORITY	
STRATEGIC NUCLEAR			
Bombers	MIRVs	ICBMs	SLCMs
ALCMs	Warheads	SLBMs	Air defense
TACTICAL NUCLEAR			
Fighter/attack aircraft		Missiles	
Artillery		Medium bombers	
GROUND FORCES			
Marines	Anti-tank Weapons	Personnel	Tanks
Helicopters	Logistic tail	Divisions	Artillery
		Air defense	
NAVAL FORCES			
Aircraft carriers		Attack Submarines	
Aircraft afloat		Cruise missile ships	
		Combat boats	
		Aircraft ashore	
		Mine countermeasure ships*	
TACTICAL AIR FORCES			
		Fighter/attack	
		Airlift	
STRATEGIC MOBILITY FORCES			
Airlift		Sealift	

*Not shown in Annex A.

Today, the United States lags in every category, except for MIRVed launchers and aggregate warheads. Continued U.S. ascendancy in quantities of heavy bombers and air-launched cruise missiles [ALCMs][3] compensates in part, but Soviet superiority in sea-launched cruise missiles (SLCMs) offsets that advantage to some extent.[4]

The United States/Soviet balance between anti-ballistic missile [ABM] forces is close to irrelevant, since neither country ever deployed extensive installations. Air defense assets, however, are a different case. This country, in conjunction with Canada, maintained the world's most comprehensive system in the mid-1960s. Ten years later, that accumulation has been cut to the bone. Only 12 dedicated fighter-interceptor squadrons, half in the Air National Guard [ANG], will remain after phaseouts are complete.[5] All surface-to-air missile [SAM] batteries once assigned to the Army Air Defense Command

[3] Short-Range Attack Missiles (SRAM) now are deployed by U.S. Strategic Air Command (SAC). Medium-range ALCMs and SLCMs are in research and development stages.

[4] Shaddock, which is the only Soviet SLCM with strategic nuclear capabilities, is essentially an anti-ship missile.

[5] Present plans will eliminate six F-101 squadrons from the ANG by the end of FY 1977, reducing U.S. fighter-interceptor strength to 12 active and reserve F-106 squadrons. Schlesinger, James R., Annual Defense Department Report to the Congress on the FY 1976 and Transition Budgets, FY 1977 Authorization Request and FY 1976-1980 Defense Programs, Washington, D.C., U.S. Govt. Print. Off., February 5, 1975, p. II-41. Updated telephonically by Office of the Joint Chiefs of Staff (J-5) on November 5, 1975.

(ARADCOM) were inactivated in FY 1974.[6] By way of contrast, the Soviet air defense shield currently contains 2,700 interceptor aircraft and 12,000 SAMs.[7] That agglomeration, which is larger than ours at its apogee, is constantly being improved.

Tactical nuclear

U.S. tactical nuclear delivery systems are concentrated in general-purpose land- and carrier-based fighter/attack aircraft and tube artillery.[8] Conversely, the Soviets feature specialized cruise and ballistic missiles, although impressive Backfire bombers are beginning to supplement their fleet of obsolescent Badgers, whose penetration prospects are poor against well-defended targets in Eurasia.

Air power gives the United States an evident *global* edge in forces for tactical nuclear purposes. The Soviets, in turn, evince extreme quantitative superiority in *central Europe*, where their surface-to-surface missiles outnumber ours by about 10:1 and their 700 nuclear-capable aircraft by something like two-to-one.[9]

Ground forces

The numerical strength of U.S. ground forces, including Marines; has never matched Moscow's massive army. Soviet personnel strength presently is 2½ times that of the U.S. establishment, and our divisions are outnumbered 9:1 (168 Soviet, 19 U.S. Army/Marine).[10] Some 9,000 U.S. main battle tanks compare unfavorably with 34,500 in the Kremlin's armored force,[11] which has 40,000 steel-plated personnel carriers, double the size of the U.S. contingent. Their stock of anti-tank (AT) missiles is almost triple ours.[12] America has only two clear quantitative advantages: we have many more helicopters, and the U.S. Marine Corps dwarfs its Soviet counterpart, which fields a small fraction as many men (197,000 to 12,000), has no divisions, and no organic air support.

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[6] Ibid, p. II–42; update identical. Seven Nike Hercules batteries (3 in Alaska, 4 in Florida), plus four Hawk batteries in Florida, currently are under operational command of Air Defense Command (ADCOM), but are available for tactical deployment overseas.

[7] There are 9,500 SAM launchers in the Soviet inventory. Some have multiple rails. The number is decreasing somewhat, but electronic counter countermeasures (ECCM) are improving at current sites, according to Defense Intelligence Agency on January 15, 1976.

[8] The U.S. Army has some nuclear capable missiles and atomic demolitions. Our Navy's Terrier and TALOS missiles are nuclear capable in surface-to-surface and surface-to-air modes. The Navy also has nuclear depth charges. Nevertheless, our tactical nuclear might is mainly as noted above.

[9] The Soviet Air Force has only about 350 pilots qualified in tactical delivery techniques, according to Defense Intelligence Agency on January 15, 1976. Warsaw Pact air forces are unable to assist, since they have no nuclear weapons. NATO air forces, in contrast, contribute substantially.

[10] The U.S. Army and Marine Corps increased from 1,153,000 to 1,877,000 active duty personnel between 1965 and 1968 in response to involvement in the Vietnam War, then cut back to a combined strength of 987,000.

About 65 Soviet Category 1 divisions are at 75 percent or greater personnel strength with complete equipment. The ratio between those forces and active U.S. Army/Marine divisions is roughly 3.5–1. Soviet divisions at full strength have only about half the manpower of U.S. counterparts, but almost as many tanks:

	United States	Soviet
U.S. armored, Soviet tank divisions:		
Men	17,500	8,400
Tanks	324	316
U.S. mechanized, Soviet motorized rifle divisions:		
Men	16,000	10,500
Tanks	216	188

[11] U.S. Army/Marine and Soviet main battle tanks today are all mediums. The U.S.S.R. also has 2,500 antiquated heavy tanks that are not counted above.

[12] TOW and Dragon are the primary U.S. AT weapons. Squad-level LAWs (light assault weapons) are effective only for last-ditch close combat.

Naval forces

Ten years ago, the Soviet Navy had already outstripped the United States two-to-one in attack submarines (336 to 169), but its surface fleets had just begun to break out of their coastal cocoons and compete on high seas. Today, they have more major combatants in every category except aircraft carriers, and a virtual monopoly on surface-to-surface anti-ship cruise missiles, which are mounted on cruisers, destroyers, submarines, and small craft. The Soviets have even surpassed us in numbers of amphibious ships, ending once dramatic U.S. dominance—not because they built many more, but because we have halved our force since 1965.

Three important U.S. pluses compensate in part for otherwise lopsided statistical comparisons in Soviet favor. First, the U.S. Navy includes seven nuclear-powered surface combatants.[13] The Soviet Navy has none (although its 75 nuclear attack and cruise missile submarines outnumber our 63).[14] Second, U.S. carrier air power is unsurpassed. Moscow as yet has no fighter/attack aircraft afloat, and still will rely on short-range, vertical/short takeoff and landing (VSTOL) versions when ships of the Kiev Class enter active service. Last, but surely not least, the U.S. Navy not only has more ASW aircraft afloat, but more shore-based as well (450 to 360 in the latter category, which commonly is considered a Soviet quantitative strength).

Tactical air forces

America's land- and carrier-based combat aircraft, excluding forces for strategic air defense, quantitatively outclassed Soviet tactical air power in 1965 as they do today. However, that comparison is deceptive, since a large segment of our naval air arm is dedicated to fleet defense. The Soviet Air Force presently has 25 percent more fighter/attack aircraft and medium bombers than the U.S. Air Force and Marine Corps combined. Total tactical air transport ratios favor the Soviet Union (500 U.S. C–130s, 800 Soviet Cubs).

Strategic mobility forces

Strategic airlift and sealift forces are used to shift personnel, equipment, and supplies intercontinentally or between widely separated theaters.

America's sealift assets under Military Sealift Command (MSC) and in the U.S. Merchant Marine were more than twice as large as those of the Soviet Union in 1965.[15] Since then, situations have reversed. The net U.S. loss, from +1,433 vessels to −1,349, exceeds the size of our 1965 inventory, which was 2,778 (we presently count 1,009).[16]

Military Airlift Command (MAC) had amassed a marked numerical superiority over Soviet strategic airlift in 1965, and increased the disparity during the past decade. Accurate analogies are elusive, however, since both countries augment military airlift with commercial

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[13] U.S. nuclear-powered surface ships currently include two aircraft carriers and five cruisers. Two more carriers and four cruisers are under construction.

[14] The United States has no cruise missile submarines.

[15] The former Military Sea Transport Service (MSTS) was redesignated Military Sealift Command on August 1, 1970. Military Air Transport Service (MATS) became Military Airlift Command on January 1, 1966.

[16] Military cargo ship capacities vary from about 7,000 to 34,000 tons. U.S./Soviet tonnage comparisons might be more meaningful than tallying ships, but reliable unclassified statistics are not available.

carriers. Jet transports of our Civil Reserve Air Fleet (CRAF), for example, handled nine-tenths of all passenger service between the U.S. west coast and Vietnam during America's involvement in that conflict.[17] Soviet Aeroflot aircraft are predesignated for similar purposes.

One anomaly is worth special mention. Soviet strategic mobility, unlike that of the United States, depends heavily on overland movement by road or rail to NATO Europe, the Middle East, the Indian/Pakistani peninsula, and parts of Asia that front on the western Pacific. U.S. airlift and sealift assets therefore are counterbalanced in those critical areas by Soviet interior land lines.

NATO/Warsaw Pact

Europe is the only area where U.S. and Soviet combat forces are in direct and constant contact. The balance in that theater is currently more important than in any other. (See Figure 2).

The United States presently provides about 10 percent of NATO's ground forces, 20 percent of its naval forces, and a quarter of its tactical air forces, discounting 50,000 American troops that perform specialized missions in Europe (such as those with Defense Communications Agency), but are not controlled by U.S. European Command (EUCOM). Soviet proportions in the Warsaw Pact are much greater in every category.[18]

FIGURE 2.—NATO'S NUMERICAL BALANCE, NORTHERN AND CENTRAL EUROPE [1]

	United States	Soviet Union	NATO	Warsaw Pac
Combat/support personnel	260,000	595,000	625,000	895,000
Divisions:				
Active:				
Committed [2]	5	31	27	57
Armor	2	16	12	27
Other	3	15	15	30
Reinforcements [3]	11	40	17	51
Armor	2	15	3	17
Other	9	25	14	34
Total	16	71	44	108
Reserve [4]	8	22	9	22
Armor	2	9	2	9
Other	6	13	7	13
Grand total	24	93	53	152
Tanks [5]	2,100	11,500	7,000	19,000
Tactical aircraft [5]	400	2,300	2,300	2,900
Light bombers	0	300	150	300
Medium bombers	0		50	
Fighter/attack	400	900	1,750	1,300
Interceptors	0	1,100	350	1,300
MRBM/IRBM	0	583	0	583

[1] NATO and Warsaw Pact figures include the United States and the U.S.S.R. European countries counted are West Germany, the Low Countries, Luxembourg, and Norway, plus British troops in Germany; East Germany, Czechoslovakia, Poland, and most of European Russia.

[2] United States and NATO committed divisions include dual-based U.S. brigades normally stationed in the United States.

[3] United States and NATO divisions for reinforcement purposes include all active U.S. Army divisions, less 1 in Korea, plus 1 Marine division. Soviet divisions are Category 1 and 2 only.

[4] Reserve component divisions include all U.S. National Guard divisions and Soviet Category 3 divisions.

[5] Tanks and tactical aircraft include only those in countries/regions noted above. U.S. carrier-aircraft and dual-based fighter squadrons are excluded.

[17] Annual Air Force Almanac Issue, 1973, Air Force Magazine, May, 1973, p. 80-81, 112-113.

[18] Proportions verified by DOD on January 19, 1976.

THE MEDITERRANEAN FLANK [1]

	United States	Soviet Union	NATO	Warsaw Pact
Combat support personnel	10,000	115,000	575,000	345,000
Divisions: [2]				
Active:				
Committed	0	0	39	31
Armor	0	0	6	7
Other	0	0	33	24
Reinforcements	0	8	0	0
Armor	0	3	0	0
Other	0	5	0	0
Total	0	8	39	31
Tanks [2]	0	2,250	3,500	7,250
Land-based aircraft [2 3]	0	280	733	655
Fighter attack	0	50	450	200
Interceptors	0	200	275	425
Light bombers	0	30	8	30
Surface combatants [4]	19	12–17	76	12–17
Attack carriers	2	0	2	0
Helicopter carriers	1	1	1	1
Cruisers	1	2–4	4	2–4
Other escorts	15	9–12	69	9–12
Attack submarines	3–6	10–13	34–37	10–13
Conventional	3–6	8–10	34–37	8–10
SSM	0	2–3	0	2–3
Carrier aircraft [4]	200	0	200	0
Fighter squadrons	4	0	4	0
Attack squadrons	6	0	6	0

[1] NATO and Warsaw Pact figures include the United States and the U.S.S.R.

[2] Includes forces in Italy, Greece, Turkey, Bulgaria, Romania, plus selected Soviet units in Hungary and southern Russia.

[3] U.S. aircraft in Spain are included above with tactical air support for central Europe (3 fighter squardons, total 54 aircraft).

[4] Normal deployments only. All 3 Soviet aircraft carriers belong to the Black Sea Fleet, with 1 in the Mediterranean. Great Britain currently operates 1 attack carrier with 30 aircraft. France has 2 with 40 aircraft each. None is shown on figure 2, since all 3 normally operate in the Atlantic, rather than the Mediterranean.

Source: Mainly the Military Balance, 1975–76, London, International Institute for Strategic Studies, 1975, pp. 5–26, 95–102. Augmented and updated by various DOD agencies, January 1976.

Ground forces of the two principal protagonists are grossly disproportionate in the crucial center sector, where 190,000 troops in U.S. Army Europe (USAREUR) account for most of our personnel strength. Fewer than 75,000 of those are in divisions, versus 250,000 for the Soviet Union. Twenty-five Soviet Category 1 divisions, backed by 7,000 tanks, confront five U.S. divisions with 2,100 tanks along the East German and Czech borders.[19] An estimated 46 more Soviet Category 1 and 2 divisions are sited in Hungary, Poland, and European Russia as combat-ready reinforcements.[20]

Some 2,300 Soviet tactical aircraft face 400 from the United States astride the Iron Curtain.[21] The air-ground balance is better along NATO's south flank, where neither superpower stations sizable army elements and carrier aircraft augment shore-based squadrons.

The naval balance in the Mediterranean tips markedly toward the United States on a day-to-day basis, but Soviet surge capabilities are impressive. The Kremlin, for example, massed 95 ships of all types off Turkey's south coast, plus 30 more in the Indian Ocean, during the Arab-Israeli outburst of 1973. The U.S. Sixth Fleet totalled 60 during the same period, including three attack carriers. An Essex-Class

[19] Statistics in Figure 2 conflict somewhat with those in the text, which considers only those divisions in East Germany and Czechoslovakia so as to present the best possible U.S. and the worst possible Soviet case. U.S. tank strength includes those stockpiled in Europe for divisions that would deploy by air from the United States in emergency.

[20] Ramifications are viewed in Record, Jeffrey, Sizing Up the Soviet Army, The Brookings Institution, 1975, 51 p.; and in Lawrence, Richard D. and Record, Jeffrey, U.S. Force Structure in NATO: An Alternative, Washington, The Brookings Institution, 1974, 136 p.

[21] Tactical aircraft figures include fighter attack and air defense interceptors. U.S. strength includes squadrons based in Spain. The Soviet figure would swell to about 3,200 if fighter attack units in the three westernmost Military Districts of European Russia were added.

carrier, with five escorts, constituted our Indian Ocean complement at that time.[22]

The true balance, of course, includes a blend of allies on both sides. Warsaw Pact air/ground forces in northern and central Europe outnumber NATO in nearly every category. NATO reinforcements, including U.S. National Guard units, are less numerous than those of rival nations. The Soviet side could quickly achieve the classic ratio of 3:1 superiority in ground combat forces that many military men cite as a prerequisite for successful offensive operations.[23] More importantly, the Kremlin could mass massive power at times, places, and under conditions of its choosing, while NATO defends a front that stretches 500 straightline miles from the Baltic to the Austrian border.

Quantitative comparisons between NATO and Warsaw Pact naval forces appear more advantageous, but Figure 2 affords an index only for those forces normally positioned in the Mediterranean. NATO, there as elsewhere, still has an absolute monopoly on attack carriers armed with high-performance fighter/attack aircraft, but ships from both sides, especially U.S. and Soviet men-of-war, enter and leave the Atlantic at will. Natural geographic choke points, such as the Greenland-Iceland-Faeroes Gap, Gibraltar, and the Dardenelles, would help NATO's navies restrict free Soviet passage *after*, but not before, any outbreak of hostilities.

THE QUALITATIVE BALANCE

The raw quantitative balance just revealed must be conditioned by qualitative considerations, some of which benefit the United States, others the Soviet Union. A sample list, in no particular order of importance, includes: leadership; discipline; morale and motivation; education; training; combat experience; organization; command and control arrangements; staying power; and technology. The sum determines effectiveness.

Superiority in all or most of those categories can enable numerically inferior forces to compete successfully—categorically, or within limits, according to circumstances. Conversely, forces with great quantitative superiority could prove insufficient if serious shortcomings were evident in even *one* of those entries.

Coverage below simply hits a few high spots for exemplary purposes.

Manpower

Comparing the U.S. and Soviet military manpower pools is a subjective process, since the basic building blocks are produced by sharply different social systems. Observers at one pole opine that respective national characters exert a "permanent and often decisive influence upon the weight [each] nation is able to put into the scales of international politics." [24] Authorities at the antipode scoff at national stere-

[22] Moorer, Thomas H., Soviet Presence in the Indian Ocean. A "talking paper" to assist his presentation to the Senate Armed Services Committee on March 12, 1974, p. 3; and Cottrell, Alvin J., The Political-Military Balance in the Persian Gulf Region, Washington, Georgetown Institute for International and Strategic Studies, March. 1974, p. 8.

[23] The 3:1 ratio ostensibly required for offensive operations has no factual foundation. Victory frequently goes to small, but cleverly maneuvered forces.

[24] Morgenthau, Hans J., Politics Among Nations, 4th Ed., New York, Alfred A. Knopf, 1967, p. 122, 127–28.

otypes (Americans are individualistic and inventive, Soviets physically strong and stoic), which they contend are unsubstantiated.[25]

Military training, complemented by civilian education, contributes to force effectiveness. Both sides stress comprehensive uniservice programs, joint service exercises, and operations with allies. Each exhibits idiosyncrasies that can be assessed quite differently, depending on perspective. The Kremlin, for example, places top priority on political indoctrination, which many U.S. military men believe is less important than "practical" matters. The DOD stipulation that 80 percent of all U.S. Army enlisted men should have high school diplomas finds no counterpart in Soviet policy.[26] In short, indices that indicate training excellence in one establishment may not apply to the other.

Combat experience is somewhat more straightforward. The Soviet Army and Air Force since World War II have been used only to suppress unrest in satellite states and skirmish on the Chinese border. The Soviet "blue water" Navy has never fired a shot in anger. By way of contrast, all four U.S. services were committed in the Korean War (1950–53) and the Vietnam War (1965–1972), not to mention the Dominican Crisis (1965). However, the U.S. Navy was essentially unopposed at sea in every instance, and neither our Army nor Air Force experienced armed conflict under conditions analogous to those in NATO Europe. Whether U.S. combat experience constitutes pluses or minuses thus is contentious—some lessons may indeed be sound, others might best be unlearned.

Intangibles like temper are especially tricky to evaluate, unless the evidence is clear, as it was in the early 1970s, when disciplinary difficulties devitalized U.S. armed forces: drug abuse, "underground" activity, crime, racial friction, irresponsibility, and rebellion against authority were common manifestations.[27] Positive action by the Defense Department and military services, combined with the U.S. withdrawal from Vietnam, eviscerated or eradicated many of the contributary causes. Order reputably has been restored—the Secretary of Defense last addressed such "special problems" in his annual posture statement two years ago—but only the crucible of combat could confirm the current United States/Soviet qualitative balance in this regard.

Materiel

Technological supremacy traditionally has been a strong U.S. suit, and remains so in many areas, as Figure 3 shows. The day has passed, however, when U.S. scientific ascendancy can be taken for granted. Soviet efforts already equal our own in several respects, surpass us in others and exhibit strong momentum.[28]

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[25] Organski, A.F.K., World Politics, 2d Ed., New York, Alfred A. Knopf, 1968, p. 87.

[26] U.S. Congress. Senate. Hearings before the Appropriations Committee on Department of Defense Appropriations for Fiscal Year 1976. Part 2, Department of the Army. 94th Congress, 1st Session. Washington, U.S. Govt. Print. Off., 1975, p. 12.
The Kremlin advocates 12 years of schooling for every Soviet citizen, but no policy excludes conscripts with less education until that aim is achieved.

[27] Congressional concern was considerable during that period. See for example U.S. Congress. House. Committee on Armed Services. Report by the Special Subcommittee on Disciplinary Problems in the U.S. Navy. 92d Congress, 2d Session. Washington, U.S. Govt. Print. Off., Jan. 2, 1973. 29 p.

[28] See Part II, section on Technological Influences, for a few specific comparisons of U.S. and Soviet aircraft.

FIGURE 3.—*The technological balance*

U.S. SUPERIORITY	SOVIET SUPERIORITY
GENERAL	
Composite materials	Commonality of components
Computers	Ease of maintenance
Guidance systems	Gas turbine engines for ships
Microtechnology	Rockets and ramjets
Night vision	
Nuclear-powered ships	
Optics; acoustics	
Submarine detection	
Submarine silencing	
SPECIFIC	
Aircraft	Armored personnel carriers
Artillery ammunition	Chemical warfare
Antisubmarine warfare	Cold weather equipment
Electronic countermeasures	Engineer bridging
Guided munitions	ICBM "cold launch" [1]
MIRV reliability	ICBM payload, yield
Missile accuracy	Low-level air defense
Survivable submarines	Ship size versus firepower
Target acquisition	Short-range SSM

[1] A "pop up" technique that ejects ballistic missiles from silos or submarines using powerplants that are separate from the delivery vehicles. Primary ignition is delayed until projectiles are safely clear of containers/carriers, preserving the launcher intact for reuse if required.

NATO/Warsaw Pact

A wide range of qualitative considerations and constraints influence the NATO/Warsaw Pact balance.

Capabilities in the crucial center sector, for example, are conditioned especially by missions (large Soviet elements reputedly are required to enforce internal security in satellite states [29]); the reliability of allies (some forces in the Soviet sphere might revolt in emergency, some NATO states stay neutral); mobilization speeds (Soviet ground forces fill Category 2 and 3 divisions already cadred, this country calls up Reserves and the National Guard); reinforcement times (the Soviets via short land lines, U.S. forces by sea and air); the readiness of reserves in terms of equipment and training; command structures (Soviet central authority versus NATO's need for consensus); commonality of arms, ammunition, equipment, and repair parts (all accoutrements are similar on the Soviet side, many of NATO's are not); and vulnerabilities (NATO's installations are concentrated, the Warsaw Pact's are dispersed).[30]

Raw naval figures are misleading in the Mediterranean, where NATO outnumbers its rivals markedly. Soviet submarines are difficult to detect with available ASW devices, even in those shallow waters, because thermal layers and many merchantmen distort sounds. Moscow's new-model anti-ship cruise missiles pose potentially serious threats. Some are sea-skimmers. Some have steep trajectories that

[29] What percentage of Soviet forces are devoted to internal security is debatable. The Kremlin, however, did add five divisions to its East European deployments during the Czech rebellion of 1968, and all fiv remain.

[30] For basic considerations, see The Military Balance, 1975–76, p. 95–102 and Collins, John M., U.S. Military Support for NATO, prepared for the Senate Armed Services Committee, Jan. 19, 1973, p. 20–31. Detail are developed in Record, Jeffrey, Sizing Up the Soviet Army, p. 8–32, 47–49.

demand a different defense. Many can be deployed on small, speedy craft that are cheap to produce in comparison with NATO's surface combatants, which make superior targets. Soviet target acquisition capabilities currently are limited to the range of shipboard seekers for most purposes, but close peacetime contacts with NATO's naval forces in the Mediterranean help compensate—reaction times to surprise attacks might be measured in seconds. In short, comparing the combat effectiveness of forces whose functions and characteristics are so different leaves great latitude for error.[31]

The controlling matrix

Manpower and materiel attributes like those just outlined are almost meaningless in isolation. The overall quality of opposing armed forces can only be ascertained in context with the organizational structure, strategic concepts, and logistical apparatus needed to orchestrate their actions. Those elements to a large extent are shaped by factors in Part II.

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[31] Rules of thumb for comparing the strengths and weaknesses of opposing naval powers are delineated and discussed in U.S. Congress. House. Means of Measuring Naval Power, With Special Reference to U.S. and Soviet Activities in the Indian Ocean. Prepared for the Subcommittee on the Near East and South Asia of the Committee on Foreign Affairs by the Congressional Research Service. 93d Congress, 2d Session. Washington, U.S. Govt. Print. Off., 1974. 16 p.

PART II. EVIDENCE ANALYZED

CAUSES OF ASYMMETRIES

Quantitative and qualitative analyses of United States/Soviet armed forces simply identify salient asymmetries. To assess the importance of imbalances, it is necessary first to know *why* they exist. Critical U.S. deficiencies then can be isolated from those of slight concern.

Inequities for and against the United States (Figure 1-3) can be traced in part to geographic circumstance, technological peculiarities, and U.S. threat appraisals, but the preponderance ensued because of deliberate policy decisions by *both* superpowers, beginning three decades ago.

Geographic influences

Soviet armed forces safeguard the world's largest state, which stretches 3,000 miles north-to-south and 7,000 east-to-west, the latter distance being equal to the expanse between Washington, D.C. and Burma. NATO's forward defense forces abut Warsaw Pact buffer states, whose loyalty depends in part on a strong Soviet presence. A hostile China shares Siberia's lengthy southern frontier. Huge Soviet standing armies, air defenses, and tactical air establishments thus are understandable.[1] Carrier-based fighters are unnecessary. IRBMs/MRBMs and medium bombers provide the requisite reach across Eurasia's land mass. The United States, still isolated by oceans despite technological developments, currently has different homeland defense problems.

The U.S. economy, including aspects associated with national security, relies extensively on imports. Intercontinental commerce is important. Most of our defense commitments are overseas. We therefore enjoin the U.S. Navy to keep critical sea lanes open in exigency and project offensive power onto foreign shores in support of American and allied interests. Strategic airlift plays imperative roles.

The Soviet situation of course is quite different. That country is relatively self-sufficient in raw materials. Most allies under its aegis are directly accessible by land avenues. The Kremlin has been reluctant to commit its own combat forces in far distant states since Khruschchev got his comeuppance in Cuba.[2] The Soviet Navy consequently is still structured primarily to protect the mother country by checking U.S. carrier air power and SSBNs, to shortstop U.S. reinforcements for NATO, cut U.S. supply lines whenever required, and challenge Sixth Fleet's control of the Mediterranean. Attack submarines, anti-ship missiles, and fast patrol boats serve those purposes best. An embryonic core of aircraft carriers and amphibious ships is the first indication that Moscow *may* intend to extend its offensive reach and improve its ability to project political power.

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[1] Many U.S. military men contend that Soviet forces far exceed those required for deterrence and defense, but Soviet standards for "how much is enough?" may be significantly different than ours.

[2] Soviet training teams, service troops, SAM crews, and interceptor pilots, all noncombatant or defensive in nature, once flooded the Nile Delta to help protect the Kremlin's massive investment in military aid, but offensive forces in Egypt were always exclusively Arab. Cuban, not Soviet, forces now fight in Angola.

Technological influences

Soviet quantitative advantages in fighter/attack aircraft count several models whose capabilities are grossly inferior to F–4 Phantoms, which have set the U.S. standard since 1962.[3] Even modern MIG–25s lack multipurpose adaptability, being mainly for reconnaissance and air defense. None equal our F–4's unrefueled combat radius, and none can be refueled in flight. Their ability to accomplish ground support missions falls far short of F–4s, which have a 16,000 lb payload capacity in comparison with an estimated 2,000 lb for MIG–21s and 2,800 lb for MIG–23s.[4] Some Soviet fighters could outperform F–4s in air-to-air combat, being fast, more maneuverable, and able to operate at higher altitudes, although U.S. avionic packages, electronic countermeasures (ECM), and missile armaments reduce the margin. F–15 and F–16 aircraft hopefully will preserve our qualitative edge in the 1980s.[5] As a result, U.S. decision-makers currently accept unspecified degrees of Soviet numerical superiority without undue compunction.

The Soviet Army, with 1,710,000 more men than its U.S. counterpart, requires much more tactical airlift, as the balance sheet shows. The disparity in numbers, however, is disproportionate, because nothing in the Soviet inventory matches performance characteristics of the U.S. C–130 fleet, which is easily the world's best.

Threat characteristics

Giant Soviet ground forces would imperil the continental United States only if accompanied by adequate amphibious assault, strategic airlift, and logistic support apparatus, which is not the case. Part of those forces, together with tactical air elements, are pinned down semipermanently along the Chinese border, where they pose no immediate threat to U.S. associates or allies. A substantial percentage of Soviet troops serve internal security purposes in satellite states. Such factors all limit U.S. general purpose force requirements.

Pervasive policy decisions

Deliberate U.S. policy decisions account for the quantitative and/or qualitative ascendancy of Soviet armed forces in several areas. The seven summarized below overarch all others.

Quantum instead of incremental improvements

The prevailing U.S. approach to research and development, predicated on technological initiative, features "pioneering and aggressive innovation."[6] Quantum improvements are the aim. That policy stimulates creativity in one sense, but paradoxically cultivates conservatism. Many modest advancements are accused of approaching obsolescence before they can be deployed. Successors for aging systems thus are often delayed indefinitely while U.S. scientists strain for breakthroughs.

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[3] About half of all Soviet counter air and a quarter of all close air support aircraft have been deployed since 1970, according to U.S. Air Force sources.

[4] SU–19A Fencer ground attack aircraft have a payload of about 7,500 pounds. No unclassified payload figures are available for SU–17/20 Fitter Cs, which are designed for deep interdiction. Both were deployed in 1974.

[5] Brown, George S., Statement before the Senate Armed Services Committee on United States Military Posture for FY 1976, Washington, Joint Chiefs of Staff, February 5 ,1975, pp. 106–107.

[6] U.S. Congress. House. Hearings on Department of Defense Appropriations for 1976 before a subcommittee of the Committee on Appropriations. Part 4, Research, Development, Test, and Evaluation. 94th Congress, 1st Session. Washington, U.S. Govt. Print. Off., 1975, p. 366–69, 531–32, 553–54.

The Soviets since World War II have espoused incremental improvements of the existing establishment.[7] Moderately modernized arms and equipment are procured as they become available. That procedure ensures continually improved capabilities which narrow or close qualitative gaps while U.S. forces "make do" with products in hand.[8]

Quality instead of quantity

The United States honors a Principle of War called Economy of Force. Conversely, the Soviets implicitly prefer the Principle of Mass. This country therefore chooses quality instead of quantity, and generally retires outdated items when new ones enter the inventory.[9] The opposition, which opts for *both*, adds recent arrivals to existing stocks, winnowing out predecessors only when they cease to serve useful purposes. The effects of those diametrically different policies accentuate quantitative imbalances between U.S. and Soviet armed forces.

Firepower instead of manpower

The United States places a high premium on human life. This country therefore replaces manpower with firepower wherever possible. High dollar costs for pay and allowances reinforce that policy, which keeps personnel strengths down and support requirements up in U.S. armed forces, but not in the Soviet Union.

Sustained combat concepts

Title 10 of the United States Code, which prescribes an Army, Navy, and Air Force that could, if required, conduct "sustained" combat operations, has a profound influence on U.S. force structure.[10] All three services must maintain solid logistic and administrative establishments to fulfill that function wherever U.S. interests are involved.

The Soviet Union seems to have a different philosophy. Its air and ground forces are best adapted for a short, decisive conflict if NATO and the Warsaw Pact clash.[11] Admiral Sergei Gorshkov also has shaped a first-strike, "one-shot" Navy, without much staying power.[12] "Tooth-to-tail" ratios therefore reflect poorly on U.S. general purpose forces, which are long on logistic support and sometimes short on combat power in comparison with Soviet counterparts.

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[7] Ibid.

[8] In practice, neither the United States nor the Soviet Union subscribes exclusively to quantum jump or incremental improvement policies. U.S. tanks, guns, aircraft, and other items often undergo repeated modifications that add to or alter original capabilities without replacing basic systems. The Soviets began emphasizing *both* approaches about four years ago (Ibid, p. 553–54). Nevertheless, the differentiations described are essentially correct.

[9] There are exceptions, as with any rule of thumb. The U.S. Army, for example, no longer uses M–48 tanks, but M–48A5s are being equipped with new diesel engines and 105mm guns for our Marines. Many items retired by U.S. armed forces still serve some allies.

[10] Title 10, United States Code, Chapter 307, Section 3062; Chapter 503, Section 5012; and Chapter 807, Section 8061. See summary and amplification at Annex B under heading "Operational Functions of U.S. Armed Forces."

[11] See for example Canby, Steven L., NATO Muscle: More Shadow Than Substance, Foreign Policy, Fall 1972, p. 44–46; also Lawrence, Richard D. and Records, Jeffrey, U.S. Force Structure in NATO, p. 6–26. Some authorities suggest that both studies underestimate Soviet staying power but, if so, differences in U.S./Soviet concepts still are clearly evident.

[12] Understanding Soviet Naval Developments, Washington, Office of the Chief of Naval Operations, April, 1975, p. 19; and Spurr, Russell, Moscow: Drawing the Asian Battlelines, Far Eastern Economic Review, October 31, 1975, p. 26–34.

Total force concepts

When the United States began to retrench during final stages of the conflict in Vietnam, the Defense Department placed increasing emphasis on so-called Total Force Concepts, which count on collective security and reserve components to offset reductions in our active duty establishment.[13] Soviet leaders rely more on active forces and less on allies to support national interests. Those conflicting policies contribute substantially to comparative force postures reflected in Figure 2 and Annex A.

Cyclical cutbacks

Cutbacks in U.S. armed forces have followed every American war since we won our independence. The current cycle began about 1970. Since then, drawdowns have been drastic. No service escaped the knife, as the Air Force did after the Korean conflict. The Army has been sliced in half since personnel strengths reached high points in 1968 (1,570,000 then, 790,000 now). Soviet personnel, which exceeded our own by 857,000 in 1965, currently surpass us by about 2.7 million.[14] Their weapons inventory dilates similarly, while ours declines.

U.S. decision-makers intended to constitute a smaller force which modernization measures would endow with greater capabilities than its predecessors. However, rates of retraction exceeded those of refurbishment. Size, therefore, was reduced without concomitant increases in strength. Moreover, the higher performance of new systems does not always compensate for the sharp reduction of flexibility caused by fewer numbers.

All-volunteer force

Three decades of U.S. conscription ended in January 1973, when draft calls registered zero, although the Selective Service System still functions on a standby basis.[15]

America's withdrawal from Indochina, implementation of the Nixon Doctrine (which demanded fewer general purpose forces than previous containment policies), budgetary difficulties, public opinion, and reevaluations of pressing threats led U.S. leaders to establish manpower requirements at 2.2 million in 1973.[16] That ceiling has remained almost constant.[17]

The United States probably could slightly exceed stated recruiting limits in these times of tight economy, but if society were more affluent, we would face serious problems filling quotas. In either event, this country is *compelled* to stress reserve components. Influences on the balance of U.S. and Soviet active forces thus are adverse.

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[13] Laird, Melvin R., Statement before the House Armed Services Committee on the FY 1972–1976 Defense Program and the 1972 Defense Budget, Washington, Department of Defense, March 9, 1971, p. 21.

[14] See the following table:

	1965	1975
Soviet personnel	3,510,000	4,812,000
U.S. personnel	2,653,000	2,134,000
Difference	857,000	2,678,000

Figures include strategic offensive and defensive personnel, Army, Navy, Air Force, Marines, and Soviet border guards.

[15] Military Manpower Requirements Report for FY 1974, Washington, Department of Defense, February, 1973, p. 1-2.

[16] Ibid., p. 5.

[17] The FY 1976 manpower authorization is slightly less than 2.1 million. Public Law 94-106, October 8, 1975.

Money for manpower

The cost of U.S. defense manpower has doubled during the past decade; owing to the initiation of annual comparability pay raises and a one-time increase to make our All-Volunteer Force feasible. Pay and allowances now absorb about 53 percent of the defense budget. Associated outlays for troop housing, recruiting, human relations and various other activities presently push the total close to 65 cents out of every dollar.[18] Relative shares for manpower have been stabilized, but absolute outlays will continue to climb as programmed cost-of-living increases periodically take effect.[19]

The impact on force modernization is immense. Manpower costs added to inescapable expenditures for operations and maintenance sharply reduce funds for research, development, and procurement programs in an inflationary environment that causes prices to escalate.[20] The Soviet Union, with far lower pay scales and a controlled economy less afflicted by inflation, could afford a larger force and modernize at a more rapid rate if its total defense budget were exactly the same as that of the United States.[21]

Particular policy decisions

A spate of subordinate policies, most of them derived at least indirectly from the seven above, affect United States/Soviet asymmetries in specific functional areas. The following list is depictive, rather than definitive.

Strategic nuclear policies

U.S. defense decision-makers settled on a strategic nuclear triad of bombers, ICBMs, and SLBMs in the late 1950s, and have clung to it ever since, whereas the Soviets stress land-based ballistic missiles and downplay manned aircraft.[22] America's mixed force matrix was focused primarily on city targeting early in the 1960s to accommodate our second-strike strategy of Assured Destruction, which preserved deterrence by means of a "balance of terror." Capabilities were required to eradicate "say, one-fifth to one-fourth of the [Soviet] population and one half of [Soviet] industrial capacity".[23]

Beyond those finite demands, U.S. decision-makers believed that relative strengths were irrelevant. The Defense Department placed less credence in the number of delivery vehicles than in the stock

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[18] Schlesinger, James R. Report to the Congress on the FY 1976 and Transition Budgets, p. 123–126.

[19] Public Law 90–207, 90th Congress, (81 Stat. 649), Section 8.

[20] Schlesinger, James R. Report to the Congress on the FY 1976 and Transition Budgets, p. D1.

[21] Soviet pay and allowances were an estimated 18–25 percent of the total defense budget in 1969, the latest date for which unclassified data are available. Cohn, Stanley H., Economic Burden of Defense Expenditures. A chapter in U.S. Congress, Soviet Economic Prospects for the Seventies, a Compendium of Papers Submitted to the Joint Economic Committee. 93d Congress, 1st Session. Washington, U.S. Govt. Print. Off., 1973, p. 150.

Such comparisons are always suspect. The Soviet defense budget is secret. Segments are concealed under civil headings. Expenditures are enumerated differently than in the United States. Rubles are difficult to convert accurately into dollars. Most Western calculations therefore are based on one of two methodologies. The first, which manipulates published Soviet data to correspond with U.S. categories and exchanges rubles for U.S. currency, risks underestimating the Kremlin's expenditures. The second, which judges how much it world cost to duplicate visible Soviet defense efforts in U.S. dollars, risks overestimations.

[22] About 30 percent of all U.S. warheads are on ICBMs, as opposed to 80 percent for the Soviet Union. MIRVing Soviet ICBMs may push that proportion to well over 90 percent unless Moscow elects to install multiple warheads on SLBMs.

[23] McNamara, Robert S., Statement before the Senate Armed Services Committee on the FY 1969–73 Defense Program and 1969 Defense Budget, Washington, Department of Defense, Jan. 22, 1968, p. 50.

of separately targetable nuclear warheads.[24] That conclusion strongly influenced this country to install MIRVs, instead of augmenting its inventory of bombers and ballistic missiles. Our ICBM/SLBM holdings have stayed static at 1054 and 656 respectively since 1967, while Soviet launchers increased.

None of the U.S. weapons systems were expressly engineered with the requisite combinations of accuracy, payload, yield, and responsiveness to neutralize time-sensitive hard targets like missiles in silos, because city targets are soft, sprawling areas. The Soviets, by way of contrast, specialize in heavy ICBMs and high megatonnage.

Arms control accords have also shaped the balance since 1972. Phase I of the Strategic Arms Limitation Talks (SALT I) produced an ABM Treaty that, with the amending protocol two years later, restricts each side to a single ABM site containing no more than 100 missiles.[25] The SALT I interim agreement on strategic offensive systems "froze" selected force levels for the period May 1972–October 1977 (see Figure 4), pending more lasting arrangements now addressed by SALT II negotiators. U.S. officials seek essential equivalence.[26]

Tactical nuclear policies

A smorgasbord of tactical nuclear weapons was technologically feasible in the late 1950s. The United States experimented with all or most before deciding to stress adaptable aircraft and artillery that hopefully have sufficient accuracy and small enough yields to fight a limited nuclear war in crowded NATO Europe without causing unconscionable civilian casualties and collateral damage, yet still function effectively in conventional combat.[27]

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[24] Ibid., p. 52. Decisions, for example, were taken in 1961 to reduce the planned number of Titan squadrons. Atlas ICBMs were retired in 1964. The Minuteman program was compressed from 1,200 to 1,000 missiles that same year. Data received telephonically from Air Force Systems Command Historical Office, Jan. 9, 1976.

[25] The SALT ABM Treaty permitted each side two ABM sites, one to defend the capital city, a second to cover ICBMs. The Protocol reduces authorization to one site each. U.S. Congress. House. Legislation on Foreign Relations, With Explanatory Notes, by House Committee on Foreign Affairs and Senate Committee on Foreign Relations. Joint Committee Print. 93d Congress, 2d Session. Washington, U.S. Govt. Print. Off., March 1974. p. 1175–1179: U.S. Congress. Senate. Protocol of the Treaty with the U.S.S.R. on the Limitation of ABM Systems. Executive I, 93–2, Sept. 19, 1974. In Legislative Calendar, Committee. on Foreign Relations, 93d Congress, 1st Session. Washington, U.S. Govt. Print. Off., Jan. 2, 1975. p. 14.

[26] SALT I and II interrelationships, together with current stumbling blocks, are summarized in Collins, John M., SALT II Issues (Issue Brief Number IB 75074), Washington, Congressional Research Service, updated as of November 13, 1975. 21 p.

[27] For general background see Schlesinger, James R., The Theater Nuclear Posture in Europe: A Report to the United States Congress in Compliance with Public Law 93-365. Washington, Department of Defense, 1975. 30 p.

Honest John rockets, the least accurate of U.S. tactical nuclear weapons, have largely been replaced by Lance missiles.

U.S. R&D programs for mobile MRBMs were cancelled in 1964. Thor and Jupiter missiles were removed from Western Europe and Turkey that same year. Data received telephonically from Air Force Historical Office, Jan. 9, 1976.

FIGURE 4.—SALT I FORCE LEVELS

Delivery system	United States	U.S.S.R.
ICBM's:		
"Freeze" level, May 1972 [1]	1,054	1,608
Max conversion [3]	1,000	1,399
Already converted	0	32
Current status	1,054	1,603
"Heavy" ICBM's: [4]		
Pre-1964 models:		
"Freeze" level, May 1972 [1]	54	209
Exchanged for SLBM's	0	[5] 32
Current status	54	177
Post-1964 models: "Freeze" level, May 1972 [1]	0	313
Current total	54	490
SLBM's:		
"Freeze" level, May 1972 [1]	656	740
Maximum conversion [3 6]	710	950
Current status	656	725
"Modern" ballistic missile submarines: [7]		
"Freeze" level, May 1972 [8]	41	43
Maximum conversion	44	62
Current status [9]	41	45
Heavy bombers	([10])	([10])
Total ICBM, SLBM launchers:		
"Freeze" level, May 1972 [1]	1,710	2,328
Current status	1,710	2,328

[1] The "freeze" level of May 26, 1972, reflects Soviet delivery systems in operation and under construction at that time. All Soviet figures are U.S. intelligence estimates, since Moscow refused to furnish statistics.

[2] Open sources originally charged the U.S.S.R. with 1,618 ICBM silos, but U.S. officials since have accepted about 10 of those as command and control centers or training sites, rather than launchers for operational missiles.

[3] Pre-1964 ICBM's could be exchanged for SLBM's on a 1-for-1 basis, according to SALT I rules. Figures shown indicate ceilings if that course were chosen. The U.S. ceiling of 710 SLBM's was mathematically unattainable. We could trade 48 of our 54 Titan ICBM's for 3 Poseidon boats with 16 launchers each or for 2 Trident boats with 24 launchers each. Either alternative would increase the number of SLBM's to 704, unless we switch to SSBN's with more than 16 tubes.

[4] Pre-1964 "heavy" ICBM's, by U.S. definition, included U.S. Titan II's (1962), Soviet SS–7's (1961), and SS–8's (1963). Post-1964 models, by U.S. definition, included all land-based ballistic missiles significantly larger than Soviet SS–11's. When the SALT I Interim Agreement was signed, only SS–9's qualified. This study counts 100 SS–19's (as of January 1976) although SALT II accords may eventually consider them in the "light" ICBM category.

[5] Some Soviet SS–7's and SS–8's have been dismantled and exchanged for 2 nuclear-powered SLBM submarines.

[6] Soviet pre-1964 SLBM's on diesel submarines did not count, but those on H-class nuclear-powered boats did. Figures shown indicate the ceiling if the maximum allowable number of ICBM's were converted to SLBM's.

[7] SALT I limitations did not include 10 Soviet H-class nuclear-powered submarines or 22 G-class diesel-powered boats. The former are armed with 3 SS–N–5 SLBM's each (range about 750 nautical miles). The latter carry 3 SS–N–5's or 3 SS–N–4's (range 350 nautical miles).

[8] Only 25 Y-class Soviet ballistic missile submarines were in service in May 1972. All 41 U.S. SSBN's were operational.

[9] Soviet submarines 44 and 45 replace an estimated 32 SS–7's and SS–8's. See footnote 5 above.

[10] Not covered by SALT I.

The Soviets in contrast elected to emphasize unipurpose intermediate- and medium-range ballistic missiles, along with free rockets. None of their systems are capable of discriminating nuclear combat—the yields are too large and they are too erratic. Airfields, ports, logistical bases, command/control installations, and other area targets (many of which are collocated with German cities) could be engaged most effectively.[28]

[28] Wolfe, Thomas W., Soviet Power and Europe, 1945–1970, Baltimore, The Johns Hopkins Press, 1970, p. 197–199, 203, 209, 211, 456–458.

General purpose force policies

Records are replete with general purpose force policies that account for asymmetries in the United States/Soviet military balance. This section silhouettes four (one for each service) as illustrations.

Soviet assembly lines turned out about 9,000 heavy tanks before they ceased production about 1962. An estimated 2,500 still are combat-effective. This country, however, never put much store in heavy tanks, and discontinued development a decade earlier than the Soviets. None remain in service. Instead, U.S. armored elements are equipped with more versatile mediums that trade steel plate protection for speed, maneuverability, air mobility, and ability to operate in areas where bridge capacities are low and terrain is somewhat restrictive.[29]

The Soviet Navy specializes in ship-killing cruise missiles. An estimated 108 major combatants (including 68 submarines) and 135 fast patrol boats are so equipped. The U.S. Navy, which has nothing comparable, assigns such roles to 14 aircraft carriers [30] and traditional submarines armed with torpedoes, as an outgrowth of policy decisions taken two decades ago.[31] The consequent imbalance will persist until the United States begins to deploy Harpoon missiles in quantity (beginning late in 1976).

America's fighter/attack aircraft (Navy and Marine, as well as Air Force) all perform deep interdiction missions and provide close air support for ground combat units as a matter of policy. The Soviet Union would depend heavily on MRBMs and IRBMs for the former task in a nuclear war, and emphasizes massed tube artillery, mortars, and multiple rocket launchers along lines of contact between Soviet and enemy forces.

Differences between tactical fighter inventories of U.S. and Soviet Air Forces thus are greater than statistics in Annex A indicate. Our aircraft generally have greater range, payload capacities, choices of ordnance, and loiter abilities. Soviet counterparts are comparatively simple, light, maneuverable, and less vulnerable on the ground, since they can fly from primitive strips that permit far greater dispersal than that enjoyed by U.S. forward-based fighters.[32]

The United States Marine Corps, organized, trained, equipped, and psychologically conditioned as an elite air/ground team, exists primarily to seize and defend lodgments on foreign shores in support of U.S. foreign policy predicated on collective security principles.[33] The

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[29] U.S. Congress. House. Military Tank Procurement. Tenth report by the Committee on Government Operations. 85th Congress. 1st Session. Washington, U.S. Govt. Print. Off., 1957, p. 16.

[30] One U.S. attack carrier was decommissioned in January, 1976. Another will leave active service before the close of FY 1976.

[31] U.S. Congress. House. Hearings on Military Posture and H.R. 12564 before the Committee on Armed Services. Part 2 of 4 Parts. Subcommittee No. 3 (Seapower). 93d Congress, 2d session. Washington, U.S. Govt. Print. Off., 1974, p. 1003.

[32] Military Forces Handbook: Military Forces of the U.S.S.R. and Peoples Republic of China, Washington, U.S. Air Force Systems Command, 1975, p. 13-14.

[33] See "Operational Functions of Armed Forces", Annex B.

Soviet Union, which conducts its few overseas operations through proxies, as yet has no analogous policy, although an emerging amphibious assault force suggests that the Kremlin soon may have more than token intervention capabilities in Africa and South Asia.

Strategic mobility policies

U.S. policies have supported strategic air transport since the early 1960s, when Congress and the Executive Branch collaborated in efforts to correct shortcomings. Succeeding crises, such as those in Berlin, Cuba, Vietnam, and Israel, underscored the importance of adequate intercontinental airlift to project U.S. power and/or supply allies. Assets afforded by C–5As and C–141s thus are unparalleled anywhere in the world.[34]

Deploying U.S. forces without being able to sustain them could sow the seeds of disaster. Corollary sealift forces consequently are required,[35] but our Merchant Marine has been allowed to languish. Only 118 ships remain in the Military Sealift Command Controlled Fleet, including 14 in ready reserve/reduced operating status.[36] In accord with national policy, we therefore place extraordinary dependence (95 percent) on U.S.-owned, but privately-operated, commercial carriers that fly foreign flags and are manned by alien crews who owe this country no allegiance.[37] Many of the ships are poorly suited for military purposes. Total force policies also pass heavy responsibility to selected allies, who are expected to provide ships and related services in times of common emergency, including offloading assistance and operations to clear supplies from terminal areas.

The Soviet Merchant Marine, by contrast, consists mainly of modern, highly-automated ships that currently carry more than half of all the Kremlin's transoceanic cargo. Coordination with the Soviet Navy is complete.[38]

ASSESSING ASYMMETRIES

U.S. quantitative superiority

Areas of U.S. quantitative superiority over the Soviet Union are indicated on Figure 5. Some are negative or neutral in value. Some facilitate strong leverage in other contexts, but have almost no significance in terms of the United States/Soviet balance. Some perhaps affect perceptions, but provide few credible capabilities. Only a few confer conclusive advantage on the United States.

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[34] McNamara, Robert S., Statement on the FY 1969–73 Defense Budget, p. 139–140.
[35] More than 95 percent of all U.S. military bulk cargo bound for Vietnam moved by sea, including aviation fuel.
[36] Statistics furnished by Military Sealift Command, as of October 3, 1975.
[37] Understanding Soviet Naval Developments, p. 39.
[38] Ibid., p. 39–40.

FIGURE 5.—U.S. QUANTITATIVE SUPERIORITY (ACTIVE FORCES ONLY)

	United States	Soviet Union	U.S. Margin
Strategic offensive:			
MIRVed ICBM	550	110	440
MIRVed SLBM	416	0	416
ALCM	1,140	185	955
Heavy bombers [1]	463	135	328
Tankers	615	50	565
ICBM/SLBM warheads	6,794	3,442	3,352
Strategic defense: None	NA	NA	NA
Ground forces:			
Airmobile divisions	1	0	1
Infantry divisions	6	0	6
Marine divisions	3	0	3
Nuclear artillery pieces	750	0	750
Helicopters [2]	9,492	2,580	6,912
Naval forces:			
Personnel [3]	515,400	386,000	129,400
Attack carriers	14	0	14
Helicopter carriers	7	2	0
Cruisers [4]	27	13	14
Destroyers [4]	70	65	5
Nuclear-powered attack subs [4]	62	35	27
Carrier aircraft	1,508	53	1,455
Marine fighter/attack aircraft [5]	468	0	468
Mobility forces: Strategic airlift	300	60	240

[1] Excludes United States FB-111's and Soviet Backfire bombers.
[2] Helicopters include 487 in the U.S. Marine Corps.
[3] Excludes ballistic missile submarine forces.
[4] Cruisers and destroyers exclude SSM types.
[5] U.S. Air Force and Marine shore-based fighter/attack aircraft combined fail to equal Soviet counterparts (2,768 to 3,590).

Note: See Annex A for sources and explanatory notes.

Superiority disadvantageous

The United States has 129,000 more general purpose Navy personnel than the Soviet Union. Differences are due principally to U.S. logistic support and administrative elements that afford unparalleled staying power. Nonetheless, this country uses many more people than the opposition to operate fewer ships. That phenomenon deprives other defense sectors of much-needed funds in this era marked by high manpower costs.

Superiority deceptive

Token U.S. superiority in infantry, airmobile, and marine divisions is smothered by the Soviet total (19 to 168). Even if one U.S. division equalled two of the Kremlin's, which sometimes is true for personnel strengths but surely not combat power,[39] 40 Soviet Category 1 divisions in north-central Europe outnumber our five by 4:1. Using that same criterion, Warsaw Pact divisions still outnumber NATO counting all ready reinforcements.

America's numerical advantage in conventional cruisers and destroyers disappears when Soviet SSM ships are included in the tally (27 U.S. cruisers, 33 Soviet; 70 U.S. destroyers, 85 Soviet). Moscow's overall edge in escort-type vessels is 223 to 195, if one counts ships in our Naval Reserve, but excludes Coast Guard vessels.[40]

Similarly, the two-to-one U.S. numerical predominance in nuclear attack submarines is almost nullified if Soviet nuclear-powered cruise missile submarines (which carry torpedoes as well as SSMs) are considered: 62 U.S.; 75 Soviet.

[39] Soviet tank divisions have half as many men as ours. Their motorized rifle divisions are two-thirds the size of U.S. mechanized divisions. Tank strengths in each case are about equal.
[40] Total escort figures include cruisers, destroyers, frigates, corvettes, and other escorts of all types.

Superiority an ambiguous asset

Manned bombers, the original component of the U.S. strategic nuclear triad, must penetrate increasingly effective enemy defenses-in-depth to reach targets. They have little ability to engage time-sensitive targets (such as ICBMs), since flights are measured in many hours, not minutes. Consequently, some skeptics assert that U.S. superiority in strategic aircraft and short-range attack missiles (SRAM) is a dubious asset.[41] As they see it, U.S. deterrent powers depend much more on ballistic missiles, which could strike swiftly and would be "home free" in the absence of a sound Soviet ABM shield.[42]

Immense U.S. superiority in MIRV launchers and ballistic missile warheads is often lauded. American preeminence clearly affects peacetime perceptions to our benefit, at home and abroad. Fixed-site ICBMs could survive a sneak attack with greater retaliatory capabilities than would be preserved if each silo contained a single warhead.

Beyond that, however, the practical utility of many MIRVs is problematic, in the opinion of many observers. Most Soviet counterforce targets would be immune to a U.S. second strike, since Soviet reserves could be launched on warning. Huge stocks of U.S. MIRVs will be inessential for assured destruction missions until Moscow deploys a comprehensive and credible ABM system (presently proscribed by SALT), because a handful of survivable MIRVed missiles could cover sufficient targets. MIRVs would be equally superfluous for fighting a "tit-for-tat" war. Some critics therefore believe that maintaining U.S. superiority in MIRVs would divert dollars that could be used better to correct known deficiencies elsewhere in our defense establishment.

Helicopters are another ambiguous asset. They provided unsurpassed battlefield mobility in Vietnam, but whether similar employment would be possible in NATO Europe's high-risk air defense environment is subject to conjecture. If not, our numerical superiority would lose significance.

Superiority an assured asset

America's amphibious landing forces (but not amphibious lift) are much more numerous than three Marine divisions indicate, because several Army divisions are also qualified. The consequent flexibility opens up U.S. options not otherwise available.

U.S. carrier air power is also greater than statistics show. Marine, as well as Navy, fighter/attack squadrons are trained to operate afloat when required. Soviet and proxy forces in under-developed areas still rely almost exclusively on land-based air support, and entirely lack high-performance carrier aircraft. The U.S. edge thus is absolute.

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[41] SRAMs can be used to improve the penetration powers of manned bombers by suppressing enemy defenses. They can also engage static targets of other kinds. To do so, however, the bombers they accompany must first breech enemy defenses-in-depth, since SRAM's effective range is only about 100 miles.

[42] Many military men discourage attempts to analyze components of the U.S. strategic nuclear triad in isolation, since the synergistic effects of mixed forces far exceed the capabilities of any given system. Ballistic missiles and manned aircraft (or other airbreathers, like cruise missiles) create wholly dissimilar difficulties for defenders. The Soviets, not knowing where U.S. bombers might strike, must cover all critical points, whether we have many aircraft or few. Further, the current mix of U.S. forces confronts the Kremlin with insoluble first-strike scheduling problems. SLBMs, with flight times of six to ten minutes from firing positions along our continental shelf, might catch B-52s on strip alert, but still lack the accuracy and yields to crush missile silos. Soviet ICBMs, enroute about half an hour, are best-suited for such targets, but would allow SAC ample time to "scramble" its bombers. U.S. SSBNs at sea are almost invulnerable in any case, given Moscow's present ASW capabilities.

This section, which acknowledges the need for mixed forces, simply suggests that future effectiveness *might* be improved by amending the mix to counter Soviet countermeasures.

United States/Soviet quantitative equality

Between U.S. quantitative superiority on one hand and Soviet quantitative superiority on the other is a zone of approximate equality, where asymmetries are minor (Figure 6).

FIGURE 6.—UNITED STATES/SOVIET QUANTITATIVE EQUALITY

[Active forces only]

	United States	Soviet Union	Difference
Strategic offensive: Light ICBM's [1]	1,000	1,013	13
Strategic defensive: ABM missiles	100	64	36
Ground Forces: None	NA	NA	NA
Naval Forces:			
Escorts [2]	98	105	7
Patrol/ASW aircraft ashore	450	360	90
ASW helicopters afloat	80	53	27
Air Forces: Total tactical aircraft	5,000	5,350	350
Mobility Forces: None	NA	NA	NA

[1] This study counts all Soviet SS–19 ICBM's as "heavies", although SALT II accords may eventually consider them in the "light" category.

[2] Escorts on this table exclude cruisers, destroyers, and U.S. Coast Guard vessels. They include 34 U.S. Naval Reserve ships.

Note: See Annex A for sources and explanatory notes.

The balance between light ICBMs is important, because that category contains most of the land-based ballistic missiles on both sides.

Neither country enjoys credible ABM capabilities. The U.S. site at Grand Forks, North Dakota, which functioned briefly as an active R&D facility, is being shut down, except for Perimeter Acquisition Radar and related facilities. The Congress expects "that the interceptor missiles and warheads will be expeditiously evacuated." [43] Even so, parity will continue to pertain for all practical purposes. The 64 Soviet ABM missiles around Moscow could be easily saturated.

The quantitative standoff in fixed- and rotary-wing ASW aircraft is meaningful only when measured against missions. Neither side has sufficiency, given current submarine strengths.[44]

Equal totals of tactical aircraft are far less important than superiority in particular types, such as fighter/attack.

Soviet quantitative superiority

United States/Soviet correlations militarily immaterial

Soviet quantitative superiority in any given category is of little concern when offensive forces or weapons systems compete against dissimilar defenses. If the Kremlin increased its cruise missile holdings by many multiples, there would be no call for this country to reciprocate in kind. Stronger SAM defenses would serve our purposes better. Inequities are irrelevant where non-combat forces are concerned. Each side sizes according to missions, not enemy counterparts. Figure 7 indicates cases where correlations consequently are immaterial, except perhaps for perceptions.

[43] U.S. Congress. House. Department of Defense Appropriations, Fiscal Year 1976. Conference Report to accompany H.R. 9861. Report No. 94–710. 94th Congress, 1st Session. December 10, 1975. p. 28.

[44] Soviet ASW concentrates essentially on U.S. ballistic missile submarines. Our ASW efforts are directed primarily against Soviet attack submarines, which challenge U.S. abilities to control sea lanes and protect shipping in emergency.

FIGURE 7.—SOVIET QUANTITATIVE SUPERIORITY, CORRELATION BETWEEN LIKE FORCES MILITARILY IMMATERIAL

[Active forces only]

	United States	Soviet Union	Soviet margin
Strategic offensive:			
SLBM's	656	725	69
SLCM's	0	348	348
Ballistic missile submarines	41	73	32
Medium bombers	66	500	434
Strategic defensive:			
SAM launchers	330	9,500	9,170
Interceptors	396	2,700	2,304
Ground Forces: SSM	180	1,853	1,673
Naval Forces:			
Amphibious ships [1]	57	85	28
Patrol boats	7	230	223
Shore-based bombers	0	480	480
Air Forces: Reconnaissance aircraft	340	750	410
Mobility Forces:			
Strategic sealift	1,009	2,358	1,349
Tactical airlift [2]	500	800	300

[1] Amphibious ships exclude helicopter carriers.
[2] U.S tactical airlift includes reserve C–130's.

Note: See Annex A for sources and explanatory notes.

FIGURE 8.—SOVIET QUANTITATIVE SUPERIORITY, CORRELATION BETWEEN LIKE FORCES MILITARILY IMPORTANT

[Active forces only]

	United States	Soviet Union	Soviet margin
Strategic offense:			
ICBM's:			
Heavy [1]	54	613	559
Total	1,054	1,603	549
Strategic defense: None	NA	NA	NA
Ground Forces:			
Army personnel	789,100	2,500,000	1,710,900
Divisions [2]	19	168	149
Main battle tanks [2]	8,975	34,650	25,675
Armored carriers	19,000	40,000	21,000
Tube artillery [3]	3,510	17,150	13,460
Naval Forces:			
SSM cruisers	0	20	20
SSM destroyers	0	20	20
Attack submarines	73	253	180
Air Forces: Fighter/attack [4]	2,300	3,590	1,290
Mobility Forces: None	NA	NA	NA

[1] This study counts all Soviet SS–19 ICBM's as "heavies," although SALT II accords may eventually consider them in the "light" category.
[2] Includes Army and Marines.
[3] Artillery includes Army and Marine conventional and nuclear capable pieces.
[4] Fighter/attack aircraft exclude those based on carriers.

United States/Soviet correlations militarily important

The balance in any given category affects military capabilities directly when like offensive forces or weapons systems compete against each other: U.S. divisions versus Soviet divisions; U.S. fighter aircraft versus similar Soviet aircraft; and so on. Examples are indicated in Figure 8. Regional balances frequently are more important than total inventories, as already noted.

U.S. quality compensates for quantities in different degrees. U.S. overages in some categories *could* counteract shortages elsewhere (more SAMs, fewer interceptors, for example, but we are strong in neither). However, certain imbalances create distinct disadvantages,

Soviet quantitative superiority in ICBMs may soon imperil the U.S. second-strike force of ballistic missiles in silos. At the very least, America's ICBM *launchers* should outnumber Moscow's anticipated stock of *warheads* with single-shot kill probabilities. Otherwise, the U.S.S.R. at some time in the future might compromise one leg of the U.S. triad.

Numerical imbalances between U.S./Soviet and NATO/Warsaw Pact ground forces are considerable.[45] Disparities both in deployed strengths and ready reserves are especially evident in central Europe, where our troops are spread very thinly. Five division equivalents in the U.S. zone, including two armored cavalry regiments, cover a 250-kilometer (155-mile) front, approximately twice the desired distance. Those forces are insufficient to conduct a mobile defense, featuring selected strong points well forward. We have *no* locally-available reserves above division level.

The "small" U.S. contingent presently in place is to be reinforced rapidly in emergency by elements now in the United States. Expeditious arrival would depend on strategic warning, readily-available airlift/sealift assets in adequate amounts, rapid action by NATO's politico-military leaders, and the preservation of vulnerable reception facilities in Europe, none of which is assured.[46]

Asymmetries between U.S. and Soviet cruisers, destroyers, and attack submarine strengths also are important, because all such ships can engage each other in combat. There is no direct relationship between like systems, as there is for ICBMs, because submarines sink surface ships, and vice versa, but numerical superiority nonetheless would assist the so-called "one shot" Soviet Navy if a war of attrition occurred.

APPRAISING U.S. ENDS AND MEANS

There is no consensus concerning the implications of many asymmetries identified in foregoing sections. Those who believe in bald U.S. superiority across the board discern impending disaster for the United States. They recommend that America's military establishment be reinforced immediately. Even those who prefer quantitative parity as the U.S. force posture standard feel some queasiness when confronted with statistics like those in Annex A.

Superiority and parity, however, are oriented exclusively on *Soviet holdings*, without regard for real *U.S. requirements*. Sufficiency, a better standard, concentrates on what this country can *do* despite Soviet opposition, not on what each side *has*.[47]

The following exposition therefore focuses on possible conflicts between available U.S./Soviet assets (Figures 5–8) and announced U.S. aims (Figure 9). Findings are summarized on Figure 10.[48]

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[45] Refer back to Figure 2.

[46] For fuller discussion, see Collins, John M., U.S. Military Support for NATO, p. 21–28.

[47] Superiority is a force planning concept which demands markedly greater capabilities of certain kinds than those possessed by opponents. Parity/essential equivalence is predicated on particular capabilities that are approximately equal in overall effectiveness. Friendly and enemy numbers need not jibe in either case, but statistical strengths tend to be overemphasized, because friendly force levels depend on the extent of enemy deployments. By way of contrast, sufficiency as a force-sizing criterion calls for adequate abilities to attain desired ends without undue waste. Superiority thus is essential in some circumstances; parity suffices under less demanding conditions; and inferiority (qualitative as well as quantitative) sometimes is acceptable.

[48] See Annex B for force sufficiency factors.

FIGURE 9.—*U.S. aims to be accomplished*

National security interests
- Survival
- Physical Security
- Stability
- Credibility
- Peace
- World Power
- Self Determination
- Freedom of Action

National security objectives
- Deter aggression
- Defend United States if deterrence fails
- Safeguard other states whose security is linked with our own

Military roles and missions
- *Title 10, United States Code*
  - Overcome aggressors that imperil U.S. peace and security
  - Conduct prompt and sustained operations on order
  - Protect U.S. shipping
- *DoD Amplification*
  - Gain general air superiority
  - Gain general naval supremacy
  - Deal with one major and one minor contingency concurrently

U.S. objectives in NATO Europe
- Deter Warsaw Pact aggression
- Defend without major loss of territory if deterrence fails
- Maintain a high tactical nuclear threshhold

Strategic mobility aims
- Reinforce and resupply NATO Europe in emergency
- Facilitate U.S. operations elsewhere as required
- Supply selected allies

U.S. defense commitments [1]
- Treaties
- Congressional resolutions
- Executive agreements
- Policy declarations, communiques

[1] See Annex C for details.

FIGURE 10.—*Key U.S. shortcomings* [1]

Strategic nuclear problems
- Prelaunch survivability of ICBMs
- Postlaunch survivability of bombers
- Defense for U.S. population, production base

NATO—Related problems
- Active Army small compared with global commitments
- Key assets extremely concentrated
- Absence of ABM defense in Europe
- Cracks in the NATO alliance
- Readiness/responsiveness of U.S. reserve components

Naval combat problems
- Protect U.S. shipping/reinforce NATO
  - Navy small compared with global commitments
  - Surface combatants exposed to short-range missiles
  - ASW unable to cope with large-scale submarine threat
- Amphibious lift insufficient for landing forces

Strategic mobility problems
- Airlift insufficient to move ready reserves rapidly
- Sealift depends on foreign-flag carriers

[1] The Soviet Union is plagued with its own set of problems. Some are precise counterparts of those shown above. Others are different. Thus study concentrates on *U.S.* problems that call for *U.S.* solutions.

Present balance

Strategic nuclear problems

The present balance between U.S. and Soviet strategic offensive forces would be degraded dramatically by pre- and post-launch attrition at the onset of a general nuclear war. Our ICBMs and, bombers both are vulnerable in different degrees. This country, having absorbed a Soviet first strike, would have to retaliate with truncated elements whose coordination and control could be disrupted. Our forces would have to function in a chaotic atmosphere, where nuclear effects (blast, heat, radiation) might drastically decrease expected capabilities.

U.S. strategic defensive problems are perhaps even greater. If deterrence should fail for any reason, and massive Soviet attacks hit the United States, we would be exposed to the full effects, unable to protect our population or production base. The Soviet Union, like the United States, lacks sizable ABM capabilities but, unlike this country, still stresses strong air and civil defenses.[49] Some studies in fact claim that city evacuation plans shortly will enable the Soviets to engage in nuclear combat with far fewer casualties than this country.[50] That contention is unconfirmed, but even partial defenses could buttress the Kremlin's bargaining power in times of intense international crisis, by undercutting our second-strike Assured Destruction threat.

NATO-related problems

The vulnerability of U.S. and allied ground combat, tactical air, support, and command/control forces in central Europe increased sharply when France withdrew from military participation in NATO. At West Germany's waist, the theater now is barely 130 miles wide, less than one-third the distance from Los Angeles to San Francisco. Maneuver room for armies is at a premium. Congestion at air bases approaches supersaturation. Some U.S. aircraft and logistical installations were repositioned in the United Kingdom, but most U.S. supplies, including ammunition, are stored within a 30-mile radius of Kaiserslautern. The first sharp Soviet surge could sever friendly supply lines, which radiate from Bremerhaven, Rotterdam, and Antwerp, then run closely behind and parallel to the prospective front. Airfields also could be overrun. Every lucrative military target, including command/control centers, air bases, ports, and supply depots is within easy reach of Soviet IRBMs and MRBMS.[51] The absence of ABM defenses thus is critical. The Soviets, who have less need for a

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[49] Titov, M.N., Yegorov, P.T., Gayko, B.A., and others, Civil Defense, Moscow, 1974. Translated from the Russian. Ed. by G.A. Cristy, Oak Ridge National Laboratory (Document ORNL-TR-2845), July, 1975. 118 p.; Gouré, Leon, Soviet Civil Defense in the Seventies, Coral Gables, Florida. Center for Advanced International Studies. University of Miami, September, 1975, 128 p.; Scott, Harriet Fast, Civil Defense in the USSR, Air Force Magazine, October, 1975, p. 29–33; Fact Sheet, Soviet Civil Defense, Defense Civil Preparedness Agency, May 2, 1973. p. 4.

[50] Baker, Howard H., Jr. Reassessing and Refining Our Foreign Policy. Remarks in the Senate. Congressional Record, June 24, 1975, p. S11410;
Wigner, Eugene P., The Myth of "Assured Destruction." Survive, July–August, 1970, pp. 2–4;
Defense Civil Preparedness Agency briefing of Post Nuclear Attack Study (PONAST) II, prepared by JCS Studies Analysis and Gaming Agency on May 23, 1973. No pagination. (116 p.)

[51] Bowen, John W., then Chief of Staff for the U.S. European Command, in personal correspondence to the author, November 27, 1967. The situation he perceived at that time remains essentially unchanged. France has not undertaken any agreement to realign herself militarily with NATO. The use of French forces and territory in time of crises would be subject to a political decision. NATO therefore does not plan on French participation. Senate Hearings on FY 73 Authorization for Military Procurement, Op. Cit., Part 2, p. 523. For implications of de Gaulle's decision to evict NATO forces from France see Moon, Gordon, A., II, "Uncertain Future," Army, March 1967 and "Invasion in Reverse" Army, February 1967.

tactical ABM system and possess strong antiaircraft capabilities, are not so disadvantaged.[52]

Total force concepts applied to NATO Europe also exhibit flaws. The entire south flank, for example, is shaky from the Atlantic seaboard to Asia Minor. Portugal has been politically unstable and militarily unreliable since Spinola was ousted in autumn 1974. Italy, with continual government crises, a sick economy, and a strong Communist Party, faces serious problems. Greece and Turkey are more concerned with threats from each other than from the Warsaw Pact. French forces would assist in NATO's forward defense only if *French* leaders concluded that *French* interests were endangered.

U.S. reserve components display spotty degrees of responsiveness. Some tactical fighter, reconnaissance, and airlift units reputedly could be enroute to Europe almost immediately, others in less than 10 days.[53] Army National Guard divisions, despite recent improvements in readiness, still would require weeks to receive personnel and equipment fillers, complete team training, and deploy. (Soviet Category 2 divisions allegedly could be on site in days).[54] If war with the Warsaw Pact were short and decisive, as some students of the subject suggest, only those elements mobilized and positioned early would count. The remainder would be ineffective, no matter how impressive they might look on paper.[55]

Naval combat problems

The scarcity of U.S. surface combatants compared with global commitments and contingency requirements strains capabilities. The U.S.S.R. can concentrate power where and when it wants *before* hostilities break out, while the U.S. Navy must cover extended sea lanes.

Carrier aircraft and shipboard SAM defenses would afford a fair shield for U.S. fleets if the Soviets fired anti-ship cruise missiles from long range, but the U.S. Navy has almost no protection against surprise attacks launched from close quarters. Soviet ships so armed could stand close in during crises, perhaps interspersed with U.S. elements, then strike suddenly with a high probability of success.

The Soviet inventory of ballistic missile and attack submarines is a bit smaller than it was 10 years ago (376 then, 326 now), but capabilities have expanded significantly, while U.S. cruiser, destroyer, and escort strength declined by 131 ships.[56] We discarded nine aged ASW carriers during the same decade. That shift in the quantitative balance, coupled with continued ASW detection difficulties, seriously impairs America's ability to protect sea lanes required for important U.S. commerce and NATO resupply/reinforcement purposes. Steps to bottle up Soviet boats before war began might well provoke combat, not prevent it. Outnumbered U.S. forces therefore would initially be

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[52] French and British ballistic missiles can reach targets on Soviet soil, but those in fixed sites are vulnerable to surprise attacks by IRBMs, MRBMs, and SLBMs with short flight times. They might not be destroyed, but their reliability would be in doubt.

[53] U.S. Congress. Senate. Hearings Before the Senate Armed Services Committee on Fiscal Year 1973 Authorization for Military Procurement. Part 2 of 6 Parts. 92d Congress, 1st Session. Washington, U.S. Govt. Print. Off., 1972, p. 1123.

[54] Data received from Office of the Joint Chiefs of Staff (J-5) on January 16, 1976.

[55] Greater reliance on brigade and battalion-sized Army National Guard forces, and less on full divisions, recently was announced by former Defense Secretary Schlesinger. He contended that "we should stop pretending that we can use [National Guard and Reserve divisions] as full substitutes for active duty ground forces." Guard Divisions Played Down, Army Times, March 12, 1975, p. 31.

[56] Includes ships in U.S. Naval Reserve, but excludes Coast Guard.

compelled to find, fix, fight, and finish Soviet submarines beneath open seas. Enemy boats returning to base for refills would have to transit attrition barriers at choke points, but before then they could deal great damage.[57]

Assault sealift problems are also imposing. One marine amphibious force (MAF)—a marine division with its associated air wing—normally embarks on 48 amphibious ships.[58] U.S. Navy holdings today total just 64, including seven helicopter carriers. Ten on the average are undergoing overhaul at any one time. The 48-ship requisition thus constitutes 88 percent of all operational assets. Only half of our amphibious lift is available in the Atlantic area. The remainder is located along the U.S. west coast and elsewhere in the Pacific. Lead times to assemble, load, move, and conduct a division-sized amphibious assault would approximate two months from time of alert.[59] Whether such operations could succeed under general war conditions is contentious.

Strategic mobility problems

Increased dependence on strategic reserves in the United States instead of forward deployment places increased demands on mobility forces.

America's airlift assets, the world's best, still exhibit shortcomings. Figure 5 shows 300 aircraft (70 C–5As and 230 C–141s) in operational squadrons, but a substantial slice is grounded for maintenance at any given moment.[60] Moving our only airborne division to the Middle East (where Brezhnev threatened to commit ground combat troops during the 1973 Arab-Israeli crisis) would take a week if alert times permitted prior preparation, longer if not.[61] Flights to NATO Europe are shorter, but lift requirements are much larger. A lengthy period thus would elapse before all airlifted elements closed.

U.S. sealift dependence on foreign flags has already been discussed (see strategic mobility policies).

Projected balance

Nothing in United States/Soviet R&D, deployment, or budgetary trends is likely to eliminate the problems just enumerated. A few will be eased. Others will be exacerbated.

Research and development

Air- and land-mobile missiles now in design stages would reduce pre-launch attrition threats to U.S. ICBMs, if a sizeable percentage of our present force were converted. Better low-level performance and penetration aids should improve post-launch survival prospects for future U.S. bombers, although evolving Soviet countermeasures ensure continued sharp competition.[62] Other strategic offensive R&D

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[57] Sea control problems related to potential Middle East oil crises are covered in U.S. Congress. House. Oil Fields as Military Objectives: A Feasibility Study. Prepared for the Special Subcommittee on Investigations of the Committee on International Relations by the Congressional Research Service. 94th Congress, 1st Session. Washington, U.S. Govt. Print. Off., 1975, pp. 19–20, 66–67.

[58] Statistics were drawn from a Marine Corps Command and Staff manual. They would be modified to meet specific contingencies, but requirements would be similar.

[59] Schlesinger, James R., Report to the Congress on the FY 1976 and Transition Budgets, p. II–93. Supplemented by telephone conversation with Operations and Amphibious Matters Branch, Headquarters, U.S. Marine Corps, June 27, 1975.

[60] Airlift availability rates were reviewed in Report to the Congress: Airlift Operations of the Military Airlift Command During the 1973 Middle East War, Washington, Comptroller General of the United States (GAO), April 16, 1975, pp. 10–15, 57–58.

[61] Includes roughly 11,000 men, a basic load of ammunition, and five-day supplies of rations and fuel. Statistics furnished telephonically by staff members of the 82d Airborne Division, April 8, 1975.

[62] U.S. bombers on final approaches to many Soviet targets would have to overfly open water or flat terrain that facilitate low-level radar coverage for air defenders.

programs, like bigger ballistic missiles and maneuverable reentry vehicles (MaRV), do little to circumvent key shortcomings. Perfecting cruise missiles might strengthen short-term U.S. deterrence, but might also prove to be a long-term liability if the Soviets deploy equivalent systems: they have stout air defenses, whereas we do not.

U.S. and Soviet scientists both seek to solve ABM problems, but no breakthroughs appear imminent. The Department of Defense has no programs that specifically concern air defense for the United States. R&D related to U.S. civil defense receives very low priority.

Laser-guided anti-tank weapons, "smart" bombs, new artillery ammunition, and SAM–D are among the R&D innovations U.S. forces count on to compensate for superior Soviet numbers in NATO Europe, but science offers no other relief for U.S. shortcomings. One crucial problem, the absence of ABM defenses, is susceptible to R&D solutions, but if a suitable system surfaced tomorrow, the SALT I Treaty would preclude deployment. Additional complications actually are anticipated, since the Soviets already are testing mobile IRBMs in a MIRVed mode.

R&D programs seem unlikely to ease basic naval combat problems in the predictable future. On the contrary, quieter, faster Soviet submarines, long-range Soviet SLBMs that allow larger operational areas, and improved ECM for Soviet anti-ship missiles will increase U.S. ASW detection and fleet air defense difficulties.

Neither the United States nor the Soviet Union is experimenting with any equipment expected to alter strategic mobility means essentially.

Procurement/deployment programs

Replacing B–52s with B–1s is the only strategic nuclear procurement/deployment plan directly related to current *U.S.* shortcomings. Introducing Trident simply will complicate *Soviet* ASW problems. SALT accords prohibit increasing the number of American ICBMs to equal or exceed those of the Soviet Union. Multiplying MIRVs to include all U.S. missiles would maintain a lead in warheads, but be of limited value in light of our key shortcomings.

Soviet modernization efforts, in contrast, are of unsurpassed magnitude. They feature four new ICBM families, all with greater payload capacities than their predecessors, and all being tested with MIRVs. Two systems incorporate "cold launch" techniques that allow refire capabilities using larger missiles in existing silos. Backfire bombers, vastly superior to aged Bear and Bison aircraft, are entering the inventory.[63] Eight new Delta-class submarines with 12 long-range missiles each have already been launched. "Stretched" versions with 16 launch tubes are now under construction.[64]

America's strategic defensive plans include no procurement and extensive cutbacks. All anti-ballistic missiles will be removed this year.[65] All six Air National Guard F–101 interceptor squadrons will phase out by the end of FY 1977, partly because of budgetary priori-

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[63] Backfire bombers, a SALT II issue, could strike targets in the United States without in-flight refueling, then recover in Cuba or some neutral country in Latin America. The Soviets have only a few tankers, and only a few of those could serve Backfires.

[64] Schlesinger, James R., Report to the Congress on the FY 1976 and Transition Budgets, pp II12–II16; Updated informally.

[65] U.S. Congress, House. Department of Defense Appropriations. Fiscal Year 1976, Conference Report, p. 28.

ties, partly because of beliefs that "without effective ABM defenses, air defenses are of limited value against aggressors armed primarily with strategic missiles."[66]

Soviet strength is growing rapidly in central Europe, according to recent statements by the Chairman of NATO's Military Committee.[67] This country, which annually considers sharp force cutbacks, has no plans to significantly alter the present balance by adding forces.[68] Exchanging F–4 squadrons for F–15s and F–16s will *curtail* tactical nuclear capabilities, since neither new aircraft can carry nuclear weapons.[69] No solution to congestion problems or exposed supply lines is seen to be soon forthcoming.

One U.S. attack carrier was retired in January, 1976. Another will be decommissioned before the end of this fiscal year. At that time, the Navy will be able to maintain no more than two on station in the Pacific and two in the Atlantic/Mediterranean at any one time. Only 12 ships will be available for active duty. The 13th is designated for training.[70] Carrier aircraft, a prime means of projecting naval power and protecting U.S. fleets, will be reduced commensurately.

Meanwhile, the Soviets are equipping gun destroyers with anti-ship cruise missiles as an extra capability. The U.S. Harpoon, when deployed, should strengthen deterrence by promising counterbattery fire in kind, but Soviet first strikes could still be destructive. The Soviets' forward deployment posture is improving in Cuba and along the littorals of Africa and South Asia, where several countries already service Soviets ships.[71] The United States is experiencing difficulties, especially in Turkey and Greece.[72]

The United States is doing nothing to reduce dependence on merchant ships flying foreign flags. Few ships suitable for military purposes are being built. Soviet programs, which emphasize small ships for use in small ports, ensure responsive forces under firm control that support operations in underdeveloped areas and assist in projecting political power.

Budgetary emphasis

U.S. budgetary projections paint a bleak picture when related to pressing U.S. problems, even though absolute outlays are very large. DOD's baseline budget has been cut by 20 percent since 1964. Expenditures continue to decline in terms of purchasing power, percent of the total federal budget, and U.S. GNP.[73] High disbursements for pay, allowances, and other manpower costs will persist, given prevailing policies. Comparatively little will be left over for expansion and modernization after unavoidable operations/maintenance outlays are deducted.

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[66] Schlesinger, James R., Report to the Congress on the FY 1976 and Transition Budgets, p. II41.

[67] NATO Warned of Soviet Offensive Power, Aviation Week, December 15, 1975, p.19.

[68] Adding two or three U.S. Army brigades and associated elements to USAREUR will have little effect on the overall U.S./Soviet military balance in Europe.

[69] New U.S. Fighters a Worry in Europe, New York Times, December 22, 1975, p. 17. F–15s are not wired to handle nuclear weapons. Modifications could be incorporated only at great cost. F–16s are designated as "nuclear capable", but could carry nuclear weapons only if retrofitted. F–111 squadrons could be dedicated to NATO in emergency, at the expense of other missions. Clarification received from Air Force staff members on January 13, 1976.

[70] Sea Power Cut in the Pacific, Washington Star-News, December 24, 1975, p. D–10. Updated by Office of the Chief of Naval Operations, January 19, 1976.

[71] See for example Means of Measuring Naval Power With Special Reference to U.S. and Soviet Activities in the Indian Ocean, p. 4, 10–12.

[72] See especially U.S. Congress, House, Greece and Turkey: Some Military Implications Related to NATO and the Middle East. Prepared for the Special Subcommittee on Investigations of the Committee on Foreign Affairs by the Congressional Research Service. Washington, U.S. Govt. Print. Off., 1975, 63 p.

[73] Schlesinger, James R., Report to the Congress on the FY 1976 and Transition Budgets, pp. 123–126. The baseline budget excludes incremental war costs, foreign military assistance, and retired pay.

Such trends sap quality as well as quantity, since consequences include fewer flying hours and less ship steaming time, fewer maneuvers and other exercises, maintenance slowdowns, and program stretchouts. (The latter actually increase costs in the long run.)

The Soviet Union, according to some authorities, is outspending this country at a rapid rate.[74] Those conclusions are almost impossible to substantiate, for reasons already enumerated. It seems clear, however, that the Kremlin is willing to commit sizeable resources for national defense. Even if pessimistic U.S. estimates were radically erroneous, and rival budgets were equal, the Soviets would have more money for modernization, being less bothered by inflation and immense manpower costs.

Still, the U.S. situation is not all bad. Budgetary crimps, real or imagined, stimulate the search for innovative, less expensive solutions to our national defense problems. Necessity *really is* the mother of invention.

Predicting Soviet intentions

No appraisal of the United States/Soviet military balance would be complete without some note of Soviet intentions, which reflect changeable states of mind among men in the Kremlin. Otherwise, there would be no way to predict the imminence or intensity of prospective perils.

Two opposing schools of thought (with kaleidoscopic shades in between) currently collide. A quick summary of associated philosophies points up the differences. [75]

School "A" discounts the significance of Soviet strides since the mid-1960s. America's Assured Destruction capabilities afford a sound nuclear deterrent, so the argument goes. Accommodations in Europe, including those at Helsinki in 1974, stabilize that area, reducing risks of armed conflict. Soviet influence elsewhere allegedly depends more on diplomacy than military power. Equally important, Moscow's adventures in uncommitted countries, such as Somalia and Angola, are little related to compelling U.S. interests.

School "B" is less sanguine. As its members see it, the sapping of U.S. relative strength has far-reaching implications for a foreign policy predicated on partnership and negotiation. Inability to provide a strategic nuclear shield for the Free World, coupled with failure to defeat a ninth-rate country like North Vietnam, erodes America's alliance system. Consequently, reciprocal arms control accords, which once were strategic adjuncts, assume crucial proportions. U.S. national security, School "B" contends, quite literally depends to a high degree on cooperation by a canny competitor, whose incentives to collaborate are slight.

Ascertaining which school is correct exceeds the scope of this unclassified study. Suffice it to say here that the extent to which *suspected* Soviet intentions should shape *actual* U.S. capabilities is a subject that calls for caution. Intentions can change overnight, but improving military capabilities is a time-consuming process.

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[74] See for example CIA Finds Soviet Arms Budget Now is Ahead of U.S., New York Times, July 22, 1974, p. 2; and Schlesinger, James R., letter to Senator John L. McClellan, Chairman, Subcommittee on Defense of the Committee on Appropriations, October 23, 1975, p. 2.

[75] For discussion, see Blechman, Barry M., Handicapping the Arms Race: Are the Soviets Ahead? The New Republic, January 3 and 10, 1976, p. 19-21.

PART III. ENDS EQUATED WITH MEANS

IDENTIFYING OPTIONS

The primary mission of U.S. defense decision-makers is to match realistic ends with measured means, minimizing risks in the process. This brief section suggests courses of action that, singly or in combination, could correct shortcomings shown in Figure 10.[1]

Some shortfalls would be excised spontaneously if the Executive Branch and Congress compressed America's aims. Reshaping strategy would eliminate or ease several others. So would force adjustments. Additional cures are conceivable.

This section explores prime options in turn, posing sample questions which Congress, if so inclined, could use as a starting point for hearings on the subject.

ASCERTAINING REAL REQUIREMENTS

Review U.S. interests

The only sacrosanct U.S. interests are survival and physical security, which must be satisfied to preserve the American people and their production base as an independent state with territorial integrity, national institutions, and values intact.

Interests in world peace, world power, world stability, self-determination, freedom of action, democracy, human rights, national honor, and credibility all stem from convictions (subscribed to by seven presidents since Franklin D. Roosevelt) that America's future is closely linked with the world community. Current gaps between U.S. ends and means would assume less significance if such interests in international security affairs were rescinded or reduced.

A fundamental review of U.S. foreign policy to identify which interests are essential, which are of secondary importance, and which are irrelevant thus r nks first in order of importance. Cogent questions include:

—Are U.S. national security interests inseparable from our connections with other states? Why? Which ones?

—Does U.S. economic prosperity demand input from other countries? Which countries? What items? How much? What consequences would be caused by loss?

—Does the United States have a moral obligation to help safeguard countries overseas? If so, which ones?

[1] U.S. military posture is affected by our balance with countries and coalitions other than the Soviet Union and the Warsaw Pact, as noted on page 1. None of those relationships are reviewed in this study, but courses of action addressed in this section could be used to adjust U.S. ends and means in any geographic or functional area where the United States experiences problems.

Review U.S. objectives

Amending America's national security objectives could basically affect the way available forces influence the U.S./Soviet balance, whether interests changed or not. Asymmetries between ground combat strengths in central Europe, for example, would assume less importance if this country abandoned its objective of maintaining a high tactical nuclear threshold in NATO Europe.

There is very little latitude for improving relationships between U.S. ends and means by altering strategic nuclear objectives. Deterring general war, generally acclaimed as the most important of all aims, is not negotiable. Lip service or less is presently paid to goals affiliated with aerospace defense. Consequently, the only significant opportunities for adjustment concern safeguarding other countries.

Answers to questions of the following sort would help sort out the issues:

—Should the United States still seek to contain Soviet expansion? To contain the spread of Soviet influence through the use of proxy states? If so where? Under what circumstances?

—Is maintaining a global balance of power an imperative U.S. objective? Regional balances? Why? Where?

—Should the United States strive to deter regional wars? What kinds (conventional, tactical nuclear, revolutionary)? Why? Where?

—Should this country be able to cope with one major and one minor contingency concurrently if regional conflicts occur? [2] What kinds? Why? Where?

—Wherever answers seem to be "no," what substitute objectives would satisfy U.S. interests?

Review U.S. commitments

America's security commitments overseas were concluded between 1947 and the mid-1960s, during the United States/Soviet Cold War confrontation that predated the current period loosely called "détente." All told, they obligate the United States in one way or another to help defend Latin America and nearly every nation along the Sino-Soviet rim (refer to Annex C).

The Atlantic Alliance, which considers "an armed attack against one or more [members] . . . an attack against them all," commits each signatory to take, "such action as it deems necessary, including the use of armed force." [3] No other pact is that specific, and none is so centrally affected by the United States/Soviet military balance, but most nonetheless have related implications.

Downgrading or discontinuing certain commitments in consonance with altered interests and objectives could help correct military imbalances between the United States and the Soviet Union if forces freed from inconsequential areas were shifted to sites of crucial concern. Associated questions include:

—Which commitments contribute least to U.S. security?

—Would inimical implications arise if they were scrapped?

—What forces would be freed? In what numbers?

—What use would they be elsewhere?

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[2] Such as Soviet armed intervention in NATO Europe or the Middle East, with diversions elsewhere.
[3] Article 5 of the North Atlantic Treaty.

Review U.S. military roles and missions

Title 10, United States Code and related DOD Instructions assign roles/missions to U.S. armed forces (see Annex B for details). Mismatched ends and means ensue when strength is insufficient to fulfill assigned functions. "It is the intent of Congress," for example, to provide combat power capable of "overcoming [*not just deterring*] any nations responsible for aggressive acts" that imperil U.S. peace and security,[4] but U.S. war-winning capabilities and intentions have been absent for a good many years.

Removing unrealistic requirements and/or revising resources would bring U.S. assets and aims into better balance. Several questions thus seem in order:

—Should strategic nuclear roles/missions be segregated from those for conventional forces? In either instance,

—Is war-winning an essential requirement? If not, what should be substituted? Deterrent capabilities only? Conflict control capabilities? How would changes affect U.S. security?

—Should U.S. armed forces be charged with conducting *prompt* combat operations? If so, how promptly? On what scale? Where? Globally or in selected regions? Relate to active force requirements, the readiness of reserve components, and Soviet threats.

—Should U.S. armed forces be charged with conducting *sustained* combat operations? Under what conditions? Relate to total force size and tooth-to-tail ratios.

—Should this country seek to gain and maintain *general* air and naval supremacy? What are the alternatives? How would adjustments affect the United States/Soviet balance?

ADJUSTING POLICY GUIDELINES

Prevailing U.S. policies cause many asymmetries between U.S. and Soviet armed forces, and mismate ends with means. Each should be analyzed to ascertain its continued advisability. Questions below are keyed to salient U.S. aims and shortcomings shown on Figures 9 and 10.

Review strategic nuclear policies

—What policy is best suited to deter a Soviet first-strike? Deterrence based mainly on city targeting or a combination of counterforce/countervalue capabilities across the conflict spectrum?

—Is peacetime essential equivalence in ICBMs an acceptable U.S. force structure standard, given our second-strike strategy? If not, what policy adjustments would ensure survivability? Reduce reliance on ICBMs? Renew launch-on-warning options?

—Are the American people well-served by deterrent policies that downgrade strategic defense? How would alternatives affect U.S. security?

—Should SALT policies control U.S. efforts to achieve a satisfactory balance with the Soviet Union? What advantages and disadvantages are evident? What alternatives?

[4] Title 10, United States Code, Chapter 307, Section 3062.

—Do "bargaining chip" policies help or hinder U.S. efforts to achieve a satisfactory balance with the Soviet Union? If they help, which "chips" are advantageous? Why?

Review general purpose policies

—Is unilateral U.S. disarmament, as repeatedly practiced, a sound policy in the present world environment? Relate to U.S. objectives and Soviet capabilities.

—Does a high nuclear threshold in NATO Europe best serve U.S. purposes? Would changes in policy strengthen or undercut deterrence? In what ways? Would increased risks be serious or inconsequential? Why?

—Are total force concepts still sound? If so, should the balance between U.S. active and reserve forces remain constant or change? Between U.S. forces and allies? In what ways? What substitute policies should be considered?

—Does the All-Volunteer Force permit an acceptable balance between U.S. and Soviet forces? If not, would conscription be preferable? What are the alternatives?

—What is the optimum balance between U.S. forces in specific overseas areas? Relate to requirements for responsive reserves.

—Are forward defense policies obsolete? If not, what is the optimum balance between U.S. forces in overseas areas and those in strategic reserve?

—Is military assistance an effective policy? How does it improve U.S. security? To what extent? In what areas?

—Should the United States institute stringent controls over the sale of conventional arms? Would the Soviets sell where we decline? If so, how would it affect our security?

—Should present pay and allowances policies be perpetuated? If not, what options should be studied? Reduced pay scales for regular forces? Constant scales that disregard cost-of-living increases? Lower scales for conscripts if we ever return to the draft?

—Is continued dependence on foreign-flag shipping a sound U.S. policy? Relate to U.S. objectives and commitments. What cost-effective alternatives would improve our security?

ADJUSTING AVAILABLE MEANS

Review U.S. force structure

Significant improvements in the United States/Soviet military balance would ensue if ways were found to eliminate excessive redundancy and extraneous capabilities caused by outdated concepts, shaky assumptions, interservice rivalry, vested interests in government and industry, and various other influences. Answers to questions of the following kind would assist.[5]

—Is a strategic nuclear triad the most effective U.S. force structure? What affect would fewer systems have on U.S. security? More systems?

—Do current components of our triad comprise the optimum mix? If not, what replacements would be preferable? Many cruise missiles instead of manned bombers? Mobile instead of fixed ICBMs?

[5] It is important in each instance to ascertain the impact on overall U.S. defense posture as well as influences on the U.S./Soviet military balance.

—Should air defense aircraft be replaced entirely by surface-to-air missiles? If not, what mix would be most advantageous? To what extent should tactical fighters supplant specialized interceptors for continental air defense?

—Should U.S. tactical nuclear capabilities include IRBMs/MRBMs? Compare strengths and weaknesses with those of tactical aircraft.

—Could much larger inventories of less sophisticated weapons increase U.S. capabilities at reduced costs? What would be the optimum distribution of high-cost, high-performance items to relatively low-cost, low-performance items in specific systems (the so-called hi-lo mix)?

—To what extent could lightly-armored, low-cost fighting vehicles supplant U.S. tanks in NATO Europe? What missions would suffer? How would overall security be influenced in consequence?

—Does a three-division Marine Corps contribute significantly to the United States/Soviet military balance? Would U.S. capabilities increase or decrease if the Army absorbed major Marine Corps functions? Why? Are amphibious assault capabilities still an essential U.S. asset? What would we gain or lose by scaling back?

—Do Marine air wings contribute significantly to the United States/Soviet military balance? Would U.S. capabilities increase or decrease if the Air Force absorbed marine air wing missions? Why?

—Does continued emphasis on large surface combatants contribute significantly to the United States/Soviet naval balance? Would capabilities increase if many small, fast ships were substituted? Relate to survivability in conventional and nuclear attack environments.

—Would fast, comparatively cheap, easy-to-service gas turbine engines serve future U.S. cruisers and destroyers better than nuclear power? What credits would accrue? What debits could be expected?

—What advantages would accure from increased cooperation with NATO on R&D, production, procurement, and standardization? What disadvantages?

Review U.S. budget procedures

Inflation, recession, balance of payments problems, and dollar devaluations all inhibit efforts to create U.S. military capabilities that can compete successfully with the Soviet Union.

Two procedures in particular bear review:

—The Congress tends to judge individual programs *in isolation.* To what extent would ends and means merge more successfully if Congress also examined manpower and materiel *interrelationships* within and between the several services?

—Total life cycle costs of competitive systems still are not clear. How could DOD and the Congress better assess long-term expenditures in relation to expected capabilities for proposed weapons and equipment?

WRAPUP

Quantitative and, in some instances, qualitative deficiencies, disadvantageous deployments, and attributes ill-designed to accomplish essential aims all contribute to imbalances between U.S. and Soviet armed forces. That condition is by no means static. Annex A clearly shows a thrust that likely will continue unless U.S. decision-makers take dynamic steps to ratify, reinforce, retard, or repeal current trends.

As it stands, the quantitative balance continues to shift toward the Soviet Union. U.S. qualitative superiority never compensated completely and, in certain respects, is slowly slipping away. America's global responsibilities, coupled with U.S. reliance on reserve components, permit the Soviet Union to concentrate power while we remain dispersed, depending heavily on allies and arms control accords to safeguard our national interests. Force structure standards that stress essential equivalence instead of sufficiency encourage overemphasis on arms and equipment that bear scant relationship to pressing requirements.

Quantitative asymmetries that favor the Soviet Union attract the most attention, but the absence of comparable capabilities is only occasionally cause for concern, as Figures 7 and 8 indicate. Mismatched U.S. ends and means are much more important (see Figures 9 and 10). Very few positive U.S. programs, contemplated or in progress, will alleviate associated problems.

Some of the cogent U.S. shortcomings identified in earlier sections would lose significance if this country scaled down its overseas interests, accepting uncertain costs related to reduced world power status, the possible loss of Free World leadership, and long-range U.S. security. Others could be corrected (entirely or in part) by policy changes, such as amending military pay scales to allow more money for modernization without a bigger budget. A third course of action could contribute by scrapping inessential and/or inappropriate capabilities, present or proposed—the contemplated expansion of our strategic nuclear triad from three to seven systems typifies programs that are ripe for review.[6] Some steps, like reshaping the U.S. Navy to meet emerging Soviet threats, might demand expending additional funds. Risks courted by allowing any or all shortcomings to remain uncorrected should be carefully calculated.

Which combination would be most suitable (indeed, whether *any* action is essential) might best be ascertained by a national debate to sharpen issues and identify optimum options. This study lays the groundwork for Congressional participation.

Sound conclusions would allow Congress and the Executive Branch in concert to chart a course that matches ends and means in ways that assure America's ability to deter and, if need be, defend successfully against any sort of Soviet armed aggression for the rest of the 20th Century.

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[6] Manned bombers, hard-site ICBMs, and submarine-launched ballistic missiles comprise our current triad. Air-launched and land-mobile ballistic missiles, along with air- and sea-launched cruise missiles, are in various stages of R&D. All are considered as add-ons, rather than replacements for present systems.

ANNEXES

ANNEX A

TRENDS IN THE QUANTITATIVE BALANCE

Statistics contained herein are calculated to show changes in the U.S./Soviet quantitative balance over the last 10 years. Columns for 1965 and 1975 first indicate comparative force levels, then identify how far ahead or behind the United States was at those selected times. The right hand column reflects cumulative shifts in U.S. status. In 1965, for example, we had 630 more ICBMs than the Soviet Union. Today, they have 549 more than we do. The net change in balance thus is 1,179 in favor of the Soviet. Some entries in the net change column are positive, although this country currently is behind. Those circumstances occur when Soviet reductions exceed those of the United States, but Soviet inventories remain numerically superior. Other entries are negative, although the United States currently is ahead. Those conditions are caused by Soviet expansion that narrows, but does not close, specific gaps.

Comparisons include active inventories only, except as noted. Reserve components and allied forces are addressed in the text.

Multiple open sources were used to compile basic data. Various staff sections in the Pentagon amended and/or supplied many statistics.

	1965			1975			
	United States	Soviet	United States (difference)	United States	Soviet	United States (difference)	Net U.S. change
STRATEGIC OFFENSIVE							
Personnel [1]	220,800	308,000	−87,200	76,700	414,000	−337,300	−250,100
Navy	16,550	8,000	+8,550	18,400	14,000	+4,000	−4,150
Air Force	204,250	300,000	−95,750	58,300	400,000	−341,700	−245,950
Ballistic/cruise missiles:							
ICBM	854	224	+630	1,054	1,603	−549	−1,179
Heavy [2]	54	224	−170	54	590	−536	−306
Light [3]	800	0	+800	1,000	1,013	−13	−813
MIRVed	0	0	(40)	550	110	+440	+440
SLBM	496	120	+376	656	725	−69	−445
MIRVed	0	0	(40)	416	0	+416	+416
ALCM [4]	1,260	190	+1,070	1,140	185	+955	−115
SLCM [5]	0	140	−140	0	348	−348	−208
Submarine	0	92	−92	0	300	−300	−208
Surface	0	48	−48	0	48	−48	−0
Bombers	935	1,420	−485	529	635	−106	+379
Heavy [6]	630	210	+420	463	135	+328	−92
Medium [7]	305	1,210	−905	66	500	−434	+471
Tankers [8]	1,000	0	+1,000	615	50	+565	−435
Ballistic missile submarines	31	40	−9	41	73	−32	−23
Nuclear	31	15	+16	41	54	−13	−29
Diesel	0	25	−25	0	19	−19	+6
ICBM/SLBM warheads	1,702	344	+1,358	6,794	3,866	+2,928	+1,350
MRV	528	0	+528	480	1,542	−1,062	−1,590
MIRV	0	0	(40)	5,810	640	+5,170	+5,170

See footnotes at end of table.

	1965			1975			
	United States	Soviet	United States (difference)	United States	Soviet	United States (difference)	Net U.S. change
STRATEGIC DEFENSIVE							
Personnel [9]	120,750	500,000	−379,250	25,100	600,000	−574,900	−196,850
Army	23,050	400,000	−376,950	900	500,000	−499,100	−122,150
Navy	3,950	0	+3,950	1,200	0	+1,200	+2,750
Air Force	93,750	100,000	−6,250	23,000	100,000	−77,000	−70,750
ABM missiles [10]	0	0	(40)	100	64	+36	+36
SAM launchers [11]	2,694	8,900	−6,206	330	9,500	−9,170	−2,964
Interceptors [12]	1,113	3,800	−2,687	396	2,700	−2,304	+383
GROUND FORCES							
Army:							
Personnel [13]	939,950	1,800,000	−860,050	789,100	2,500,000	−1,710,900	−850,850
Divisions [14]	16	147	−131	16	168	−152	−21
Infantry	8	0	+8	6	0	+6	−2
Mechanized	1	90	−89	4	113	−109	−20
Armor	4	50	−46	4	47	−43	+3
Airborne	2	7	−5	1	8	−7	−2
Airmobile	1	0	+1	1	0	+1	0
Tanks [15]	10,200	30,500	−20,300	10,100	40,000	−29,900	−9,600
Heavy	0	2,500	−2,500	0	2,500	−2,500	0
Medium	8,200	25,000	−16,800	8,500	34,500	−26,000	−9,200
Light	2,000	3,000	−1,000	1,600	3,000	−1,400	−400
Armored carriers [16]	20,700	35,000	14,300	19,000	40,000	−21,000	−6,700
SSM [17]				180	1,853	−1,673	
IRBM	0	101	−101	0	87	−87	+14
MRBM	0	608	−608	0	496	−496	+112
SRBM				180	1,170	−990	
LRCM	0			0	100	−100	
Nuke artillery [18]	+1,750	0		+700	0	+450	−1,300
Other artillery [19]	1,750			2,100	17,000	−14,900	
At missiles [20]	16,500			2,400	6,000	−3,600	
Helicopters	4,000			9,000	2,580	+6,420	
Marines:							
Personnel	190,000	10,000	+180,000	197,000	12,000	+185,000	+5,000
Divisions	3	0	+3	3	0	+3	0
Separate regiments [21]	0	0	(40)	0	5	−5	−5
Tanks	545	75	+470	475	150	+325	−145
Artillery	840	75	+765	710	150	+560	−203
Aircraft	478	0	+478	468	0	+468	−10
Fighter	229	0	+229	204	0	+204	−25
Attack	249	0	+249	264	0	+264	+15
Helicopters	419	0	+419	487	0	+487	+68
Border Guards	0	200,000	−200,000	0	400,000	−400,000	−200,000
NAVAL FORCES							
Personnel [22]	650,500	292,000	+358,500	515,400	386,000	+129,400	−229,100
Aircraft carriers	32	0	+32	21	3	+18	−14
Attack [23]	16	0	+16	14	0	+14	−2
ASW	9	0	+9	0	1	−1	−10
Other [24]	7	0	+7	7	2	+5	−2
Cruiser [25]	33	22	+11	27	33	−6	−17
SSM [26]	0	14	−14	0	20	−20	−6
Other	33	8	+25	27	13	+14	−11
Destroyer [25]	217	150	+67	70	85	−15	−82
SSM [26]	0	24	−24	0	20	−20	+4
Other	217	126	+91	70	65	+5	−86
Other escorts [25, 27]	(38)38	103	(−27)−65	(34)64	105	(−7)−41	(+20)+24
Attack submarines [28]	169	336	−167	73	253	−180	−13
Conventional	169	322	−153	73	185	−112	+41
Nuclear	29	12	+17	62	35	+27	+10
Diesel	140	310	−170	11	150	−139	+31
SSM [26]	0	14	−14	0	68	−68	−54
Nuclear	0	0	(40)	0	40	−40	−40
Diesel	0	14	−14	0	28	−28	−14
Boats	0	460	−460	7	230	−223	+237
SSM [26]	0	110	−110	4	135	−131	−21
Motor torpedo	0	350	−350	3	95	−92	+258
Amphibious ships [29]	118	14	+104	57	85	−28	−132
Tactical aircraft [30]	4,729	800	+3,927	3,543	768	+2,775	−1,152
Ashore/amphib	352	800	−448	450	715	−265	+183
Bombers [31]	0	400	−400	0	480	−480	−80
Patrol/ASW [32]	352	400	−48	450	360	+90	+138
Afloat [33]	2,132	0	+2,132	1,508	53	+1,455	−677
Fighter	712	0	+712	473	0	+473	−239
Attack	961	0	+961	836	0	+836	−125
ASW [34]	459	0	+459	199	53	+146	−313
Fixed wing	222	0	+222	119	0	+119	−103
Helicopter	237	0	+237	80	53	+27	−210
Sealift [35]	2,778	1,345	+1,433	1,009	2,358	−1,349	−2,782

See footnotes at end of table.

	1965			1975			
	United States	Soviet	United States (difference)	United States	Soviet	United States (difference)	Net U.S. change
AIR FORCES							
Personnel [36]	531,000	400,000	+131,000	530,700	500,000	+30,700	−100,300
Tactical aircraft [30]	5,800	3,250	+2,550	5,000	5,350	−350	−2,900
Fighter/attack [37]	3,800	2,800	+1,000	2,300	3,590	−1,290	−2,290
Recon/ECM	820	450	+370	340	750	−410	−780
Airlift:							
Strategic [38]	26	8	+18	300	60	+240	+214
Tactical [39]	620	750	−130	500	800	−300	−170

[1] U.S. reductions reflect the inactivation of strategic bomber squadrons.

[2] Definition of "heavy" ICBM's conforms to U.S. SALT I unilateral statements. Includes U.S. Titans; Soviet SS–7, SS–8, SS–9, SS–18, SS–19, although SALT II accords may eventually consider SS–19's in the "light" category. An estimated 100 of them were deployed in January 1976.

[3] Definition of "light" ICBM's conforms to U.S. SALT I unilateral statements. Includes U.S. Minuteman II, III; Soviet SS–11, SS–13, SS–17.

[4] ALCM's with nuclear warheads include U.S. Hound Dog, SRAM; Soviet AS–3 (Kangaroo), AS–4 (Kitchen), AS–6. Where statistics are lacking, but mass production confirmed, figures shown reflect standard force loadings—for example, 2 Hound Dogs per B–52, 1 AS–3 per Bear bomber, 2 AS III's per Backfire.

[5] Strategic sea-launched cruise missiles currently are limited to Soviet Shaddock, which has a maximum range of about 250 nautical miles (NM). Its estimated effective range is closer to 150 NM. Figures shown are tubes only, not missiles. Their primary mission probably is antiship.

[6] "Heavy" bombers include U.S. B–52; Soviet Bear, Bison.

[7] "Medium" bombers include U.S. B–47, B–58, FB–111, Soviet Badger, Blinder, and Backfire.

[8] U.S. 1965 tanker figure includes 50 squadrons (average 20 aircraft each).

[9] U.S. reductions reflect the inactivation of interceptor squadrons, SAM batteries, and radar sites.

[10] Soviet 1965 ABM figure excludes abortive deployment of possible first-generation missiles around Leningrad.

[11] SAM air defense launchers include U.S. Bomarc, Hawk, Nike-Hercules, both Active and National Guard. Soviet forces include SA–1 through SA–6. Soviets have 12,000 missiles for 9,500 launchers.

[12] Interceptors include U.S. Air National Guard squadrons as well as those in the Regular Air Force.

[13] Army strengths exclude strategic nuclear elements. U.S. figure for 1965 parallels that prior to the Vietnam war buildup. The peak in fiscal year 1968 was 1,570,000.

[14] U.S. figures exclude separate brigades and regiments which sometimes are used to calculate "division equivalent" strengths. Soviet tank divisions are shown as armor. Soviet motorized infantry divisions are shown as mechanized.

[15] U.S. medium tanks include M–48 and M–60; all others are light tanks. Soviet heavy tanks include JS–2/3, T–10; T–54/55, T–62 are mediums; PT–76 is light.

[16] U.S. figures are limited to armored personnel carriers. Soviet statistics include scout cars.

[17] U.S. SRBM's include Pershing, Lance, and Honest John (Lance has entirely replaced H.J. in Europe). Soviet SRBM's include Scud A/B, Scaleboard, Frog. The Soviet LRCM is Shaddock, a land-based version of their strategic nuclear SLCM.

[18] U.S. nuclear artillery includes 155 mm and 8-in howitzers. The Soviets may have nuclear rounds for 203 mm gun-howitzers and 240 mm mortars, but perhaps only for training purposes.

[19] Conventional artillery excludes mortars, antitank guns, rocket launchers, recoilless weapons, and antiaircraft artillery.

[20] U.S. antitank missiles include Dragon and Tow. Soviet models include Snapper, Swatter, and Sagger. No Soviet missiles are helicopter mounted.

[21] Soviet marines (naval infantry) in 1965 comprised small units with the 4 fleets (Northern, Baltic, Black Sea, and Pacific). They now are organized into regiments.

[22] Naval personnel strengths include naval air elements, but exclude ballistic missile submarine forces.

[23] The Soviet VSTOL carrier Kiev is sometimes called a cruiser.

[24] Soviet helicopter carriers of the Moskva class are sometimes called helicopter cruisers. U.S. counterparts are commonly categorized as amphibious ships.

[25] U.S. Navy reclassified many cruisers, destroyers, and other escorts in the spring of 1975 to conform more closely to international terminology. The 1965 column reflects 1975 classifications to facilitate comparisons.

[26] SSM refers to anti-surface-ship cruise missiles in this table. Soviet SS–N–2, 3, 9, 10, and 11 are included. SS–N–3s (Shaddocks) are shown as strategic missiles, but have antiship missions.

[27] Escorts include frigates, destroyer escorts, and other comparable oceangoing craft of 1,000 tons or more. U.S. Naval Reserve ships, shown in parentheses, are immediately available to augment active forces in emergency. U.S. Coast Guard vessels are omitted.

[28] Soviet coastal submarines are excluded.

[29] Amphibious ships exclude helicopter carriers and landing craft (such as LCU, LCM, LCVP).

[30] Total aircraft for Navy and Air Force include all types. Subordinate entries, which include selected types only, do not equal the total.

[31] Soviet naval bombers include Badger, Blinder, Beagle, Backfire.

[32] Soviet naval patrol/ASW aircraft include Bear, May, and Mail. The latter is an amphibian.

[33] U.S. naval aircraft afloat exclude those assigned to Marine squadrons.

[34] The sharp drop in U.S. Navy ASW aircraft between 1965 and 1975 reflects the decommissioning of 9 ASW aircraft carriers.

[35] U.S. sealift included 329 vessels in the Military Sealift Command (MSC)-controlled fleet in 1965 and 118 in 1975. (MSC was called Military Sea Transport Service in 1965). The remainder are Merchant Marine. No such breakout is possible for Soviet ships.

[36] Air Force personnel strengths exclude strategic nuclear and naval air elements.

[37] Current Soviet fighter/attack figures include 2,000 aircraft intended primarily for counterair missions and 1,500 earmarked primarily for close air support of ground forces.

[38] Strategic airlift forces include U.S. C–5 and C–141 aircraft, Soviet Cock and Candid.

[39] Tactical airlift forces include U.S. C–130's, active and reserve. Soviet figures indicate Cub only.

[40] Par.

Annex B

FORCE SUFFICIENCY FACTORS

Whether the prevailing and projected United States/Soviet military balance is acceptable depends on relationships between ends (interests, objectives, commitments) and means (manpower, materiel), as conditioned by acknowledged and anticipated threats, Wherever detrimental risk-versus-gain ratios appear, adjustments are in order.[1]

This annex silhouettes the full range of fundamental force sufficiency considerations, including policy guidelines and constraints.

REQUIREMENTS

National security interests

National security interests exerted minimum influence on U.S. force requirements before World War II, because our interests were essentially self-satisfying. Their influence today is central. The nation now must have sufficient power, both real and apparent, to satisfy two irreducible interests:

—Survival
—Physical security

Contributing U.S. interests, like world peace, stability, national credibility as discerned by others, and strategic freedom of action also affect force requirements.

National security objectives

Three overriding U.S. objectives stem directly from the fundamental interests identified above:

—Deter attacks against the United States
—Defend this country if deterrence fails
—Help safeguard other states whose security is closely linked with our own.

The first two objectives are rarely challenged, but controversy constantly arises concerning how many forces of what kinds are essential to accomplish them. Force requirements for the third objective range from few to many, depending on which states in which parts of the World are designated. There currently is no consensus.

Commitments related to contingencies

America's alliance system, designed to assist in satisying U.S. interests despite present and potential threats, includes eight mutual defense pacts, whose membership totals 42 countries, Executive agreements and other pledges involve 30-odd more.

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[1] Decision-makers have little control over risks that result from miscalculations, such as overrating friendly capabilities, underrating the opposition, or placing excessive emphasis on shaky assumptions. Calculated risks, including those incurred by Congress in the appropriations process, can be restricted to considerable extents.

It would be impossible to honor all such commitments concurrently, except in special circumstances (for example, general nuclear war). Current U.S. concepts therefore prescribe sufficient forces to:

—Deal simultaneously with one "major" contingency (wherever it might occur) and one "minor" contingency.

—Redeploy rapidly from one major theater to another, as required.

Among all possible contingency areas, four receive top priority:

—NATO Europe

—Northeast Asia

—Caribbean/Panama Canal

—Middle East

Forces for one area are not necessarily appropriate for the others, either in size or structure. The Caribbean is essentially a naval theater, while Northeast Asia needs combined arms. The mass formations which are effective in NATO Europe would find little space to maneuver in Panama.

Operational functions of U.S. Armed Forces

Congress, in accord with Title 10, United States Code, confirms fundamental functions for each U.S. military service. The Department of Defense, with Presidential approval, prescribes primary and collateral functions in greater detail. Forces should be sufficient to fullfill each function effectively.

Army

Title 10 functions (Chapter 307, section 3062)

It is the intent of Congress to provide an Army that is capable, in conjunction with other armed forces, of:

—Overcoming any nations responsible for aggressive acts that imperil the peace and security of the United States

—Conducting *prompt* and *sustained* operations on land.

DOD directive 5100.1 Selected primary function

—Defeating enemy land forces

—Seize, occupy, and defend land areas

—Assisting in air defense of the United States [2]

—Participating in joint amphibious and airborne operations

Collateral functions

—Interdicting enemy air/sea power and communications through operations on or from land

Special responsibilities

—Operating land lines of communication

—Providing administrative/logistic support for unified and specified commands

Navy

Title 10 functions (Chapter 503, section 5012)

—Conducting *prompt* and *sustained* combat operations incident to war at sea, including naval air operations.[3]

—Protecting shipping

[2] "Aerospace defense" is a more accurate term than "air defense", since Army functions include antiballistic missile defense.

[3] There is no explicit statutory authorization for the Navy to conduct strategic nuclear operations. That function is implicitly included under "operations incident to war at sea", according to current interpretation.

DOD directive 5100.1

Selected primary functions

—Seek out and destroy enemy naval forces
—Suppress enemy sea commerce
—Gain and maintain *general* naval supremacy
—Participate in joint amphibious and airborne operations
—Protect vital sea lines of communication
—Conduct land and air operations essential to naval compaigns

Collateral Functions

—Interdict enemy land/air power and communications through operations at sea
—Provide close air and naval support for land operations
—Participate in overall air efforts as directed

Special responsibilities

—Provide sea transport for other services
—Provide administrative/logistic support for unified and specified commands
—Provide for sea-based air defense of the United States

Air Force

Title 10 functions (Chapter 807, section 8061)

—Conduct *prompt* and *sustained* offensive and defensive air operations

DOD directive 5100.1

Selected primary functions

—Defend the United States against air attack
—Gain and maintain *general* air superiority
—Defeat enemy air forces
—Prepare for strategic air warfare [4]
—Furnish close combat and logistic air support to the Army, and air transport for all services
—Participate in joint amphibious and airborne operations

Collateral functions

—Interdict enemy sea power through air operations
—Conduct antisubmarine warfare operations
—Conduct aerial minelaying operations

Special responsibilities

—Provide administrative/logistic support for unified and specified commands

Marine Corps

Title 10 function (Chapter 503, section 5013)

—In conjunction with the Navy, seize or defend advanced naval bases
—Conduct land operations essential to naval campaigns

DOD directive 5100.1

Selected primary functions

—Participate in joint amphibious operations
—Protect naval property

[4] "Strategic aerospace warfare" is a more accurate term than "strategic air warfare", since ballistic missiles are involved.

Collateral functions
—Interdict enemy air power and communications through operations at sea
—Provide close air support for land operations
—Participate in overall air efforts as directed
Special responsibilities
—Contribute to sea-based air defense of the United States

Military missions

Service functions outlined above influence force requirements for the U.S. military establishment as a whole. Specific missions and areas of responsibility assigned to unified and specified commands under the Unified Command Plan and various operations/contingency plans help determine whether implementing forces should be many or few.

The number of U.S. troops needed merely to act as a "nuclear trip wire" in NATO Europe, for example, would be somewhat less than those that underpin present missions of U.S. European Command (EUCOM), which is enjoined to:
—Maintain an effective *conventional* as well as a tactical nuclear deterrent
—Defend assigned sectors without major loss of territory

Strategic reserves under Readiness Command (REDCOM) must furnish forces to:
—Reinforce NATO in emergency
—Reinforce other areas in accord with U.S. treaty commitments and contingency plans

And so on.

RIVAL CAPABILITIES

Threats

If decision-makers perceived no threats, there would be no need for armed forces to deter or defend against aggression. U.S. ends would be easily attained.

Three types of threat impinge on U.S. interests and objectives in ways that influence the United States/Soviet military balance:
—Strategic nuclear threats to the United States
—Challenges on the high seas
—Direct confrontations between U.S./allied and Soviet troops, as in Europe and perhaps the Middle East.

Since deterrence is the paramount U.S. objective, psychological impressions on our primary adversary are very important. What numerical relationships are necessary is a contentious matter.

Threats to allies, but not the United States (like Soviet threats to NATO) determine the size and structure of U.S. general purpose and strategic mobility forces.

Threat estimations

Two basic considerations dominate the threat-evaluation process. Capabilities indicate what opponents *could* do, if they were so inclined. Intentions indicate what they are *likely* to do. Heavy weights assigned to capabilities sometimes create greater demands for forces than strong reliance on intentions. Since even the best of estimates

may be erroneous, U.S. decision-makers would be well advised to adopt postures that will secure essential interests if estimates prove wrong.

RESOURCES

Armed forces

The numbers and types of armed forces needed to discourage aggressors are not necessarily the same as those needed to fight a war if deterrence fails. Overoptimizing forces in favor of the former aim thus may incur inadvertent risks. Consequently, sufficiency standards should foster flexibility. Further, abilities to concentrate power at appropriate times and places is more meaningful than the extent of total inventories.

The quantitative balance is most significant *militarily* when like offensive forces or weapons systems compete against each other, as one division against another. Pitting dissimilar forces against each other (SLBMs versus aircraft, for example) dispells any need for balance between like systems on either side. Quantitative/qualitative correlations between mobility and other non-combat forces are irrelevant, because missions, not enemy counterparts, determine requirements.

Nevertheless, quantitative and/or qualitative superiority would be advisable if any other posture so adversely affected *perceptions* on either side that peacetime stability would be deeply eroded and/or U.S. confidence in wartime capabilities seriously undercut.

Nonmilitary means

Armed forces are only one element in deterrence/defense equations, and maybe not the most important. When political, economic, or psychological power can satisfy objectives, military requirements usually can be reduced. Tradeoffs, however, are not always obvious. When time is a crucial factor, firepower *may* be essential for deterrent and defensive purposes.

REGULATORY GUIDELINES

National security policies

Assorted U.S. defense policies spell out ground rules for attaining stated objectives. Each affects force requirements in special ways. A few cogent policies are surveyed below for illustrative purposes.

Total force concept

This country currently subscribes to a total force concept that relegates indispensable roles to U.S. Reserve Components and armed forces of allies. That approach has been used to justify sharp reductions in U.S. ground forces since 1969. Overall sufficiency is strongly conditioned by the following factors:

—The readiness of U.S. Regulars
—The responsiveness of U.S. Reserves and National Guard
—The reliability of allies

All three considerations are in question.

Flexible response

A simple, relatively low-cost U.S. strategy called Massive Retaliation substituted nuclear firepower for manpower in the 1950s, before

Moscow amassed assured destruction capabilities against America. Since then, this country has implemented a complex, costly strategy called flexible response, which calls for a wide range of deterrent/defense options. Force requirements, especially in the conventional realm, increased.

Forward deployment/Forward defense

A substantial (but changeable) percentage of all U.S. general purpose forces are deployed overseas as tangible evidence of U.S. resolve, in position to react rapidly if regional threats appear to imperil U.S interests. The remainder of our deployable forces (as opposed to those for base operations) comprise a strategic reserve in the United States, ready to reinforce wherever required or establish a new U.S. presence in troubled territory.

—High proportions deployed overseas generate greater demands for combat and associated support forces.

—High proportions retained in reserve generate greater demands for quick-reaction airlift/sealift forces and for base support.

Nixon /Ford doctrine

The Nixon Doctrine, adopted and slightly adapted by President Ford, stipulates that "we shall provide a shield if a nuclear power threatens the freedom of [an ally] or a nation whose survival we consider vital to our security . . . In cases involving other types of aggression . . . we shall look to the nation directly threatened to assume the primary responsibility of providing the manpower for its defense." Three influences on U.S. force requirements are readily apparent:

—Sufficient forces are needed for nuclear deterrence/defense

—Forward deployment assumes reduced importance in most areas

—Emphasis shifts to air and sea power at the expense of ground forces.

Second-strike

The United States proclaims a strategic nuclear second-strike policy that spurns "launch-on-warning" options for ballistic missiles. U.S. SLBMs on station at sea are unaffected, being almost invulnerable. Fixed-site ICBMs are sure to suffer heavily from attrition—even peacetime superiority (which we do not enjoy) could translate into inferiority following a Soviet attack.

Second-strike policies also influence U.S. requirements for general purpose forces that would be susceptible to heavy losses if the Soviets triggered surprise attacks (surface combatants, for example, are vulnerable to Soviet short-range anti-ship cruise missiles).

SPECIAL CONSIDERATIONS

Geographic constraints

Geography has a direct and sometimes decisive influence on strategic nuclear as well as general purpose force requirements. Representative considerations include:

—Size of operational areas

—Number of points/areas to seize and secure or defend

—Type terrain
—Ownership of contested terrain
—Time/distance factors
—Lines of communication

Each factor influences different type forces in different fashions. Few *conventional forces*, for example, are required to defend the huge U.S. land area with its diverse targets, because ocean depths and distance effectively isolate us from invaders. By way of contrast, a comprehensive array of *strategic nuclear forces* would be needed to defend that same area from attacks by enemy bombers and ballistic missiles, since distance affords no screen. Soviet forces fighting on NATO soil could use tactical nuclear weapons with little concern for collateral damage. The United States, defending friendly territory, could not.

Budgetary constraints

Ideally, national security interests are the bases for objectives and commitments which, within policy guidelines, shape strategy. Strategic concepts conditioned by threats generate military force requirements. Budgetary assets then are allocated to satisfy needs.

That Utopian sequence rarely occurs in real life. National defense competes with other sectors. There never is enough money to go around. The trick is to walk a tightrope between excessive defense expenditures that emasculate political, economic, social, scientific, and ecological programs on one hand, and deficient defense expenditures that actively endanger national security on the other. Equally important, overallocations in any given military sector can undercut essential capabilities elsewhere.

Trend forecasts

Satisfaction with the status quo is insufficient. Defense decisionmakers must also ensure that major military trends best serve future U.S. security interests. Early identification of inimical trends is imperative, since elemental changes in most military capabilities require long lead times measured in years, not days or months. United States/Soviet budgetary emphases, R&D programs, and procurement/deployment patterns are among the important indicators.

Strategy

No number of armed forces, regardless of quality, is sufficient when strategic concepts are seriously flawed. Conversely, superior strategy can overcome otherwise insurmountable obstacles. Mao, totally unable to compete successfully with Western technology, capitalized on cheap, but highly effective, concepts for revolutionary war. The United States still has no adequate antidote. Material force, of course, is important, but Emerson was right when he wrote that "Thoughts rule the world."

Assumptions

Sufficiency requirements are especially sensitive to assumptions, which apply to every criterion cited above. Paradoxically, excessively optimistic and pessimistic assumptions *both* foster insufficiency. The former cause decisionmakers to underestimate true force requirements.

The latter cause decisionmakers to feel that no number would be enough, so why waste manpower and money. A few conflicting assumptions currently in vogue are exemplary:

—Force is (not) outmoded as a foreign policy tool
—Détente does (not) reflect benign Soviet intentions
—U.S. nuclear superiority (parity) is (not) essential
—Controlled nuclear war is (not) conceivable
—Considerable strategic warning of war will (not) be available
—War in Europe would (not) be short and conclusive

ANNEX C

CURRENT U.S. DEFENSE COMMITMENTS TREATIES

MULTILATERAL TREATIES

Inter-American Treaty of Reciprocal Assistance (Rio Pact 1947):

United States	Dominican Republic	Panama
Argentina	Ecuador	Paraguay
Bolivia	El Salvador	Peru
Brazil	Guatemala	Trinidad and Tobago
Chile	Haiti	Uruguay
Colombia	Honduras	Venezuela
Costa Rica	Mexico	
Cuba [1]	Nicaragua	

North Atlantic Treaty (1949):

United States	Italy	Greece (1952)
Belgium	Luxembourg	Turkey (1952)
Canada	Netherlands	Federal Republic of Germany (1955)
Denmark	Norway	
France	Portugal	
Iceland	United Kingdom	

Security Treaty between the United States and Australia and New Zealand (ANZUS 1951).

Southeast Asia Collective Defense Treaty (SEATO 1954):

United States	Pakistan
Australia	Philippines
France	Thailand
New Zealand	United Kingdom

BILATERAL TREATIES

Mutual Defense Treaty with the Philippines (1951)
Mutual Defense Treaty with South Korea (1953)
Mutual Defense Treaty with China (Taiwan) (1954)
Treaty of Mutual Security and Cooperation with Japan (1960)
Treaty of Friendship and Cooperation with Spain (1976) [2]

CONGRESSIONAL RESOLUTIONS

There have been five Congressional resolutions since 1945. Each of these has been requested by the President to mobilize Congressional

[1] Cuba was excluded from the Rio Pact in 1962.
[2] Signed January 24, 1976. Senate ratification pending.

support at times of foreign policy crisis. The five resolutions follow. Dates of the joint resolutions refer to the day they were signed into law. The date for H. Con. Res. 570 is the day the resolution was cleared by Congress. It did not require the President's signature and does not carry the force of law.

Formosa resolution, H.J. Res. 159, Jan. 29, 1955, covering Formosa (Nationalist China) and the Pescadores Islands against "armed attack" from Communist China.

Middle East resolution, H.J. Res. 117, March 9, 1957, proclaiming U.S. policy to defend Middle East countries "against aggression from any country controlled by international communism."

Cuban resolution, S.J. Res. 230, Oct. 3, 1962, to defend Latin America against Cuban aggression or subversion and to oppose the deployment of Soviet weapons in Cuba capable of endangering U.S. security.

Berlin resolution H. Con. Res. 570, Oct. 10, 1962, reaffirming the U.S. determination to use armed force, if necessary, to defend West Berlin and the access rights of Western powers to West Berlin.

Vietnam resolution, H.J. Res. 1145, Aug. 10, 1964, known as the Tonkin Gulf resolution, authorizing the President to use armed forces to repel attacks against U.S. forces and affirming U.S. determination to defend any SEATO treaty member or protocol state (this includes Vietnam) requesting assistance.

EXECUTIVE AGREEMENTS

The United States has entered defense arrangements by executive agreement with the following countries:

Denmark	1951	Iran	1959
Iceland	1951	Turkey	1959
Spain	1953	Pakistan	1959
Canada	1958	Philippines	1959, 1965
Liberia	1959		

POLICY DECLARATIONS, COMMUNIQUES

The State Department's 1967 compilation of U.S. commitments includes 34 Executive Branch policy declarations and communiques issued jointly with foreign governments. The following areas and nations are covered by these pledges: Latin America (Monroe Doctrine), Berlin, Iran, India, Jordan, Israel, Thailand, South Vietnam, the Republic of China and the Philippines. With the exception of India, these policy declarations and communiques cover nations which also have received U.S. pledges under treaties, executive agreements or Congressional resolutions. India received a pledge in 1954 from President Eisenhower that the United States would act to prevent Pakistan from using U.S. military aid against India.[3]

[3] Courtesy of Congressional Quarterly Service. From *Global Defense; U.S. Military Commitments Abroad, 1969.* Updated by author, January 1976.

Annex D

GLOSSARY

ABM: *See* Antiballistic missile defense.

Administrative support: Personnel and logistical management. *See also* Logistics.

Aerospace defense: An inclusive term encompassing all measures to intercept and destroy hostile aircraft, missiles, and space vehicles, or otherwise neutralize them. *See also* Air Defense and Antiballistic missile defense.

Aggression: The first use of armed force to satisfy political, economic, or social aims.

Airborne forces, operations: Ground combat and airlift forces designed primarily to conduct parachute and/or other type air assaults that open up new areas of operation; the employment of such forces in combat. *See also* Airmobile forces, operations.

Air defense: All measures to intercept and destroy hostile aircraft and cruise missiles, or otherwise neutralize them. Equipment includes interceptor aircraft, surface-to-air missiles, surveillance devices, and ancillary installations.

Air-launched ballistic missile: Any ballistic missile transported by and launched from land- or sea-based aircraft and/or lighter-than-air conveyances, such as blimps, balloons, and dirigibles. *See also* ballistic missiles.

Air-launched cruise missile: Any cruise missile transported by and launched from land- or sea-based aircraft and/or lighter-than-air conveyances, such as blimps, balloons, and dirigibles. *See also* cruise missile.

Airmobile forces, operations: Ground combat units using assigned and/or attached fixed- and rotary-wing aircraft under their control to maneuver rapidly within given areas of operation; the employment of such forces in combat. *See also* Airborne forces, operations.

Air superiority: Dominance in the air to a degree that permits friendly land, sea, and air forces to operate at specific times and places without prohibitive interference by enemy air forces.

ALBM: *See* Air-launched ballistic missile.

ALCM: *See* Air-launched cruise missile.

Amphibious operations: An assault on a hostile shore launched from the sea by naval and ground forces trained, organized and equipped for that purpose. *See also* Amphibious ships.

Amphibious ships: Navy vessels specifically designed to transport, land, and support forces in amphibious assault operations, loading and unloading without external assistance. *See also* Amphibious operations.

Antiballistic missile defense: All measures to intercept and destroy hostile ballistic missiles, or otherwise neutralize them. Equipment

includes weapons, target acquisition, tracking and guidance radars, plus ancillary installations.

Antisubmarine warfare: All measures to reduce or nullify the effectiveness of hostile submarines; in relation to this study, specifically concerns operations to detect, locate, track, and destroy submarines used for strategic nuclear *and* conventional purposes.

Area target: A target whose dimensions encompass two or more geographic coordinates on operational maps. Cities and military bases are representatives.

Arms control: Explicit or implicit international agreements that govern the numbers, types, characteristics, deployment, and use of armed forces and armaments. *See also* arms limitation; Disarmament.

Arms limitation: An agreement to restrict quantitative holdings of or qualitative improvements in specific armaments or weapons systems. *See also* Arms control; Disarmament.

Assumption: A supposition concerning the current situation or future events, presumed to be true in the absence of positive proof to the contrary. Used for planning and decision-making purposes.

Assured destruction: A highly reliable ability to inflict unacceptable damage on any aggressor or combination of aggressors at any time during the course of a nuclear exchange, even after absorbing a surprise first strike.

ASW: *See* Antisubmarine warfare.

Attack aircraft: Tactical aircraft used primarily for interdiction and close air support purposes. *See also* Fighter aircraft.

Attack carrier: An aircraft carrier designed to accommodate high-performance fighter/attack aircraft whose primary purpose is to project offensive striking power against targets ashore and afloat.

Attack submarine: A submarine designed primarily to destroy enemy merchant shipping and naval vessels, including other submarines.

Balance: *See* Military balance; Strategic balance.

Ballistic missile: A pilotless projectile propelled into space by one or more rocket boosters. Thrust is terminated at some early stage, after which reentry vehicles follow trajectories that are governed mainly by gravity and aerodynamic drag. Mid-course corrections and terminal guidance permit only minor modifications to the flight path. *See also* Reentry vehicle.

Bargaining chip: Any military force, weapons system, or other resource, present or projected, which a country expresses willingness to downgrade or discard in return for concessions by a particular rival.

Basic load: That quantity of nonnuclear ammunition authorized and required to be on hand within a military unit or formation at all times.

Bomb: A weapon dropped from a manned aircraft of any sort. Gravity is the primary force, but "smart" bombs can be guided electronically.

Calculated risk: The deliberate acceptance of gaps between ends and means in accord with estimates that enemies are unlikely to initiate actions that will interfere unacceptably with friendly aims. *See also* Intention; Risk.

Capability: The ability of a country or coalition of countries to execute specific courses of action. Capabilities are conditioned by many variables, including the balance of military forces, time, space, terrain, and weather. *See also* Intention.

Civil defense: Passive measures designed to minimize the effects of enemy action on all aspects of civil life, particularly to protect the population and production base. Includes emergency steps to repair or restore vital utilities and facilities.

Civil Reserve Air Fleet: U.S. commercial aircraft and crews allocated in emergency for exclusive military use in international and domestic service.

Close air support: Air strikes against targets near enough to ground combat units that detailed coordination between participating air and ground elements is required.

Cold launch: A "pop up" technique that ejects ballistic missiles from silos or submarines using power plants that are separate from the delivery vehicles. Primary ignition is delayed until projectiles are safely clear of the launcher.

Cold war: A state of international tension at the lower end of the conflict spectrum, wherein political, economic, technological, sociological, psychological, paramilitary, and military measures short of sustained, armed combat are orchestrated to attain national objectives.

Collateral casualties and damage: Physical harm done to persons and property collocated with or adjacent to targets. Collateral effects may be welcome or unwanted, depending on circumstances.

Combat power: A compilation of capabilities related to a specific military balance between countries or coalitions. Ingredients include numbers and types of forces; technological attributes of weapons and equipment; discipline; morale; pride; confidence; hardiness; élan; loyalty; training; combat experience; command/control arrangements; staying power; and leadership. Combat power is illusory unless accompanied by the national will to use it as required. *See also* Military balance; National will.

Command and control: An arrangement of facilities, equipment, personnel, and procedures used to acquire, process, and disseminate data needed by decision-makers to plan, direct, and control operations.

Commitment: An obligation or pledge to carry out or support a given national policy. *See also* National security policies.

Conflict spectrum: A continuum of hostilities that ranges from subcrisis maneuvering in cold-war situations to the most violent form of general war.

Containment: Measures to discourage or prevent the expansion of enemy territorial holdings and/or influence. Specifically, a U.S. policy directed against communist expansion.

Contingency plans and operations: Preparation for major events that can reasonably be anticipated and that probably would have a detrimental effect on national security; actions in case such events occur.

Controlled counterforce war: War in which one or both sides concentrate on reducing enemy strategic retaliatory forces in a bargaining situation, and take special precautions to minimize collateral casualties and damage. *See also* Controlled war.

Controlled war: A war waged in response to the continuous receipt and evaluation of information concerning changes in the situation, combined with the competence to adjust accordingly. *See also* Controlled counterforce war.

Conventional (forces, war, weapons): Military organizations, hostilities, and hardware that exclude nuclear, chemical, and biological capabilities.

Cost effectiveness: A condition that matches ends with means in ways that create maximum capabilities at minimum expense.

Counter city: *See* Countervalue.

Counterforce: The employment of strategic air and missile forces to destroy, or render impotent, military capabilities of an enemy force. Bombers and their bases, ballistic missile submarines, ICBM silos, ABM and air defense installations, command and control centers, and nuclear stockpiles are typical counterforce targets. *See also* Countervalue.

Countervalue: A strategic concept which calls for the destruction or neutralization of selected enemy population centers, industries, resources, and/or institutions which constitute the social fabric of a society. *See also* Counterforce.

CRAF: *See* Civil Reserve Air Fleet.

Credibility: Clear evidence that capabilities *and* intentions are sufficient to support purported policies.

Cruise missile: A pilotless aircraft, propelled by an airbreathing engine, that operates entirely within the earth's atmosphere. Thrust continues throughout its flight. Air provides most of the lift. In-flight guidance and control can be accomplished remotely or by on-board equipment. Conventional and nuclear warheads are available.

Cruiser: A large, long-endurance surface warship armed for independent offensive operations against surface ships and land targets. Also acts as an escort to protect aircraft carriers, merchantmen, and other ships against surface or air attack. May have an anti-submarine capability. Own aircraft-handling capability restricted to one or two float planes, helicopters, or other short take-off and landing types.

Damage limitation: Active and/or passive efforts to restrict the level and/or geographic extent of devastation during war. Includes counterforce actions of all kinds, as well as civil defense measures. *See also* Counterforce; Civil defense.

Defense: Measures taken by a country or coalition of countries to resist political, military, economic, social, psychological, and/or technological attacks. Defensive capabilities reinforce deterrence, and vice versa. *See also* Deterrence.

Defense-in-depth: Protective measures in successive positions along axes of enemy advance, as opposed to a single line of resistance. Designed to absorb and progressively weaken enemy penetrations.

Destroyer: A medium-sized warship configured to escort and protect other ships against air, submarine, and surface attacks. May also be used for independent offensive operations against enemy ships or land targets. Some embark one or two helicopters.

Détente: Lessening of tensions in international relations. May be achieved formally or informally.

Deterrence: Steps taken to prevent opponents from initiating armed actions and to inhibit escalation if combat occurs. Threats of force predominate. *See also* Defense; Escalation.

Disarmament: The reduction of armed forces and/or armaments as a result of unilateral initiatives or international agreement. *See also* Arms control and Arms limitation.

Division Equivalent: Separate brigades, regiments, and comparable combat forces whose aggregate capabilities approximate those of a division, except for staying power.

ECM: *See* Electronic countermeasures.

Electronic countermeasures: A form of electronic warfare that prevents or degrades effective enemy uses of the electromagnetic spectrum. Jamming is a typical tactic. *See also* Electronic counter-countermeasures.

Electronic counter-countermeasures: A form of electronic warfare taken to insure effective use of the electromagnetic spectrum despite enemy ECM efforts. *See also* Electronic countermeasures.

Ends: National security interests, objectives, and commitments, along with military roles and missions, which establish aims to be accomplished. *See also* Means.

Escalation: An increase, deliberate or unpremediated, in the scope and/or intensity of a conflict.

Escort: Cruisers, destroyers, frigates, and other surface warships expressly configured to defend other ships against enemy attack. May be multipurpose (e.g. anti-air, anti-submarine) or unipurpose. May also be assigned independent offensive missions. *See also* Cruiser; Destroyer; Frigate.

Essential equivalence: A force structure standard that demands capabilities approximately equal in overall effectiveness to those of particular opponents, but does not insist on numercial equality in all cases. *See also* Parity.

Fighter aircraft: Tactical aircraft used primarily to gain and maintain air superiority. *See also* Attack aircraft.

First-strike: The first offensive move of a war. As applied to general nuclear war, it implies the ability to eliminate effective retaliation by the opposition. *See also* Second strike.

First use: The initial employment of specific military measures, such as nuclear weapons, during the conduct of a war. A belligerent could execute a second strike in response to aggression, yet be the first to employ nuclear weapons. *See also* First strike.

Flexibility: Capabilities that afford countries and weapons systems a range of options, and facilitate smooth adjustment when situations change. *See also* Flexible response.

Flexible response: A strategy predicated on meeting aggression at an appropriate level or place with the capability of escalating the level of conflict if required or desired. *See also* Flexibility.

Forward base: A military installation maintained on foreign soil or on a distant possession that is conveniently located with regard to actual or potential areas of operations.

Forward defense: A strategic concept which calls for containing or repulsing military aggression as close to the original line of contact as possible to protect important areas.

Free rocket: A missile with completely self-contained propellant package that is neither guided nor controlled in flight.

Frigate: A medium to small surface warship armed as an escort against surface attack and either air or submarine attack. May be capable of embarking and handling one or two helicopters. *See also* Escort.

General purpose forces: All combat forces not designed primarily to accomplish strategic offensive/defensive or strategic mobility missions.

General war: Armed conflict between major powers in which the national survival of a major belligerent is in jeopardy. Commonly reserved for a showdown between the United States and U.S.S.R., featuring nuclear weapons.

Hard-site ICBM: Any ICBM in a silo that provides substantial protection against nuclear attack. *See also* Hard target; Intercontinental ballistic missile.

Hard target: A point or area protected to some significant degree against the blast, heat and radiation effects of nuclear exposions of particular yields. *See also* Soft target.

Heavy bomber: A multi-engine aircraft with intercontinental range, designed specifically to engage targets whose destruction would reduce an enemy's capacity and/or will to wage war. *See also* Medium bomber.

Heavy ICBM: U.S. Titan II; Soviet SS–7, SS–8, SS–9, SS–18, SS–19 for purposes of this study. *See also* Light ICBM.

Heavy tank: Tanks weighting more than 60 tons are generally designated as "heavies," although the United States no longer uses heavy, medium, and light as classifications. *See also* Light tank; Medium tank.

High threshold: An intangible line between levels and types of conflict across which one or more antagonists plan to escalate with great reluctance after other courses of action fail, or which they could be compelled to cross only if subjected to immense pressures. *See also* Low threshold and Threshold.

Hi-Lo mix: Mingling high-cost, high performance items with relatively low-cost, low performance items in any given weapons system to achieve the best balance between quantity and quality in ways that maximize capabilities and minimize expenses.

ICBM: *See* Intercontinental ballistic missile.

Intention: The determination of a country or coalition to use capabilities in specific ways at specific times and places. Intentions are conditioned by many variables, including interests, objectives, policies, principles, commitments, and national will. *See also* Capability; National will.

Interceptor: An air defense aircraft designed to identify and/or destroy hostile airbreathing weapons systems such as bombers and cruise missiles.

Intercontinental ballistic missile. A ballistic missile with a range of 3,000 to 8,000 nautical miles. *See also* Ballistic missile.

Interdiction: Operations to prevent or impede enemy use of an area or route.

Interests: *See* National security interests.

Intermediate-range ballistic missile: A ballistic missile with a range of 1,500 to 3,000 nautical miles. *See also* Ballistic missile.

IRBM: *See* Intermediate-range ballistic missile.

Launch-on-warning: Retaliatory strikes triggered upon notification that an enemy nuclear attack has been launched, but before any weapons hit friendly territory.

Light ICBM: U.S. Minutemen; Soviet SS–11, SS–13, SS–17, for purposes of this study. *See also* Heavy ICBM.

Light tank: Tanks weighing less than 40 tons are generally designated as "light," although the United States no longer uses heavy, medium, and light classifications. *See also* Heavy tank; Medium tank.

Limited war: Armed encounters, exclusive of incidents, in which one or more major powers or their proxies voluntarily exercise various types and degrees of restraint to prevent unmanageable escalation. Objectives, forces, weapons, targets, and geographic areas all can be limited.

Line of communication: Land, sea, and aerospace routes essential to the conduct of international security affairs, particularly the deployment of armed forces and associcated logistic support.

Logistics: Plans and operations associated with the design, development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; the movement, evacuation, and hospitalization of personnel; the acquisition or construction, maintenance, operation, and disposition of facilities; and the acquisition or furnishing of services.

Low threshold: An intangible line between levels and types of conflict across which one or more antagonists plan to escalate with scant regret, or which they would be compelled to cross quickly if subjected to pressures. *See also* High threshold and Threshold.

Maneuverable reentry vehicle: A ballistic missile warhead or decoy whose accuracy is improved by terminal guidance mechanisms.

MaRV: See Maneuverable reentry vehicle.

Massive retaliation: The act of countering aggression of any type with tremendous destructive power; particularly a crushing nuclear response to any provocation deemed serious enough to warrant military action.

Means: Money, manpower, materiel, and other resources converted into capabilities that contribute to the accomplishment of national securities aims. *See also* Capability; Ends.

Medium bomber: A multi-engined aircraft that lacks intercontinental range without in-flight refueling, but is suitable for strategic bombing on one-way intercontinental missions, even lacking tanker support.

Medium-range ballistic missile: A ballistic missile with a range of 600 to 1,500 nautical miles. *See also* Ballistic missile.

Medium tank: Tanks weighing between 40 and 60 tons generally are designated as "mediums," although the United States no longer uses heavy, medium, and light classifications. *See also* Heavy tank; Light tank.

Merchant marine: All non-military vessels of a nation, publicly- and privately-owned, together with crews, which engage in domestic and/or international trade and commerce.

Military balance: The comparative combat power of two competing countries of coalitions. *See also* Combat power; Strategic balance.

Military power: *See* Combat power.

Military strategy: The art and science of employing military power under all circumstances to attain national security objectives by applying force or the threat of force. *See also* Tactics.

MIRV: *See* Multiple independently-targetable reentry vehicle.

Mission: A function or task assigned to specific armed forces.

Mobile missile: Any ballistic or cruise missile mounted on and/or fired from a movable platform, such as a truck, train, ground effects machine, ship, or aircraft.

Mobilization: The act of preparing for war or other emergencies by assembling and organizing raw materials; focusing industrial efforts on national security objectives; marshalling and readying Reserve and National Guard units and individuals for active military service; and or activating and readying new military organizations filled with personnel inducted from civilian life.

MRBM: *See* Medium-range ballistic missile.

MRV: *See* Multiple reentry vehicle.

Multiple independently targeted reentry vehicle: A missile payload comprising two or more warheads that can engage separate targets. *See also* Multiple reentry vehicle; Reentry vehicle.

Multiple reentry vehicle: A missile payload comprising two or more warheads that engage the same target. *See also* Multiple independently targeted reentry vehicle; Reentry vehicle.

National interests: A highly generalized concept of elements that constitute a state's compelling needs, including self-preservation, independence, national integrity, military security, and economic well-being.

National objectives: The fundamental aims, goals, or purposes of a nation toward which policies are directed and energies are applied. These may be short-, mid-, or long-range in nature.

National policies: Broad courses of action or statements of guidance adopted by a government in pursuit of national objectives.

National power: The sum total of any nation's capabilities or potential derived from available political, economic, military, geographic, social, scientific, and technological resources. Leadership and national will are the unifying factors.

National security: The protection of a nation from all types of external aggression, espionage, hostile reconnaissance, sabotage, subversion, annoyance, and other inimical influences. *See also* National security interests, National security objectives, and National security policies.

National security interests: Those national interests primarily concerned with preserving a state from harm. *See also* National interests and National security.

National security objectives: Those national objectives primarily concerned with shielding national interests from threats, both foreign and domestic *See also* National objectives and National security.

National security policies: Those national policies which provide guidance primarily for attaining national security objectives. *See also* National policies and National security.

National will: The temper and morale of the people, as they influence a nation's ability to satisfy national security interests and/or attain national security objectives.

Naval superiority: Dominance on the high seas to a degree that permits friendly land, aerospace, and naval forces to operate at specific times and places on, over, or adjacent to the high seas without prohibitive interference by enemy naval elements. *See also* Sea control.

Nuclear delivery system: A nuclear weapon, together with its means of propulsion and associated installations. Includes carriers such as aircraft, ships, and motor vehicles. *See also* Nuclear weapon.

Nuclear weapon: A bomb, missile warhead, or other deliverable ordnance item (as opposed to an experimental device) that explodes as a result of energy released by atomic nuclei resulting from fission, fusion, or both. *See also* Nuclear delivery system.

Objective: *See* National security objective.

Overkill: Destructive capabilities in excess of those which logically should be adequate to destroy specified targets and/or attain specific security objectives.

Operations and maintenance: All activities of armed forces, in peace and in war, to carry out strategic, tactical, training, logistic, and administrative missions.

Parity: A force structure standard which demands that capabilities of specific forces and weapons systems be approximately equal in effectiveness to enemy counterparts. *See also* Essential equivalence.

Payload: The weapon and/or cargo capacity of any aircraft or missile system, expressed variously in pounds; numbers of bombs, air-to-air and air-to-surface missiles, CW canisters, guns, sensors, ECM packets, etc; and in terms of missile warhead yields (kilotons, megatons).

Policy: *See* National security policies.

Postlaunch survivability: The ability of any given delivery system to breach enemy defenses and attack designated targets. *See also* Prelaunch survivability.

Posture: The combined strategic intentions, capabilities, and vulnerabilities of a country or coalition of countries, including the strength, disposition, and readiness of its armed forces.

Prelaunch survivability: The ability of any given delivery system to weather a surprise first-strike successfully and retaliate. *See also* Postlaunch survivability.

Proxy war: A form of limited war in which great powers avoid a direct military confrontation by furthering their national security interests and objectives through conflict between representatives or associates. *See also* Limited war.

Rapid reload capacity: The ability of a strategic nuclear delivery system to conduct multiple strikes. This characteristic presently is confined to aircraft, but land-mobile missiles and hard-site ICBMs have the potential. Submarines conceivably could be replenished at sea, but a significantly greater time lag would occur.

Readiness: The ability of specific armed forces to respond in times allotted and thereafter perform assigned missions effectively.

Reentry vehicle: That part of a ballistic missile designed to reenter the earth's atmosphere during terminal stages of its trajectory.

Reinforcement: Augmenting military capabilities in any given area by introducing locally-available and/or strategic reserves. *See also* Strategic reserve.

Reserve component: Armed forces not in active service. U.S. Reserve Components include the Army National Guard and Army Reserve; the Naval Reserve; the Marine Corps Reserve; the Air National Guard, and Air Force Reserve.

Reserves: *See* Reserve component; Strategic reserve.

Revolutionary war: Efforts to seize political power by illegitimate and coercive means, destroying existing systems of government and social structures in the process.

Risk: The danger of disadvantage, defeat, or destruction that results from a gap between ends and means. *See also* Calculated risk.

Role: *See* Mission.

SALT: *See* Strategic Arms Limitation Talks.

Sea control: The employment of naval forces, supplemented by land and aerospace forces as appropriate, to destroy enemy naval forces, suppress enemy oceangoing commerce, protect vital shipping lanes, and establish local superiority in areas of naval operations. *See also* Naval superiority.

Second-strike: A strategic concept which excludes preemptive and preventive actions before the onset of a war. After an aggressor initiates hostilities, the defender retaliates. In general nuclear war, this implies the ability to survive a surprise first strike and respond effectively. *See also* First strike.

SLBM: *See* Submarine/sea-launched ballistic missile.

SLCM: *See* Submarine/sea-launched cruise missile.

Soft target: A target not protected against the blast, heat, and radiation produced by nuclear explosions. There are many degrees of softness. Some missiles and aircraft, for example, are built in ways that ward off certain effects, but they are "soft" in comparison with shelters and silos. *See also* Hard target.

Specified command: A top-echelon U.S. combatant organization with regional or functional responsibilities, which normally is composed of forces from one military service. It has a broad, continuing mission and is established by the President, through the Secretary of Defense, with the advice and assistance of the Joint Chiefs of Staff. *See also* Unified command.

Stability. *See* Strategic stability.

Strategic airlift: Transport aircraft, both military and civilian, used to move armed forces, equipment, and supplies expeditiously over long distances, especially intercontinentally. *See also* Tactical airlift.

Strategic air war: Aerospace operations directed against the enemy's war-making capacity. Typical targets include industry, stockpiles of raw materials and finished products, power systems, transportation and communication centers, strategic weapons systems, and cities.

Strategic arms limitation talks: Negotiations between the United States and the Soviet Union to curtail the expansion of, and if possible reduce, strategic offensive and defensive weapons systems of both countries in an equitable fashion. *See also* Arms control; Arms limitation.

Strategic balance: The comparative national power of two competing countries or coalitions. *See also* Military balance; National power.

Strategic defense: The strategy and forces designed primarily to protect a nation, its outposts and/or allies from the hazards of general war. It features defense against missiles, both land- and sea-launched, and long-range bombers. *See also* Strategic offense.

Strategic mobility: The ability to shift personnel, equipment, and supplies effectively and expeditiously between theaters of operation. *See also* Strategic airlift; Strategic sealift.

Strategic offense: The strategy and forces designed primarily to destroy the enemy's war-making capacity during general war or to so degrade it that the opposition collapses. *See also* Strategic defense; Strategic retaliatory (concepts and forces).

Strategic reserve: Uncommitted forces of a country or coalition of countries which are intended to support national security interest and objectives, as required.

Strategic retaliatory (concepts and forces): Second-strike strategies and forces designed primarily to destroy the enemy's war-making capacity during general war or to so degrade it that the opposition collapses. *See also* Strategic defense; Strategic offense.

Strategic sealift: Naval and merchant ships, together with crews, used to move armed forces, equipment, and supplies over long distances, especially intercontinentally.

Strategic stability: A state of equilibrium which encourages prudence by opponents facing the possibility of general war. Tendencies toward an arms race are restrained, since maneuvering for marginal advantage is meaningless.

Strategic warning: Notification that enemy offensive operations of any kind may be imminent. The alert may be received minutes, hours, days, or longer before hostilities commence. *See also* Tactical warning.

Submarine/sea-launched ballistic missile: Any ballistic missile transported by and launched from a ship. May be short-, medium-, intermediate-, or long-range. *See also* Ballistic missile.

Submarine/sea-launched cruise missile: Any air-breathing missile transported by and launched from a ship. May be short-, medium-, intermediate-, or long-range. *See also* Cruise missile.

Sufficiency: A force structure standard that demands capabilities adequate to attain desired ends without undue waste. Superiority thus is essential in some circumstances; parity/essential equivalence suffices under less demanding conditions; and inferiority, qualitative as well as quantitative, is sometimes acceptable. *See also* Superiority; Essential equivalence; and Parity.

Superiority: A force structure standard that demands capabilities markedly greater than those of opponents.

Survivability: The ability of armed forces and civilian communities to withstand attack and still function effectively. It is derived mainly from active and passive defenses. *See also* Pre-launch survivability; Post-launch survivability.

Tactical aircraft: Land- and carrier-based aircraft designed primarily as general purposes forces. Selected U.S. elements are routinely assigned strategic nuclear missions.

Tactical airlift: Transport aircraft (military only in the United States) used to move armed forces, equipment, and supplies expeditiously within theaters of operation. *See also* Strategic airlift.

Tactical nuclear forces, weapons, operations: Nuclear combat power expressly designed for deterrent, offensive, and defensive purposes that contribute to the accomplishment of localized military missions; the threatened or actual application of such power. May be employed in general as well as limited wars. *See also* General war; Limited war.

Tactical warning: Notification that enemy offensive operations of any kind are in progress. The alert may be received at any time from the moment the attack is launched until its effect is felt. *See also* Strategic warning.

Tactics: The detailed methods used to carry out strategic designs. Military tactics involve the employment of units in combat, including the arrangement and maneuvering of units in relation to each other and/or to the enemy. *See also* Military strategy.

Theater of operations: A geographical area outside the United States for which the commander is a U.S. unified or specified command has been assigned military responsibility. *See also* Specified command; Unified command.

Threat: The capabilities, intentions, and actions of actual or potential enemies to prevent or interfere with the successful fulfillment of national security interests and/or objectives.

Threshold: An intangible and adjustable line between levels and types of conflict, such as the separation between nuclear and nonnuclear warfare. The greater the reluctance to use nuclear weapons, the higher the threshold. *See also* High threshold; Low threshold.

Throw weight: The payload capacity of a ballistic missile expressed in aggregate poundage for reentry vehicles of all types (warheads, decoys). *See also* Payload.

Time-sensitive target: Any counterforce target which is vulnerable only if it can be struck before it is launched (as with bombers and missiles) or redeploys (as with ground combat troops and ships).

Tooth-to-tail ratio: The proportion of combat forces to administrative/logistic support in a nation's armed forces and in specific military organizations, such as divisions, air wings, and fleets.

Triad: Any group of three military elements with separate characteristics but common basic missions. Specifically, the tripartite U.S. strategic retaliatory force, which comprises manned bombers, intercontinental ballistic missiles, and ballistic-missile submarines.

Tripwire: A largely symbolic force positioned on an ally's soil to advertise the owner's commitment to a particular country or coalition of countries. Attacks against the token contingent would trigger a massive response.

Tube artillery: Howitzers and guns, as opposed to rockets and guided missiles. May be towed or self-propelled.

Unified command: A top-echelon U.S. combatant organization with regional or functional responsibilities, which normally is composed of forces from two or more military services. It has a broad, continuing mission and is established by the President, through the Secretary of Defense, with the advice and assistance of the Joint Chiefs of Staff. When authorized by the JCS, commanders of unified commands established by the President may from one or more subordinate unified command within the jurisdictions. *See also* Specified command.

Vulnerability: The susceptibility of a weapons system to any action by any means through which its combat effectiveness may be diminished.

War-fighting: Combat actions, as opposed to deterrence (which is designed to prevent, rather than prosecute, wars).

Warhead: That part of a ballistic or cruise missile which contains nuclear explosives.

Will: *See* National will.

Annex E

ABBREVIATIONS

Abbreviations listed below are limited to those cited in text or tables.

ABM	Anti-ballistic missile
ADCOM	Air Defense Command
ALCM	Air-launched cruise missile
ALCOM	Alaska Command
ANG	Air National Guard
APC	Armored personnel carrier
ARADCOM	Army Air Defense Command
ASW	Anti-submarine warfare
AT	Anti-tank
CRAF	Civil Reserve Air Fleet
DOD	Department of Defense
ECM	Electronic countermeasures
EUCOM	European Command
FROG	Free rocket over ground
FY	Fiscal Year
GNP	Gross National Product
ICBM	Intercontinental ballistic missile
IRBM	Intermediate-range ballistic missile
LANTCOM	Atlantic Command
LAW	Light assault weapon
LCM	Landing craft, mechanized
LCU	Landing craft, utility
LCVP	Landing craft, vehicle, personnel
LRCM	Long-range cruise missile
MaRV	Maneuverable reentry vehicle
MAC	Military Airlift Command
MAF	Marine Amphibious Force
MATS	Military Air Transport Service
Max	Maximum
MIRV	Multiple independently-targetable reentry vehicle
MRBM	Medium-range ballistic missile
MRV	Multiple reentry vehicle
MSC	Military Sealift Command
MSTS	Military Sea Transport Service
NATO	North Atlantic Treaty Organization
NM	Nautical mile
NORAD	North American Defense Command
PACOM	Pacific Command
R&D	Research and development
Recon	Reconnaissance
REDCOM	Readiness Command
SAC	Strategic Air Command

SALT	Strategic Arms Limitation Talks
SAM	Surface-to-air missile
SLBM	Submarine/sea-launched ballistic missile
SLCM	Submarine/sea-launched cruise missile
SOUTHCOM	Southern Command
SRAM	Short-range attack missile
SRBM	Short-range ballistic missile
SSB	Ballistic missile submarine
SSBN	Nuclear-powered ballistic missile submarine
SSM	Surface-to-surface missile
Sub	Submarine
TOW	Tube-launched, optically-tracked, wire-guided (anti-tank weapon)
USAF	United States Air Force
USAREUR	U.S. Army, Europe
USMC	United States Marine Corps
VSTOL	Vertical/short takeoff and landing (aircraft)

Mr. MAHON. The committee is in receipt of statement of other Members of Congress and individuals that will be made a part of the record.

[The statements follow:]

STATEMENT OF REPRESENTATIVE ROBERT L. F. SIKES, FIRST DISTRICT, FLORIDA

CONSERVATION AND MANAGEMENT PROGRAMS OF NATURAL RESOURCES ON MILITARY LANDS

On September 15, 1960, legislation was enacted which authorized conservation and management programs of natural resources on military lands. This is Public Law 86–797 and it includes the 26 million acres administered by the Department of Defense which contains many important natural resources. Subsequent amendments have been added to this law to include outdoor recreation as a natural resource conservation function. The Act also provides for the Department of the Interior to assist the military in the development of fish and wildlife and outdoor recreation conservation programs.

These acts have included authorizing legislation for appropriations. The most recent act, Public Law 93–452, which was passed on October 18, 1974, authorized an annual appropriation through fiscal year 1978 of $1.5 million for the Department of Defense and $2 million for the Department of the Interior for implementing these conservation programs; however, the present administration has not sought funding from either Defense or Interior for these programs. The money that is authorized is not significant in terms of the magnitude of the resources involved. Over the past 16 years, the military agencies have been preparing plans and programs to protect and preserve the resources with the help and assistance of the Department of the Interior. Projects to be accomplished include such conservation efforts as the protection and improvement of wildlife habitat, protection of endangered species, and providing opportunities for outdoor recreation.

Subsequent to the original enactment of Public Law 86–797, there have been new pressures and environmental mandates placed upon the Department of Defense with respect to conservation of natural resources and outdoor recreation. Specifically, the Endangered Species Act of 1973, requires the Department to protect and preserve threatened and endangered species and their habitats. In addition, a growing public demand for outdoor recreation has increased the pressures to provide this use at military installations, when compatible with the military mission. The vast areas under the control of the Department of Defense serve as a sanctuary for many endangered species and as a reservoir to supply outdoor recreation opportunities. While these programs have been planned, they have not been implemented because of the administration's budgetary position, nor have adequate steps been taken to protect and preserve endangered species. I am, therefore, requesting that an item in the amount of $1.5 million be included in the Defense appropriation bill in order that the Department may begin implementation of these programs. I have already requested that funds be provided in fiscal year 1977 to the Department of the Interior in order that this agency may carryout their responsibilities in this area. While some limited measures have been taken in the past, these programs have stagnated and now need to be revitalized.

Provision of these funds will establish that the Congress is intent on seeing that the programs authorized are indeed carried out. With these funds, the Departments of Defense and Interior should be able to proceed to implement the program envisioned by Congress in Public Law 86–797, as amended, and help to provide for partial Department of Defense implementation of the Endangered Species Act of 1973.

Thees funds are needed. The amount is not large, but the effect will be significant. Since the authorization expires at the end of fiscal year 1978, I plan to seek additional legislation to extend this authorization because of the national benefits that can be derived. These funds are needed now. They are modest. They will have a significant impact in helping to protect and preserve the Nation's natural resources.

Statement of Hon. Teno Roncalio, Wyoming

NATIONAL GUARD AND THE NAVAL RESERVES

Mr. Chairman, today I respectfully request your reconsideration of proposals within the Department of Defense fiscal year 1977 budget and three legislative proposals in an addendum to the Army and Air National Guard personnel appropriations. These proposals in the DOD budget and addendum will have a serious impact on the National Guard and the Naval Reserves in my State of Wyoming and throughout the Nation.

I would first like to address myself to the proposals within the addendum to the Army and Air National Guard personnel appropriations. The proposed transfer of 14,000 Army Guard and 7,000 Air Guard personnel from category "A" to category "B" drill status imposes great limitations upon the Guard. The reduction of drills from 48 to 24 greatly reduces the ability to maintain strong, combat-ready units. The Guard cannot adequately play the role in our Nation's defense as we now know it, if placed in training categories below "A". It must remain an organization of fully combat-ready units organized to serve as such. Additionally, supplemental pay provided by drills is a strong inducement to Guard membership. Reduction of the amount of drills will have a strong, adverse impact on morale, recruitment, and retention which could be devastating to the National Guard, particularly in my State of Wyoming, where we have no large population centers from which to draw personnel.

Commanders of the Army and Air National Guard have a great deal of responsibility, much of which necessitates the use of personal time. A great deal of nondrill time must be used in the administration of units which involves the authenticating of correspondence, certification of attendance and pay documents, the review and establishment of operational plans for scheduled assemblies, and the performance of many other administrative duties which must be accomplished between training assemblies. The administrative pay, ranging from $5 to $20 per month, to which commanders are now entitled, cannot totally compensate for the loss of personal time, and the proposal to cut funding for administrative pay should be strongly reconsidered.

The third proposal in the budget addendum would provide Federal pay to civil service employed members of the reserves only to the extent necessary to assume no loss of pay due to reserve duty participation. The limitation of dual compensation during annual training for Guard personnel who are fulltime civil service employees will adversely affect the Army and Air National Guard. Since the end of the draft, recruitment has become more difficult, but incentives have existed with dual compensation. Elimination will make recruitment and retention even more of a task, in addition to creating morale problems within the forces. At a time when the Guard has a very strong responsibility for national defense, it does not make sense to weaken the Guard by cutbacks which will directly affect personnel.

These legislative proposals are designed to restrain high costs of military personnel. The proposed savings to be achieved by this, however, are insignificant when compared to the total cost of DOD military personnel. A chart prepared by the Assistant Secretary of Defense shows a savings of $60 million by eliminating 5,400 active duty spaces, but 46,000 reservists must be eliminated to save only $50 million.

National Guard members take their positions seriously, and realize their full responsibility, which has increased in recent years. Although recruitment and retention are difficult, strong attempts are made to develop well-prepared units, and this is not the time to remove incentives by any action which will disenchant members and retard recruitment and retention, thereby retarding unit readiness. In Wyoming, particularly, where the population is sparse, the items in the budget addendum will result in a diminishment of combat readiness in the Army and Air National Guard. I urge the subcommittee to strongly reconsider these legislative proposals.

In a further attempt to restrain military personnel expenditures, the administration has proposed in the fiscal year 1977 budget, the reduction in Naval Reserves personnel from 102,000 to 52,000. Reduction in Selected Reserves strength would also bring about the loss of jobs for about 900 active duty military personnel and 180 civilians. Because of such a drastic cut in personnel, many

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Reserve Centers will be closed. In a sparsely populated State such as Wyoming, this will completely wipe out many of the centers and leave the State with virtually no Naval Reserve Centers.

In addition to the almost 50 percent cutback in drill pay billets, some 40,000 billets will be transferred from the Selected Reserves to the individual Ready Reserve. There are currently 2,900 spaces in this nondrilling status, and under such, any drill time is strictly voluntary. No incentive exists for these reservists to spend limited vacation time drilling, thus, greatly weakening the Naval Reserves.

The Naval Reserve cannot achieve strong and ready forces with such drastic personnel cutbacks, and I fear that the United States will greatly suffer from the lack of such forces. I urge the subcommittee to maintain the Naval Reserves personnel level at no lower than 102,000 and to reconsider the transfer of billets from the Selected Reserve to the individual Ready Reserve.

I thank the chairman and the subcommittee for the opportunity to make these requests of much importance to the citizens of my State of Wyoming.

Statement of Hon. James Abdnor, 2d District, South Dakota

Mr. Chairman, I want to thank you for allowing me the opportunity to submit testimony on the legislative proposals concerning the National Guard.

Recent budget requests have called for reducing the number of drills from 48 to 24 annually. I have long been an advocate of fiscal responsibility, and without a doubt will continue to do the same, however, this is not the place to do the trimming.

The National Guard is an integral cog in the national defense picture. Through the years it has come to the assistance of the country and States when it has been called upon to do so.

The members of the Guard have maintained an espirit de corps that should make all Americans proud. It is a spirit founded not only on dedication to duty but in the accomplishment of purpose when our Nation faced its most severe tests. The Guard has always answered the call when it was needed. Its role today continues to be vital. The preservation of the Guard is extremely important to a strong national defense.

Under the "total force" concept established a few years ago by the Department of Defense, the Guard has taken on a larger, more important role. Thus, training and ability to efficiently carry out its assigned tasks have become even greater.

Computations show that the National Guard produces more power for national defense purposes, per dollar expended, than any other component of the Armed Forces. It provides 16 percent of the total organized military manpower of the Nation for only 2.6 percent of the overall defense budget. With 78 percent of its total structure in the combat category, the Army Guard provides 46 percent of the combat power of the entire U.S. Army. The Air Guard provides 38 percent of the Tactical Air Command's total strength, 73 percent of the Aerospace Defense Command's jet interceptor alert, 10 percent of the entire Air Force refueling capability and a sizable share of the Air Force's communications, electronics and weather forces.

According to official reports, the Guard currently enjoys the highest degree of combat readiness it has ever attained in peacetime. Only 12 percent of the Army Guard's units are rated as "not combat ready," though equipment shortages and obsolescene place others in the "marginally ready" versions to new sophisticated aircraft, recovery from conversion turmoil has been swift and only 8 percent of the flying units are termed as "not combat ready." A cutback as that proposed would have a tremendous effect on these capabilities.

The Guard provides indispensable services to the States on an almost daily basis. Guardsmen are at the call of Governors almost daily in assisting on occasion from quelling civil disturbances to providing assistance during national disasters.

The Guard has consistently maintained its authorized strength since World War II. Its success in keeping its ranks filled in the past 4 years by all-volunteer means and in the face of widespread antimilitary sentiment among those in the prime recruiting age group is especially noteworthy. However, recruiting in today's environment requires far more time than in the past. Taking away the pay incentive by reducing the number of drills will have a staggering effect on

the ability to recruit our Nation's young men and women into the National Guard. We cannot make the Guard's recruiting position any more difficult than it is now.

I would ask you to look very closely at this proposal, for far more than saving a few dollars is at stake here. The ultimate defense of our Nation lies in the hands of the efficiently trained National Guardsmen. As we stood prepared in 1776, let us not forget that we must stand prepared even more in today's world.

I would also ask that the chairman include Senate Concurrent Resolution No. 23 passed by the South Dakota Legislature on February 12, 1976, in the record.

Thank you Mr. Chairman.

SENATE CONCURRENT RESOLUTION NO. 23

A CONCURRENT RESOLUTION, Memorializing the Congress of the United States to support the National Guard in strength and composition consistent with the maintenance and support of state and local government during periods of disaster, riot or civil disorder.

BE IT RESOLVED BY THE SENATE OF THE STATE OF SOUTH DAKOTA, THE HOUSE OF REPRESENTATIVES CONCURRING THEREIN:

WHEREAS, the National Guard of the United States of America and of the several states has historically and traditionally provided military manpower for the security of the state and nation; and

WHEREAS, the National Guard as a force in being, can be maintained at a fraction of the cost of equal numbers of regulars; and

WHEREAS, the National Guard is unique in having a dual mission to provide combat ready forces for the defense of our country as well as a trained force in being responsible to the Governor for support of state and local government during periods of disaster, riot or civil disorder; and

WHEREAS, the National Guard assistance in community construction and improvement projects during training assemblies has saved the taxpayers of South Dakota hundreds of thousands of dollars; and

WHEREAS, a reduction in future strength, funding or continued modernization of facilities and equipment would result in a serious deterioration of present capabilities to the detriment of our total readiness and community support:

NOW, THEREFORE, BE IT RESOLVED, by the Senate of the Fifty-first Legislature of the State of South Dakota, the House of Representatives concurring therein, that the Congress of the United States in order to preserve the role of the National Guard in maintaining and supporting state and local government during periods of disaster, riot and civil disorder be requested to increase its support of the National Guard; and

BE IT FURTHER RESOLVED, that the Secretary of the Senate forward copies of this Resolution to the President of the United States, the Speaker of the House of Representatives and the President of the Senate of the United States, the Secretary of Defense and all members of the South Dakota Congressional Delegation.

Adopted by the Senate, February 11, 1976
Concurred in by the House of Representatives, February 12, 1976

Harvey Wollman
President of the Senate

Joseph Barnett
Speaker of the House

Roger Prunty
Secretary of the Senate

Paul Inman
Chief Clerk of the House

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of South Dakota at the City of Pierre, the Capital, on February 13, 1976

Lorna B. Herseth
Secretary of State

AD HOC COMMITTEE TO PRESERVE MILITARY COMMISSARIES.

Hon. GEORGE H. MAHON,
Chairman, Committee on Appropriations, Defense Subcommittee, House of Representatives, Washington, D.C.

DEAR MR. MAHON: Last year we had the distinct privilege of appearing before your committee as representatives of the Ad Hoc Committee to Preserve Military Commissaries. At that time we exposed the myth of pay comparability, which was the administration's primary justification for discontinuing subsidies for commissaries. We emphasized the negative impact of eroding benefits on morale and demonstrated the continuing need for commissaries for the sake of needy military families, recruiting and retention. Our testimony is more relevant today than ever, in light of the growing interest in military unionization.

The members of our organization are totally opposed to movement in this direction, but understand that the idea was conceived as the result of overwhelming frustration with the apparent lack of control that we in the military have over our lives. It is our hope that we, the Ad Hoc Committee to Preserve Military Commissaries, proved by our efforts last year that it is possible to work within our system of Government, through our representatives, to air our grievances: to be heard, and to be treated fairly as a result. We also hope that this fact will again be demonstrated this year as the defense budget is examined. As military members, dependents, and retirees begin to realize that we have a viable alternative to unionization, the need for a military union will no longer exist. It is up to the Congress to be responsive to the individuals who comprise our military, if it is to remain strong. Guns, aircraft, tanks, missiles, and ships are not enough.

Military families and retirees are deeply grateful to the members of this committee and to other Members of the House who recognized the need for adequate pay combined with perquisites which put military men and women on equal footing with civilian counterparts. Now, more than ever, it is imperative that military morale be kept high in the face of our deteriorating position as the foremost world power. While weapons systems and various forms of military hardware are important, they are of little value if the men and women behind them have poor morale. This point cannot be overemphasized.

The issue is not whether we are going to have weapons or commissaries, but rather whether we are going to be realistic enough to understand that the military family and retirees depend on and deserve the few benefits that we have. We have paid the price and continue to do so by unwavering devotion to this country, by long hours without compensation, by sacrificing life without hesitation. We trust that you will give this critical issue objective study and careful consideration again this year.

We respectfully request that this statement be conveyed to the members of your subcommittee and that it be inserted into the record of hearings on the defense budget April 6, 1976.

Your truly,

LINDA A. PINEGAR,
Chairman.
LYNNE C. LICHTERMANN,
Cochairman.

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An Independent Non Profit Aerospace Organization

GEORGE M. DOUGLAS
President

April 2, 1976

Dear Mr. Chairman:

We are pleased to learn that your distinguished Committee is scheduling hearings on the matter involving Military Commissary Stores and the Administration's request to limit certain federal support thereof.

The Air Force Association was highly honored to appear before your Committee on this subject last year, and we respectfully ask permission to submit, for the record, and on behalf of our 140,000 members, a resolution on this matter which was adopted unanimously by our delegates in National Convention last September. A copy is attached.

We still believe that curtailment of this benefit will have the greatest impact on those who have the least opportunity to speak out; i.e., the families of lower-ranking enlisted men and women of the Armed Forces; widows of advanced age; totally disabled veterans; and retirees, many of whom are drawing retirement pay based on pay scales which were, at the time, far from "comparable" to those in the civilian sector.

We are advised that, in the Air Force alone, some sixty percent of military men and women have dependents. In the grades of sergeant (E-4) and below, we are informed that this figure is 57.5 percent. To these people, the commissary savings are not "extras," as some wish to label them, but are a vital and necessary part of the compensation that military people believe they were promised. Among lower-ranking military people, such savings often mean the difference between "living" and "existing."

All of us in the Air Force Association are deeply grateful to you and your colleagues in the U. S. Congress for all you have done to ensure that military people receive just compensation for the important role they fulfill in our national defense. We are hopeful, therefore, that the principles of House Concurrent Resolution 198, adopted so overwhelmingly last year, will prevail again and that this commissary subsidy will continue.

With every good wish, I am

Sincerely,

George M. Douglas

Hon George H. Mahon
Chairman
Appropriations Committee
U. S. House of Representatives
Rayburn House Office Building
Washington, D. C. 20515

AIR FORCE ASSOCIATION

General Resolution No. 1

Adopted by the Association's National Delegates in Convention

September 15, 1975

Base Commissary Stores

WHEREAS, elimination of the subsidy would prove to be a serious hardship for many of those now eligible to use the commissary, particularly the families of lower ranking officers and airmen, retirees, widows, and disabled veterans; and

WHEREAS, commissary savings are part of an implied contract promised military people by the government in recruitment literature and military education programs; and

WHEREAS, no proposal has been made to increase other elements of total compensation to compensate for such a proposed elimination of commissary subsidy;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association strongly supports maintaining the commissary subsidy as presently constituted, recognizing it as an important and legitimate part of total compensation for the military person; and

BE IT FURTHER RESOLVED that the Air Force Association urges the Administration to reconsider and withdraw its proposal for the phased elimination of the commissary subsidy; and urges the Congress to enact legislation which would assure the continuance of this commissary subsidy.

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WITNESSES

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