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STATEMENT OF SECRETARY OF DEFENSE ROBERT S. McNAMARA

BEFORE THE HOUSE ARMED SERVICES COMMITTEE

ON THE FISCAL YEAR 1968-72 DEFENSE PROGRAM AND 1968 DEFENSE BUDGET

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Mr. Chairman and Members of the Committee:

I have already presented to this Committee the Supplemental financial requirements for the balance of the current fiscal year, 1967. Now I should like to review our Defense Program for the next five fiscal years and our budget requirements for the coming fiscal year, 1968. As has been my practice in the past, I will attempt to call your attention to the more important changes in the Defense Program which have occurred since last year, particularly those relating to our effort in Southeast Asia. Other Defense Department witnesses will present the details of our financial requirements for FY 1968 later in these hearings.

A. APPROACH TO THE FY 1968-72 PROGRAM AND THE FY 1967-68 BUDGETS

Last year when I appeared before this Committee in support of the FY 1967-71 program and the FY 1967 Budget I said:

> "With regard to the preparation of the FY 1967-71 program and the FY 1966 Supplemental and the FY 1967 Budget, we have had to make a somewhat arbitrary assumption regarding the duration of the conflict in Southeast Asia. Since we have no way of knowing how long it will actually last, or how it will evolve, we have budgeted for combat operations through the end of June 1967. This means that if it later appears that the conflict will continue beyond that data, or if it should expand beyond the level assumed in our present plans, we will come back to the Congress with an additional FY 1967 request."

Throughout the spring and summer of last year in my appearances before various Congressional Committees, I reiterated the fact that the FY 1967 Budget was based on the arbitrary assumption that the conflict would end by June, 1967, and that additional funds would be required if the conflict continued. I also repeatedly stated, both before the Congressional Committees and in public statements, that defense spending would rise above the budget level if we had to take actions to provide for the continuation of the conflict beyond June 30, 1967.

For example, on February 25, 1966, I explained to the Senate Armed Services Committee and the Subcommittee on Department of Defense Appropriations:

"If it later appears that they [i.e., combat operations in Vietnam] will extend beyond that date, it will be necessary to supplement the fiscal year 1967 budget.

"The reason why that planning assumption [i.e., that the conflict would end June 30, 1967] causes the 1967 total obligation authority to drop below 1966 is that there are long lead items that may have to be used in combat, let's say in the period January-June 1967, which can't be financed in the fiscal year 1967 Budget and be delivered in time. Therefore they must be financed in the fiscal year 1966 Budget, if we are to have them on hand when we need them. That is why the total obligational authority for 1966 is higher than 1967.

"Now, if later this year it appears that combat will extend beyond June of 1967, at high levels, then in the case of similar long lead times it will be necessary for us to come back to the Congress and ask for additional appropriations."

I said a little later:

"...I think it would be irresponsible for us to come forward, now, today, with a higher figure, because it is extremely difficult to estimate the level of combat operations 18 months in advance, and very wasteful if we are to estimate on the high side, and quite unnecessary because the lead times don't require financing now."

On August 1, 1966, when I appeared before the Senate Subcommittee on Defense Appropriations in support of our appeals on the House action on the FY 1967 Appropriation Bill, I noted again that the FY 1967 Budget was based on the arbitrary assumption that combat operations would terminate June 30, 1967. I went on to say:

"As we get closer and closer to that date, it becomes more and more necessary to plan on the possibility of that not happening. We are considering that possibility. We, at present, however, do have sufficient funds to carry us on for several additional months.

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"At the moment I would not recommend a supplemental, although I think one some time during 1967 is very likely. The reason I would not recommend it today...is that there are still many uncertainties not only as to the duration of the conflict, but also with respect to the level of operations that needs to be financed."

I pointed out that we had just completed a review of our air ordnance production programs and were reviewing our production plans for ground ordnance and aircraft. I concluded by saying:

"...To the extent that we can finance our operations with the presently requested funds and push the timing of the submission of a supplemental into the future, I think we will be able to come forward with a more precise estimate of our total requirements..."

With regard to the additional $569 million added by the House for active duty military personnel, I pointed out that our military personnel strength estimates were still fluctuating widely. I suggested that rather than coming forward with one personnel estimate today and a different one tomorrow, and constantly changing our funding requirement, we would be better advised to use the special authority we have in the Appropriation Bill to expend whatever funds are necessary for military personnel. I pointed out:

"...that almost surely we will expend the additional $569 million that the House inserted in the bill."

And I added later:

"More likely it will be higher than that level rather than lower."

What we were trying to do was to avoid the overfunding which occurred during the Korean War when the Defense Department requested far more funds than were actually needed. For example, the Defense Department requested a total of about $164 billion for the three fiscal years 1951-53; the Congress appropriated a total of $156 billion; the amount actually expended was $102 billion; and the unexpended balances rose from $10.7 billion at the end of FY 1950 to $62 billion by the end of FY 1953. It took about five years to work the unexpended balance down to about $32 billion; and we were able to support a Defense program of about $50 billion a year during FY 1962-64 with about $30 billion of unexpended balances.

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The excessive unexpended balances built up during the Korean War were duly noted by the Appropriation Committees. Mr. Mahon, for example, commented in February 1953:

> "...that will cause our colleagues and the press and the public who have not had a chance to study this to say, 'Are the members of the Appropriations Committee crazy in appropriating $41 billion, more or less, when they already have an unexpended balance of $62 billion?'"

Although we still have no way of knowing when the conflict will end, it is perfectly clear that we must take whatever measures are necessary to ensure our ability to support our forces in the event the conflict does continue beyond June 30, 1967. Indeed, when it became apparent last summer that this was likely to be the case, we continued the build-up of our military personnel strength beyond the level anticipated in the FY 1967 Budget and took action to ensure that deliveries of long lead time items would continue beyond June 30, 1967 without interruption. The Congress was informed of these actions through the reprogramming process and related hearings.

But, while it was clear even last summer that additional funds would be required for FY 1967 if the conflict in Southeast Asia were to continue, the timing and the amount of the additional request posed a problem. With regard to timing, we had essentially two alternatives: (1) request an amendment to the FY 1967 Budget in the summer of 1966, while it was still before the Congress; or (2) wait until early the following year and request a Supplemental appropriation. Each of these alternatives had certain advantages and disadvantages.

First, we still could not see clearly last summer the full dimensions of our requirements for Southeast Asia. There was at that time a wide range of uncertainty concerning the size of the forces required, their composition and their tempo of operation. Consequently, we could not determine with any degree of precision how many more men we would need through the balance of the fiscal year, how much more ammunition and other supplies we would consume, how many more aircraft we would lose as a result of enemy action, and how much more construction we would need in Vietnam and elsewhere to support the larger forces that might be required. Without these data, we could only guess the amount of the additional funds which would be needed for the balance of the fiscal year.

Second, many of the decisions which would have been involved in preparing an amendment to the FY 1967 Budget would have also been involved in preparing the FY 1968 Budget, and these decisions could be made with much greater assurance of accuracy later in the year. Indeed, I am

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convinced that had we gone forward with an amendment last summer, the FY 1967 Budget would have had to undergo still another drastic adjustment because of the decisions made in connection with the FY 1968 Budget. In other words, an FY 1967 Supplemental would have been needed in any event.

The major disadvantage of waiting for a Supplemental has been the need to reprogram, on a rather large scale, available FY 1967 funds to meet our most urgent longer lead time procurement requirements, pending the availability of the additional funds. We recognize that this extensive reprogramming has placed an extra burden not only on the Defense Department but on the Armed Services Committees and the Defense Appropriations Subcommittees as well. Some of these reprogramming actions required the prior approval of this and other interested Committees; all of them have been reported to the Committees concerned. However, in order to facilitate your consideration of the FY 1967 Supplemental request we have prepared a recapitulation of all of the major procurement program adjustments affecting that fiscal year, which will be furnished separately.

Now, with a year and a half of combat experience in Southeast Asia behind us, I believe that we have a much better understanding of our future requirements. In October 1965, when the FY 1967 Budget was being developed, we were in the midst of an explosive build-up in South Vietnam; it was then that we moved over 100,000 men 10,000 miles in less than 120 days. The future was impossible to predict with accuracy. In contrast, in October 1966, at the time of the preparation of the FY 1968 program, we could look ahead to the time when our forces in Southeast Asia could be expected to level off. Moreover, we have acquired a significant amount of data on actual consumption rates for individual items of ground and air munitions and on combat attrition rates for the various types of rotary and fixed-wing aircraft, and we can now project our requirements for these two very important categories of materiel much more accurately than was possible even last summer. And, I might point out that the rates of consumption and attrition actually experienced for many specific items have turned out to be quite different from those we projected last year -- lower as well as higher.

Since we can now project our requirements for the conflict in Southeast Asia with far greater confidence than last year, we have changed our basic approach in preparing the FY 1967 Supplemental as well as the FY 1968 Budget. Sufficient funds are being requested in both the FY 1967 Supplemental and the FY 1968 Budget to protect the production lead time on all combat essential items until FY 1969 funds would become available. For example, in the case of ammunition, which is perhaps the category of materiel most affected by combat operations, we are requesting funds

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to cover the full production lead time beyond the end of FY 1968. Because ammunition reorder lead time averages about six months, this means that the FY 1968 Budget provides funds to finance ammunition deliveries at rates sufficient to support operations in Southeast Asia through December 1968. Thus, if it later appears that the conflict will continue beyond June 30, 1968, we would be able to use FY 1969 funds to order additional ammunition for delivery after December 1968 and keep the production lines going without interruption.

In the case of tactical aircraft, which have a production lead time on the average of about 18 months, we have included sufficient funds in the FY 1967 Supplemental and the regular FY 1968 Budget to cover deliveries at rates sufficient to offset combat attrition in Southeast Asia to January 1, 1970. If it later appears that all of such aircraft will not be required to replace combat attrition, the production of some might be cancelled and some used to modernize the forces at a faster rate than presently planned.

Similar provisions have been made in the FY 1967 Supplemental and the FY 1968 Budget for other categories of materiel which would be affected by the continuation of combat operations in Southeast Asia beyond June 1968. Accordingly, barring a significant change in the character or scope of the Southeast Asia conflict, or unforeseen emergencies elsewhere in the world, the FY 1967 Supplemental and FY 1968 Budget should be sufficient to cover our requirements until FY 1969 funds become available, even if the conflict continues beyond June 30, 1968.

Because of the large demands of the Southeast Asia conflict, I have deleted from both the FY 1967 Supplemental and the FY 1968 Budget, procurement funds which are required simply for the replacement of items already in the inventory with later models, except for tactical aircraft and helicopters and where the newer item is being procured to replace consumption. This type of marginal modernization can be safely deferred to a later time.

With regard to military construction, we have included funds in the FY 1968 Budget for military family housing and other categories of "non-combat" facilities, e.g., replacement of old barracks, BOQs, maintenance shops, administration and school buildings, etc. We deferred these types of construction programs in FY 1966 and 1967 in order to reduce our demand on an economy already laboring under inflationary pressures. Now that these pressures appear to be subsiding, we should be prepared to resume the orderly modernization and expansion of our physical plant, which represents an investment, in terms of acquisition cost, of well over $35 billion. The rate at which we do so will depend upon economic developments during the next 12 to 18 months. In any event, we would first release the balance of the FY 1966 military construction program (about $565 million), and then move forward with the FY 1968 program, for which a total of $2,123 million has been included for Military Construction and $267 million for the construction of Military Family Housing.

Needless to say, we are continuing our cost reduction efforts with undiminished vigor. And, as you know, we have developed another list of base closings and consolidations, none of which will in any way affect our combat capabilities in Southeast Asia or elsewhere.

By eliminating unneeded and marginal activities and deferring whatever can be safely deferred, I have been able to reduce the FY 1967 Supplemental and the FY 1968 Budget requests of the Services and Defense Agencies by about $23.3 billion, while at the same time providing for all essential military requirements. As shown on Table 1, we are requesting for FY 1967 a total of $72.8 billion in new obligational authority, of which $12.3 billion is in the special Supplemental for Southeast Asia. For FY 1968 we are requesting a total of $75.3 billion in new obligational authority. Expenditures are now estimated at $67.95 billion for FY 1967 ($9.65 billion above the original budget estimate) and $73.1 billion for FY 1968

B. ASSESSMENT OF THE INTERNATIONAL SITUATION AS IT BEARS ON MILITARY POLICIES AND PROGRAMS

Although the conflict in Southeast Asia continues to be the problem of most immediate concern to the American people, other developing trends in the international situation may turn out to have even greater significance to our national security over the longer run. This is not to minimize the crucial importance of the struggle in Vietnam. It continues to be the key test of the Red Chinese version of the so-called "Wars of National Liberation", which they hope will sweep the world. And it has also become a factor in the struggle of the Soviet Union and China for leadership of the world Communist movement.

Indeed, it is this continuing clash between the two Communist giants which is one of the most significant developing trends on the current international scene. Although Mr. Khrushchev's successors had evidently hoped to mitigate Soviet differences with China, this effort has failed and the split between them has become even more wide and bitter. The Soviet leaders apparently believe that the militant People's War policies of Mao Tse-Tung -- enunciated by his chief lieutenant, Lin Piao, in his well-known statement of September 1965 -- constitute a threat to them as well as the Free World. The Chinese contention that the world revolution is nothing more than a People's War of the countries of Asia, Africa and Latin America (the "World Village") against the nations of North America and Western Europe (the "World City") does not sit well with the Soviet leaders -- primarily because the Soviet Union is itself a part of the so-called "World City".

It may be that some aspects of this dispute are involved in the power struggle now wracking Red China. But whatever the issues, the outcome of that struggle could have a profound effect far beyond China's borders. The difficulties at home and the setbacks abroad may have blunted the thrust of China's militant policies for the moment. But a China which persists in making the destruction of the Free World and everything it stands for a stated tenet of its foreign policy, and a China which continues to pursue with unrelenting vigor (and with considerable success to date) the attainment of a nuclear weapons capability, does not bode well for the future peace and security of the world.

Another trend of longer term significance is the growing awareness among the nations of Southeast Asia and the Western Pacific that their future security and well being depends importantly upon their ability to work together in strengthening the military, economic and political cohesion of all the non-Communist nations in the area. Many of their political leaders understand and appreciate that our defense of the people of South Vietnam has served as a bulwark for their own security and that it is buying them time to put their own houses in order.

In Europe, as I noted two years ago, long frozen positions are beginning to thaw and there is an intensified search -- on both sides of the Iron Curtain -- for new arrangements which might better serve the security needs of all concerned. This movement is not necessarily detrimental to our interests. Our basic objectives in Western Europe are to ensure the security of that area against aggression and to further its economic growth and political stability. If better means than those now employed can be found to achieve these objectives, we would welcome them. In the meantime, we believe that the military strength and, above all, the political unity of the NATO powers in Europe must be preserved. In this belief, we have found substantial agreement among our NATO partners. As for the Soviet posture in Europe, we must await further evidence of their intentions. Although they are seeking joint solutions to some of the less controversial issues, they continue to maintain and to strengthen their forces deployed against Europe.

In the so-called "Third-World" of developing nations, there is a growing awareness that independence and self-government alone will not ensure the physical well-being of the people. The problems of nation building and economic development must still be solved, particularly in agriculture. The number of nations suffering food shortages and the extent of these shortages are growing steadily year by year. The United States had done much to ameliorate the immediate problem, but a permanent solution must be found in the affected countries themselves, with whatever help the more economically developed nations are willing to provide. For many years, we will have to deal with conditions of inherent instability which will have an impact on our security program.

1. The Communist Countries

The dispute between the two major Communist powers has now reached a point where the Soviet Union has not only renewed the exchange of bellicose statements but is also strengthening its military posture in response to serious border problems with China. While an outbreak of hostilities between China and the Soviet Union does not appear probable at this time, the tension on the borders is likely to continue.

Within the Communist camp, the Soviet Union has continued its efforts to isolate China. Although the Soviets have not succeeded in reading China out of the international Communist movement, only Albania among the ruling Communist parties still remains exclusively aligned with China.

a. Soviet Union

As for the Soviet Union itself, the initial caution prevailing under Brezhnev and Kosygin has given way to a more self-confident attitude at home and abroad. This growing self-confidence is reflected in the open renewal of the dispute with the Chinese, the determined effort to push domestic economic reforms and expand the production of consumer goods, and a more vigorous diplomatic approach to the nations of Western Europe.

The Soviet economy still presents a mixed picture of strengths and weaknesses. The performance of industry remains sluggish and spotty. The situation in the areas of investment, construction, and labor productivity -- three of the most essential factors affecting economic growth -- does not augur well for the regime's avowed objectives of achieving steep increases in overall growth and productivity, at least not in the years immediately ahead. The Soviet gross national product is still less than one-half that of the United States. With this output, the Soviets support a high rate of industrial investment, and a rising level of defense expenditures. (Actual defense expenditures are estimated to have risen about 10 percent in 1966, compared with 5 percent in the published budget. An increase of 8 percent was announced in the published budget for 1967.) It is not surprising, therefore, that Soviet per capita consumption is still only about one-third of ours. Nevertheless, the Soviets are continuing their support of North Vietnam at a rate of about $750 million per year and are furnishing economic and military assistance to many other countries, notably to Egypt, Syria, India, and Cuba.

In Europe, the Soviet Union is attempting to live with the growing diversity and independence being shown by her East European allies. As I have noted, the Soviets have shown a readiness to reach agreement with Western European governments and the U.S. on certain less controversial issues, such as the treaty on outer space and the New York-Moscow commercial air route. At the same time, the Soviets continue to try to cast the Federal Republic of Germany in the role of Europe's greatest menace and seek to exploit differences among the Western allies. There is evidence, however, that the Soviet Union may increasingly seek peaceful avenues of endeavor, and we stand ready to reciprocate wherever this is the case. But the time is not yet, unfortunately, when we can view Soviet policy as benign.

b. Red China

The events in mainland China over the past months have made it necessary for us to reexamine some of the basic assumptions which we have made about the Peking regime. The previous general belief that the leadership of China was monolithic and that a relatively peaceful transition of power from Mao's rule was possible has proved to be erroneous. In fact, the regime has been torn over the past months by a major internal struggle. Although there are many imponderables and uncertainties, it appears that the great public attack on governmental and Communist party leaders, launched by Mao himself, was motivated by his fear that China after his death might not stay on a militantly revolutionary path. His policies have been resisted by many of the Chinese hierarchy in Peking and throughout the country, who would apparently prefer less extreme policies and more emphasis on the economic improvement of China. To deal with this opposition, Mao has begun a purge of some of his former comrades and has created a new organization, the Red Guards.

The prospect appears to be for continuing political turmoil, probably intensified when Mao passes from the scene. His successors can be expected to quarrel not only about who will control the country but also about such domestic issues as the role of ideology and the means of economic development.

We have only a very imprecise understanding of the role which foreign policy issues play in the current upheaval. The Chinese have, of course, suffered a series of major set-backs over the past several years. They can no longer have any expectation of a quick victory in Vietnam. The Government of Indonesia is no longer closely allied to China. Their influence has waned in Africa and throughout the Third World, and they have been virtually isolated within the Communist camp.

One result of the internal upheaval has been a temporary reduction in Chinese interest in the outside world. However, there has been no diminution in their support of the Communist efforts in Vietnam and in Thailand. And, they are still active in supporting "Chinese" factions in the Communist movement in other parts of the world, in some cases, with military materiel.

Nevertheless, as the President declared in his recent State of the Union Message:

> "We shall continue to hope for a reconciliation between the people of mainland China and the world community -- including cooperation in all the tasks of arms control, security, and progress on which the fate of the Chinese people, like the rest of us, depends.
>
> "We would be the first to welcome a China which had decided to respect her neighbors' rights. We would be the first to applaud were she to concentrate her great energies and intelligence on improving the welfare of her own people.

And we have no intention of trying to deny her legitimate needs for security and friendly relations with neighboring countries.

"Our hope that all of this will someday happen rests on the conviction that we, the American people and our allies, will see Vietnam through to an honorable peace."

2. Southeast Asia and Southwest Pacific Area

Since I have already discussed the military situation in Southeast Asia in considerable detail in my statement on the FY 1967 Supplemental, I will confine myself here to the broader political and economic aspects.

As I noted earlier, there is a growing awareness and appreciation among Asian and Pacific nations of the contribution our efforts in Southeast Asia are making to their own freedom and independence. Some are now actively participating in the struggle; others are increasingly articulate in expressing their support for our goals and objectives in Southeast Asia. This change from a passive, and in some cases a negative, attitude is, in my opinion, directly related to the demonstration of our will and determination to fulfill our obligations in that area of the world.

Of even greater importance in its potential for contributing to regional political, economic, and social development and to long range regional security is the growing appreciation of the need for collective action to meet common problems. It can be seen in such regional efforts as the Asian Development Bank, the Mekong development project, and the important Ministerial meeting held in Seoul for Asian and Pacific Cooperation (ASPAC).

The unity of purpose of the seven nations that are actively participating in the defense of South Vietnam was clearly demonstrated in the Manila Conference held in October 1966. Here the Heads of State and Government of the participating nations (South Vietnam, Australia, New Zealand, Thailand, Republic of Korea, Philippines, and U.S.) produced a statement of principles which we believe reflects the views of the great majority of the free nations of the Asian and Pacific area. This statement of principles contains the following points:

(a) The South Vietnamese people shall not be conquered by aggressive force and shall enjoy the inherent right to choose their own way of life and their own form of government; this commitment shall be backed by military force and other efforts as necessary.

(b) The following principles will guide the united effort to move toward a peaceful and prosperous future for all of Asia and the Pacific:

(1) Aggression must not succeed.

(2) We must break the bonds of poverty, illiteracy, and disease.

(3) We must strengthen economic, social, and cultural cooperation within the Asian and Pacific region.

(4) We must seek reconciliation and peace throughout Asia.

Thus, the nations represented at Manila expressed both their united determination that the freedom of South Vietnam be secured and their deep concern for a peaceful future for Asia and the Pacific. They declared that their common commitment is the defense of the South Vietnamese people and that their sole demand on the leaders of North Vietnam is that they abandon their aggression. They proclaimed their readiness to pursue any avenue which could lead to a secure and just peace, whether through discussion and negotiation or through reciprocal actions on both sides to reduce the violence.

To leave no doubt as to their longer-range intentions in Southeast Asia, the nations represented at Manila also declared that: "Allied forces are in the Republic of Vietnam because that country is the object of aggression and its government requested support in the resistance of its people to aggression. They shall be withdrawn, after close consultation, as the other side withdraws its forces to the North, ceases infiltration, and the level of violence thus subsides. Those forces will be withdrawn as soon as possible and not later than six months after the above conditions have been fulfilled".

At the President's direction, the policies and objectives of the United States Government with regard to the conflict in Vietnam had been stated by Ambassador Goldberg at the United Nations last September. Among the points he made were the following:

> Ours is a strictly limited aim.
> We are not engaged in a 'Holy War' against Communism.
> We do not seek to establish an American empire or a 'sphere of influence' in Asia.
> We seek no military bases, no permanent establishment of troops, no permanent American 'presence' of any kind in South Vietnam.
> We do not seek the overthrow of the Government of North Vietnam.

We do not seek to threaten any legitimate interest of the people of China.

We do not ask of North Vietnam an unconditional surrender or indeed the surrender of anything that belongs to it; nor do we seek to exclude any segment of the South Vietnamese people from participating by peaceful means in their country's future.

Let me say affirmatively and succinctly what our aims are.

We want a political solution, not a military solution, to this conflict. Similarly, we reject the idea that North Vietnam has a right to impose a military solution.

We seek to assure the people of South Vietnam the same right of self-determination -- to decide their own political destiny, free of force -- that the United Nations Charter affirms for all.

And we believe that reunification of Vietnam should be decided upon through a free choice by the peoples of both the North and South without outside interference, the results of which choice we are fully prepared to support.

These, then, are our affirmative aims. They contain nothing that conflict with the true interests of any party involved.

Our own tireless search for peace in Vietnam continues. We have called again and again for negotiations toward a settlement, but in spite of all efforts there is no sign as yet that Hanoi wants to end the fighting. The President has said that we would welcome unconditional discussions, and that the Viet Cong would not have difficulty being represented and having their views presented if Hanoi decided to end its aggression. The North Vietnamese, spurning all offers to talk, continue to demand not only withdrawal of U.S. forces from South Vietnam and an end to acts of war against the North, but also the settlement of the "internal affairs of South Vietnam ... in accordance with the program of the NFLSVN" -- the National Front for the Liberation of South Vietnam. These demands are unacceptable; we cannot ask that the lives and destinies of the people of South Vietnam be placed in the hands of the very aggressors responsible for the thousands of kidnappings, murders, assassinations, and terrorist bombings we have seen in South Vietnam over the years.

The most recent effort by the United States to move toward peace in Vietnam was our December 19, 1966 request to the Secretary General of the United Nations to take whatever steps he considers necessary to bring about discussions which could lead to a cease-fire. We have also said that we would end our bombing of North Vietnam upon receipt of assurances -- public or private -- that there would be a reciprocal action by the other side. But the Communists have rejected all our offers and their aggression goes on.

Nevertheless, we are agreed with the people of South Vietnam and with the other Free World nations aiding in the defense of that country that we must be as determined in our search for peace as we are in our efforts to thwart aggression.

Within South Vietnam, there have been a number of favorable developments in the political scene during the last 18 months. The Government has successfully ridden out a series of crises; it has shown an ability to fashion reasonably acceptable compromises of troublesome issues; and the military and civilian leaders have demonstrated an increasing willingness to work together. Most important, a Constituent Assembly has been elected, a constitution will be proclaimed shortly, and national elections should follow later on this year. Finally, the improved military situation adds generally to a better political climate.

However, South Vietnam is still plagued by important political weaknesses: divisive regional animosities, religious enmities, civilian-military rivalries, low levels of administrative competence, political obstacles to economic reforms, and factionalism within the military. Over the next year, crises are bound to occur, particularly as the process of developing a constitution and moving toward a more permanent form of government unfolds. No assurance can be given that some crisis might not threaten the political progress made to date.

Economically, the picture is considerably brighter than it was six months ago. Thanks in part to the currency devaluation decision of the Vietnamese Government taken last June to check growing inflationary pressures, those pressures have remained within manageable bounds. Efforts to control U.S. and Vietnamese Government piaster expenditures are meeting with some success. As a result, inflation in 1967 should be held in check better than in the previous year. Nevertheless, the cost of living during 1967 may jump by as much as 20 percent and possibly more. Other important economic problems stemming from the war and the developing nature of the economy will remain. Further strong actions will be necessary to build and maintain economic stability and strength.

The future of Laos continues to be intimately tied to the outcome of the struggle in Vietnam. Any settlement that is ultimately made in Vietnam must take into account the magnitude of North Vietnamese intervention in Laos. If the North Vietnamese were withdrawn from Laos, the Royal Lao Government could cope with the threat posed by the Pathet Lao.

Aside from this problem, the prospects for the preservation of the independence of Laos are reasonably favorable. Notwithstanding the conflict, the attempted coups and assassinations, and the severe financial dislocations, the situation in Laos four years after the Geneva Settlement of 1962 is better than almost anyone expected at the time

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the Accords were signed. Except for Mainland China and North Vietnam, foreign support for the framework of the 1962 Settlement has continued. Despite the Pathet Lao's nonparticipation in the tripartite coalition government since 1963, and despite Communist subversion and aggression involving substantial direct North Vietnamese participation, the essential forms of the Geneva settlement have been preserved.

The area and population free of Pathet Lao control have been extended. Although fighting was renewed in 1963 and has continued since, and although there is no clear demarcation of zones, the overall military situation has been stabilized and, on balance, the chances seem better than even that it will remain so. Most importantly, the Mekong Valley buffer to Thailand has been preserved without direct U.S. or other foreign intervention.

Compared to 1962, the personal position of Prime Minister Souvanna Phouma has been strengthened. He remains openly dedicated to his country's neutrality. The Royal Lao Government's continued ability to defend against the Pathet Lao and the North Vietnamese and to maintain the political stability which is required if this defense is to be effective, depends largely on continued military and economic assistance from the United States. In response to the Prime Minister's requests, Laos has been provided with the assistance needed to carry on its struggle on both the military and economic fronts.

The presence of U.S. forces in nearby Thailand contributes directly to the war effort in Vietnam. The great majority of the almost 35,000 U.S. military personnel in Thailand are there in support of our military efforts in Vietnam. The Government has welcomed them because it feels that the outcome of the war in Vietnam is vital to Thailand. And, indeed, Thailand has agreed to commit 1,000 troops to South Vietnam in support of the Free World effort there. Bases in Thailand from which our forces operate are generally closer to North Vietnam than those in South Vietnam; the effective range of our aircraft is thereby extended, damaged aircraft are able to make safe landings not otherwise possible, and air rescue operations for our downed pilots can be carried out in minutes. Moreover, Thailand has proved to be a relatively secure base area for such operations.

There is no question but that Peking and Hanoi are attempting to foment insurgency in Thailand. They have openly stated that to be their objective. Training schools for Thai cadre have been run in North Vietnam, as well as in Red China, since at least 1961. China sponsors the so-called Thai Patriotic Front whose leadership resides in Peking and whose clandestine radio, "The Voice of Thailand", is located in southern China. Terrorist bands in the poor and remote northeast work to intimidate

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the villagers through armed propaganda meetings and selective assassination. Although the number of terrorists is still small -- probably around a thousand -- they provide a potential base for a major insurgency effort.

This threat to internal security is recognized by both the Thai and the U.S. Governments. The Thai Government over the past several years has undertaken, with our support, many programs to strengthen the links to the people, particularly in the more remote areas, and to improve their well-being and security. Our basic approach to the insurgency problem is to help the Thais help themselves. Indeed, Thailand has not asked that we undertake <u>their</u> task of defense against insurgency, nor have we offered to assume this responsibility.

Cambodia, having severed diplomatic relations with us in early 1965, has wavered in its relations with Peking and Hanoi and the West. Earlier, Cambodia maintained a neutralist position, leaning toward Hanoi and Peking. Our firm stand in Vietnam and the growing solidarity and confidence of the free Asian and Pacific nations, however, have had an effect on Cambodian policies. There now are indications that Cambodia may be reevaluating its position. The resulting "neutrality" may be more favorable to Free World interests.

Cambodia has also expressed sympathy for the Viet Cong but has publicly stated that, in accordance with Cambodia's policy of neutrality, no logistic support will be given them. Despite such statements, we have evidence that materiel and personnel for the Viet Cong have gone through Cambodia and that the Viet Cong frequently use Cambodia as a sanctuary and a source of supply, primarily for large quantities of rice. Unsatisfactory as it is, the present situation is preferable to having Cambodia an active belligerent on the North Vietnamese side or having the Viet Cong enjoy free use of the whole of Cambodian territory. We therefore wish to continue to avoid, if possible, any action that would preclude an improvement in relations between Cambodia and the U.S., or that would threaten to expand the war in South Vietnam into Cambodia. We are prepared, of course, to do whatever is clearly required for the self-defense of our forces fighting in South Vietnam.

In Burma we find a military regime trying to cope with continuing, sporadic insurgency as well as with continuing economic dislocations caused by the Government's efforts to socialize commerce and industry. Despite Chinese and Soviet efforts to influence Burma to take a more active anti-Western role, the Government has stuck to its neutral position -- avoiding public criticism or public support of our policy in Vietnam and trying to stay aloof from international issues not directly affecting Burma.

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Indonesia has undergone a major transformation in its government and in its international orientation during the past 15 months. The failure of the Communist-backed coup on 1 October 1965 was followed in March 1966 by the Indonesian Army's decision to move against Sukarno's leftist government. In July 1966, the Army forced Sukarno to agree to a new moderate government that would do something about the chaotic economic situation. This new Government, headed by General Suharto, agreed in August to end the confrontation with Malaysia and rejoined the U.N. in September. In response to an urgent request for economic assistance, the U.S. made available a limited program of short-term emergency assistance, and in December 1966 Indonesia's creditors agreed, in principle, to reschedule her huge foreign debt in order to give the new government time to put its economic house in order. [redacted]

Our policy toward Indonesia is to support the new Government's determination to devote its attention and talents to its nation's massive economic and social problems and to improve its relations with neighboring states. A military assistance program of $6 million for FY 1968 is being requested to assist the Indonesian armed forces in civic action projects that support the Government's civil rehabilitation program.

Following the secession of Singapore from Malaysia, the two countries have gradually realized the need for friendly relations and economic cooperation with each other and with their neighbors. Although Malaysia and Indonesia have agreed to end the military confrontation, there is a continuing requirement for a Malaysian defense force adequate to meet the threat to internal security. We are continuing the present military training program and have concluded a credit sales program involving purchases of up to $4 million in equipment for the Malaysian Armed Forces. Negotiations on further sales of military equipment are now underway. We have made it very clear, however, that we do not desire or intend to substitute a U.S. military commitment for the Commonwealth's over-all responsibility for the security of Malaysia and Singapore.

As the Vietnam conflict progresses, we have come to appreciate more than ever the strategic position of the Philippines and the importance of U.S. bases and facilities there. In this regard we have received excellent cooperation from the Philippine Government and we have continued efforts, illustrated by the Rusk/Ramos agreement of September 6, 1966, to update our military base agreement with the Philippines to eliminate some remaining irritants. President Marcos, who assumed office on December 30, 1965, has taken steps to deal with the nation's domestic problems, including internal security, and has taken a significant interest in regional security matters. As evidenced by his September 1966 visit to the U.S. and his role in the Manila Conference, President Marcos desires to maintain close ties with the U.S., and under his leadership, the Philippine Government has sent a 2,000-man civic action group to Vietnam.

Our firm allies, Australia and New Zealand, continue to make significant contributions to the collective security and to economic development in the Far East. They constitute a continuing element of stability in the South Pacific area and have contributed not only to the defense of Malaysia but also to the defense of South Vietnam. [redacted] Although their population and resource bases are limited, we look to these nations, and particularly Australia, to assume a growing share of the responsibility for the security of Southeast Asia in the coming years.

In the military procurement field, Australia and New Zealand continue their close cooperation with us to the mutual benefit of all parties. We share facilities and collaborate on scientific ventures in a number of fields having both military and non-military applications. Our scientific programs in Antarctica also continue to benefit from valuable support by New Zealand.

3. Northeast Asia

The situation in Japan, the Republic of Korea, and the Republic of China has been characterized by internal stability, economic growth, some progress toward multilateral cooperation, and continuing concern over the threat posed by Red China. Japan can be expected to play an increasing role in the Far East. The GRC remains a staunch ally. Korea has become a major partner of the U.S. and South Vietnam in the Vietnam conflict. All are tied to us by bilateral treaties which are vital to their security and which help to deter any renewed aggression in the area.

Over the past year there has been a substantial increase in the discussion of security and defense issues in Japan [redacted]

Japan's economy has recovered from its recession and has resumed its spectacular economic growth. The Japanese have been playing an increasingly active role in Asian economic and political affairs, a trend which we welcome since it can make a substantial contribution to overall Asian security.

In the case of Korea, its direct participation in the Vietnam war, its sponsorship and hosting of the Asian and Pacific Council, its ratification of the Status of Forces Agreement with the United States, and President Park's participation in the Manila Conference are its major international accomplishments during the last year. They are indicative of Korea's continuing political development and her expanding role in regional cooperation. The Korean economy is also making impressive progress with the result that the level of our economic assistance has been gradually declining.

The military threat from North Korea remains substantial; continued violations by the North Koreans of the Demilitarized Zone attest to their militancy. The Red Chinese capability for reintroducing forces into the Korean peninsula cannot be ignored. The United States forces in Korea, together with our substantial military assistance to that country's military establishment, are still important to the security of Korea and to stability in the area. Some 46,000 Korean troops, including two full combat divisions, are now in Vietnam fighting side by side with our own forces and the South Vietnamese. This contribution attests to the value of our past assistance, both economic and military.

The Republic of China remains more directly menaced by Peking's aggressive designs than any of Red China's other neighbors. Our bilateral security commitment to the defense of Taiwan and the Pescadores remains vital to the survival of the Government of the Republic of China. [redacted]

Although the Chinese Nationalists have been increasingly successful in improving their military supply system, maintaining their equipment and bearing an increasing share of their own defense costs, we will have to continue to supply them certain types of military equipment which cannot be produced locally. With respect to economic assistance, however, we were able to terminate our help to Taiwan in mid-1965 as a result of that country's great economic progress, a direct consequence of our earlier aid programs. Indeed, Taiwan's economic progress represents one of the most outstanding success stories in the less-developed world.

4. South Asia

The tensions in South Asia have subsided somewhat over the past year and we are hopeful that both India and Pakistan will concentrate increasingly on their overriding problems of economic and social development. We hope, too, that both governments will take meaningful and necessary steps to improve their relations.

Red China's objectives in the sub-continent remain the same: to establish itself as the major political influence in the area; to exploit Pakistan's and India's differences in order to weaken and divide the sub-continent; to prevent or delay the development of a strong, unified India; and to minimize United States and Soviet influence. [redacted]

[redacted]

We recognize the need of both India and Pakistan to maintain adequate armed forces and, indeed, have in the past contributed to the development and maintenance of these forces. However, we suspended our military assistance to both countries during the 1965 Indo-Pakistan hostilities and, since that time, have sold only modest amounts of non-lethal military equipment to them. We are not now proposing to give grant assistance to either country in the coming fiscal year, but we may wish to offer training in the United States to a few officers from both India and Pakistan.

United States interests in Nepal stem from our larger interests in the sub-continent. Chinese control of Nepal would clearly pose a strategic threat to India. We have attempted wherever possible to foster mutual cooperation between India and Nepal, particularly with respect to security arrangements. We hope to train several Nepalese Army officers in the coming fiscal year.

In Afghanistan, the Government is continuing its efforts to institute political and social reforms, but progress is inevitably slow. The objectives of our limited military assistance efforts in this country are to provide a nucleus of Western-oriented officers in the Afghan military establishment and to offset somewhat the influence of Soviet advisors and technicians.

5. Near and Middle East

The Near and Middle East remain of special strategic signficance to us because of: (1) the "forward defense" role of Greece, Turkey, and Iran; (2) the position the area occupies as a political, military, and economic "crossroads"; and (3) the important resources found in

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this part of the world. The three "forward defense" countries stand between the Soviet Union and the warm water ports and oil resources of the Middle East. They provide essential facilities to us for intelligence, overflight, and staging purposes and their military forces provide valuable supplements to our own military capabilities.

The most important potential military threat to these three countries continues to be from the Soviet Union and the Warsaw Pact forces. Our substantial military assistance to Greece, Turkey, and Iran over the past two decades has been a major factor not only in discouraging a Soviet attack on these three countries but also in erecting a barrier against subversive aggression. All three, and particularly Greece and Turkey, will continue to need some grant military assistance.

South of Turkey and Iran, the area is under constant tension resulting from two basic causes, the Arab dispute with Israel and the power struggle among some of the Arab states themselves. The danger inherent in the Arab-Israeli dispute was underscored last November when the Israelis, in retaliation for a long series of guerrilla attacks from across their borders, struck with regular forces against a Jordanian village. This act so unstabilized the already precarious situation that we were forced to move promptly and provide some additional military assistance to Jordan to help insure the stability of the Hussein regime. We hope that this and other diplomatic actions we have taken will quiet down that particular crisis but any basic improvement in the Arab-Israeli situation is still in the distant future.

The contest for power among the Arab states is sparked primarily by the UAR but is encouraged by the weakness of several of the states. This is seen, for example, in the internal political strains in Syria and the civil war in the Yemen. There was some hope last year that the war in the Yemen could be terminated quickly, following an agreement in August 1965 between President Nasser and King Faisal. Both the UAR and Saudi Arabia were to cooperate in promoting a Yemeni plebiscite to determine the future government of that country. The UAR was to begin withdrawal of its troops and Saudi Arabia was to stop supporting the Royalists. Although Kuwait has spent an active year as a mediator between the two countries, the prospects for implementation of this agreement are still very uncertain.

The USSR, and to some extent the Red Chinese, have continued their efforts to extend their influence in the Arab world by providing military and economic aid. Since 1955, the Soviet Union has provided substantial quantities of military equipment to the UAR, Syria, Iraq, and Yemen, thus upsetting the military balance in the area. The United States has traditionally sought to avoid becoming a principal military supplier for any of the Near Eastern countries, but Soviet action has

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forced us to supply certain defensive weapons to selected countries in the area, including Israel, Lebanon, Saudi Arabia, and Jordan. Except for Jordan, our arms have generally been provided on a sales basis; and in each instance, we have sought in consultation with other countries, primarily the United Kingdom, to supply only the minimum necessary to meet the legitimate needs of the recipients and thereby prevent dangerous imbalances.

6. Africa

During the past year, Africa witnessed a continuation of the instabilities and violence which can be expected to characterize the continent for the indefinite future: coups in Burundi, the Central African Republic, Upper Volta, Nigeria, Ghana, and Uganda; border disturbances between Somalia and Ethiopia, Somalia and Kenya, Chad and Sudan; insurgency in the Portuguese territories, Ethiopia, Rwanda, Sudan, and Congo (K); tribal violence in Nigeria; increased military build-ups and tensions in the Maghreb and the Horn; extended or continued Communist influence in Algeria, Burundi, Congo (B), Guinea, Mali, Somalia, and Tanzania.

Two recent major developments have resulted in United Nations involvement in southern Africa. First, the United Nations General Assembly adopted a resolution terminating the Republic of South Africa's mandate over South West Africa and establishing an ad hoc committee to recommend practical means by which South West Africa should be administered. Second, following the United Kingdom's unsuccessful efforts to restore constitutional government in Southern Rhodesia, the matter was taken to the United Nations Security Council for action in the form of selective mandatory economic sanctions.

It is unlikely that African expectations for the early establishment of majority rule and independence in Southern Rhodesia, South West Africa, and the Portuguese territories will be met. We therefore may anticipate pressures by the Afro-Asian nations in the United Nations for increasingly severe measures under U.N. authority, including the use of force in the form of blockade or otherwise. We have made it clear that our policy is to avoid active military involvement in Africa, and we will exert all of our influence to achieve peaceful resolution of these problems.

Communist efforts in Africa at present are having their greatest impact on U.S. security interests in the Maghreb and the Horn. These are the areas of Africa of most immediate strategic concern to the U.S. -- North Africa on the southern flank of NATO, and the Horn, at the approaches to the Red Sea. Also within these areas are a vital U.S. communication facility in Ethiopia, an important facility in Morocco, and Wheelus Air Base in Libya.

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In the Horn, the Soviets have provided significant amounts of equipment to Somalia, thereby heightening Ethiopa's and Kenya's concern about Somalia's claims to large sections of their countries. Somali-supported insurgents already pose significant internal security problems for both these countries. Furthermore, we expect tensions in the Horn to increase as a result of further Soviet and UAR efforts to extend their influence in the area. For the Soviets, the Red Sea route is important to the expansion of their economic ties with a major portion of the underdeveloped world and to the extension of their political influence in countries bordering the Indian Ocean. The gradual withdrawal of U.K. forces, including their scheduled departure from Aden in 1968, and uncertainty as to the French position in French Somaliland following the referendum scheduled for this April, could create a political-military vacuum in an area into which the UAR and Soviets are already moving. We hope, however, that our present grant military assistance program in Ethiopia will both promote the stability of that friendly regime and ensure the continued use of our communication facility there.

7. Latin America

In Latin America our primary goal is to promote the social, economic, and political development of our sister republics so that their people can live in peaceful, prosperous societies. While progress is being made, that goal is far from being achieved. Social tensions, unequal distribution of land and wealth, unstable economies, and the lack of broadly based political structures create a prospect of continuing instability in many parts of Latin America. In a number of countries, a wide gap yawns between expectations and realities, in terms of social status, economic well-being, and political aspirations. The rising cost of living and the insistent desire of the bulk of the population to improve their inadequate living standards give further impetus to the underlying social and political tensions.

The answer to these problems, if one is to be found, lies in the success of the Alliance for Progress, to which we and our Latin American friends are devoting so much of our resources. However, if the goals of the Alliance are to be achieved, law and order must be maintained. Accordingly, our military and police assistance programs for Latin America continue to be directed to the support of internal security and civic action measures. We have sought with considerable success to avoid diversion of resources and manpower to the creation or support of unnecessarily large or sophisticated military forces, both to forestall an arms race among Latin American countries and to ensure that their limited resources are applied to social and economic objectives. Our FY 1967 Latin American military assistance grant aid programs total about $55 million and our police assistance programs about $5-7 million. In contrast, our programs for economic assistance average over $1 billion a year -- more than 15 times the amount we allocate for security programs.

It is highly unlikely that any Latin American country will face a direct military attack from any nation outside the hemisphere or from Cuba. The principal external threat to Latin American countries comes in the form of materiel and leadership support of internal subversion and insurgency. The Cuban government, for example, has trained about 5,000 young people from other parts of Latin America in revolutionary ideology, guerrilla warfare, and terrorism. The Communist Tri-Continental Conference -- held in Havana in January 1966 and attended by delegations from about 80 countries, including the Soviet Union and Red China -- established a permanent organization to provide support, on a global basis for so-called "national liberation" movements, particularly those which had already reached the fighting stage. The Communist parties in Latin America increasingly stress the creation of broad popular "anti-imperialist" fronts. They continue their efforts to penetrate student and other intellectual groups, to control organized labor, and to organize the peasants.

A number of bilateral border disputes in the Hemisphere also remain to be solved. The Argentine and Chilean governments have recently resolved, in part, their border differences by arbitration, but the Peru-Ecuador and Venezuela-Guyana border issues remain troublesome. Hemispheric harmony will continue to be endangered as long as these disputes remain unresolved, and all the nations in the Hemisphere have an interest in their peaceful settlement.

The principle that mutual assistance and self-help are essential to social and economic development has received broad acceptance by our Western Hemisphere neighbors. The Act of Rio, adopted by the Second Inter-American Conference in November 1965, called for a Third Special Inter-American Conference to consider guidelines for amending the Charter of the Organization of American States (OAS). These proposed amendments are intended to strengthen the Organization through structural changes, and to incorporate in the Charter the basic principles and concepts of the Alliance for Progress. The amendments would also give to the Council of the OAS the necessary powers to move more effectively in the settlement of disputes. The Third Special Inter-American Conference is now scheduled to be held in Buenos Aires in February 1967.

In addition, the Summit Meeting of American Presidents, scheduled for April 1967, should give new impetus to the Alliance for Progress and strong support at the highest level for dealing with economic and social problems throughout Latin America. The agenda for the meeting, although not firm, will probably include such important subjects as agriculture, education, trade, and economic integration. We hope that arms limitation (such as a regional agreement not to acquire sophisticated weapons) will also be considered. Flowing from these and other actions, we anticipate increased hemispheric solidarity and improved economic progress in the future.

8. Europe and the NATO Area

Western Europe remains the most important single grouping of nations with which the United States is intimately and inevitably associated. Everyone, including the Soviets, understands clearly that for any hostile power to attempt to dominate or control Western Europe's 350 million people, immense material resources, and strategic positions would be to strike directly at the vital interests of the United States. It is equally clear that their intimate association and alliance with the United States best enables the other members of the North Atlantic Treaty to protect themselves, their security, and their freedom from pressure and coercion. These fundamental considerations far surpass in importance any matter of formal treaty arrangements or the kinds of current issues which occupy our day to day attention.

I can report that in many respects NATO has made much progress in the past year. Despite repeated assertions that the Alliance is in crisis, the fact is that it has been adjusting in a very effective way to changing times and circumstances, adapting its organization and procedures so as to preserve an effective collective security system. Before discussing NATO's activities during the year, it may be well to summarize the general trends of political events in Europe.

There are clear signs of change in Europe. Currently, our NATO allies are reassessing their individual and collective military situations, the nature and extent of the threat which potential Soviet aggression now presents, whether the Alliance needs to be changed in order to take advantage of the emerging political fluidity throughout Europe, and the search for peace in Europe. I believe that their conclusions are not very different from our own. They believe, as we do, that the Alliance remains necessary, but that it should not be an obstacle to bridging the present dividing line through Europe.

Clearly, the maintenance of a strong and effective Allied military posture is not in the least inconsistent with a vigorous search for new ways to shift from the passive concept of peaceful co-existence to what President Johnson has called "the broader vision of peaceful engagement". Rather, NATO's strength is in large measure the reason why these new possibilities are beginning to open before us. The United States will work with its European allies in searching for opportunities for peaceful engagement with the eastern half of Europe.

One of the strongest reasons for the continuation of the Alliance is Germany. That nation stands now, as it has for some 20 years, at the heart of the Alliance and the security concerns of Europe generally. It is the Alliance that has kept the Federal Republic of Germany free, and it is in large degree through the Alliance that the Federal Republic has resumed a peaceful and harmonious relationship with her neighbors in Europe. And it is the Alliance that has made possible a German contribution to the defense of the West in a degree appropriate to her resources.

It is the Alliance that permits, through the presence of Allied forces in Germany, both the collective defense of Western Europe and the manifestation of the continuing obligation of the Allies for an ultimate peace settlement in Central Europe and for the reunification of Germany itself.

NATO thus can play a vital role in the political evolution that is beginning in Europe. It provides the framework of defense which makes possible the search for new political solutions without endangering the security of the member nations. It can continue to contribute both militarily and politically to the strengthening of the bonds which hold the Atlantic Community together.

The events of last year give reason for encouragement concerning the vitality and cohesion of NATO. France has withdrawn its forces from NATO command and has requested that NATO forces be removed from France. At the same time, the French Foreign Minister has reaffirmed France's intention to remain a party to the North Atlantic Treaty beyond 1969; and France is continuing to participate in some Alliance activities. The other fourteen members are determined to maintain NATO institutions and are managing the adjustments within NATO so as to make possible coordination with France, including military liaison arrangements. At the invitation of the Belgian government, the North Atlantic Council and the Supreme Headquarters, Allied Powers in Europe (SHAPE) are moving to that country, as is the Military Committee, which has been here in Washington. The Headquarters, Allied Forces Central Europe (AFCENT) is moving to the Netherlands. The NATO Defense College has moved to Rome and has resumed operations after only a few months interruption.

The relocation of U.S. facilities from France has proceeded with equal smoothness. The headquarters of the U.S. European Command (EUCOM) will shortly be established in Stuttgart, Germany. Our Air Force units have been or are being relocated either to the United Kingdom or to the continental United States, from where they will continue to be available in support of our NATO commitments. In the main, our stocks and depots are being relocated elsewhere in Europe, principally to Germany and the U.K.

The Alliance has taken this opportunity to undertake some needed streamlining, reforms and economies. Several echelons in the higher NATO military structure have been eliminated by the abolition of the Standing Group and of two subordinate headequarters -- Allied Land Forces Central Europe and Allied Air Forces Central Europe. The staff support for the Military Committee has been strengthened and its direction streamlined. A substantial reduction in personnel strength is being made in SHAPE.

I should add a word about our relations with the Government of France. We would, of course, have preferred a different attitude on her part, but there is nothing to be gained for us or our Allies in debating the position of the French Government. We continue to welcome France's participation in those Alliance activities in which she has an interest and to which she is willing to contribute. There is much constructive work to be done in the Alliance, and it is to this positive aspect of the situation that we should address ourselves.

There are two main areas in which constructive actions can be taken; one is primarily military and the other primarily political, but with the most far-reaching security implications.

With regard to the first, a major change in attitude and substance has begun to occur in the management of the Alliance's defense forces. The Alliance has begun the process of effective force planning, under which the member countries project their long range plans for defense expenditures, jointly relate these plans to the military contingencies they may face collectively, and attempt to design the most effective forces that can be purchased and supported with the resources expected to be available. Some important imbalances remain -- between our country and the others, between one services' capabilities and those of another, and between plans and resources -- but we are making progress. In particular, NATO made substantial progress in the past year in developing an Alliance-wide five-year program for planning the size and composition of our forces as well as their equipment. And, last July, the NATO Defense Ministers approved guidance under which the NATO military authorities are to develop their force proposals for the period beyond 1970.

A crucial factor in this effort, it seems to me, is the increasing willingness of the politically responsibile defense officials of the various nations to take an active role in Alliance military matters. Too often in the past, these officials have not played a sufficiently direct role in Alliance military planning, and have left the primary responsibility to military authorities who did not have the political or financial responsibility or authority. I am, therefore, greatly encouraged by the growing direct participation of my colleagues in the defense affairs of the Alliance, and I am hopeful that this participation will increase further in the future.

As you know, last autumn, President Johnson, Prime Minister Wilson, and former Chancellor Erhard agreed on the need for a searching reappraisal of the threat to our common security, of the forces required for deterrence and defense in central Europe, and of the question of equitable sharing of the defense burdens.

The importance of this study was underscored by the difficulties encountered by the United Kingdom in meeting foreign exchange costs of its forces in various overseas theaters, including Germany, and by our own balance of payments difficulties. A good deal of agreement has already been reached in these talks, particularly with regard to the nature of the threat and the general principles which should govern the size and composition of the nuclear and conventional forces of the Alliance in the Central Region. Some differences still remain, however, and fuller consideration needs to be given to equitable sharing of the financial burdens and to the implications of new technology, especially that related to our rapidly growing strategic mobility. These issues are now being systematically adddressed and proposals resulting from the trilateral review will later be the subject of full consultation with NATO as a whole.

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The real significance of all these activities, both in NATO and in the framework of the trilateral review, is that the Allied Governments are making a systematic effort to relate strategy, forces, and financial factors on a multilateral basis in order to develop a rational, coherent, and realistic force posture for the Alliance as a whole.

The second major aspect of the management of the Alliance is the much discussed matter of nuclear strategy. Here, too, I am strongly encouraged by recent events. For some years we in the Alliance had been engaged in a somewhat abstract debate, conducting our strategic discussion too much in terms of generalities. Now we have entered a period of far more mature consideration of these matters. In November 1965 the North Atlantic Council formed a Special Committee composed of the Defense Ministers of 10 NATO nations to examine means of increasing Allied participation in various aspects of nuclear planning and consultation. We have examined and discussed the strategic nuclear resources and the tactical nuclear weapons of the Alliance, the potential circumstances and consequences of their use, and the way in which the Alliance should organize to carry on future discussion of these subjects. In February of last year the Nuclear Planning Working Group of this Special Committee, consisting of five NATO Defense Ministers, discussed the existing strategic nuclear forces and agreed that these are adequate to deter a large-scale attack by the Soviet Union. In April last year the same Ministers discussed questions related to tactical nuclear weapons. They agreed that the number of such weapons is sufficient in quantity under present conditions, although the optimum mix could benefit from a more detailed study.

These preliminary substantive discussions were followed by recommendations for a permanent organization to carry on the work. This organization was formally established in Paris last December. It consists of (1) a Nuclear Defense Affairs Committee open to any NATO nation willing to participate in its work; and (2) a Nuclear Planning Group composed of seven Defense Ministers drawn from the full Committee. The Nuclear Planning Group will perform detailed studies and prepare policy proposals for consideration by the Nuclear Defense Affairs Committee.

9. United Nations

Although the restoration of peace in Vietnam has continued to occupy a major share of our attention, we are also vitally concerned with the broader problems of peace throughout the world. To this end, we have continued our support of the United Nations, which was created in 1945 to maintain international peace and security. United Nations peacekeeping forces are helping to preserve peace and security in the Gaza Strip and in Cyprus. United Nations observers are performing similar

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functions in policing and supervising the cease-fire line in the Kashmir area and in helping to maintain the effectiveness of the Armistice Agreements along the eastern borders of Israel.

Undoubtedly, greater use of United Nations peacekeeping abilities would be made if it were possible to secure agreement among the major powers on the methods of initiating and financing peacekeeping operations. Extensive discussions took place on both of these issues in the 21st General Assembly. No major new agreement was reached. Nevertheless, future peacekeeping operations will still be possible where the interest of the major powers converge in damping down and containing local conflicts, as was the case in the India-Pakistan dispute over Kashmir in December 1965.

The United States will continue to provide logistic services, notably airlift and communication support, for United Nations operations, when appropriate. We are also prepared to explore the possibility of equipping personnel of other countries for United Nations service and of assisting in their training for U.N. duties. These steps would provide tangible encouragement to other nations to earmark units for possible United Nations service.

Vietnam has been the subject of much discussion, both in the Plenary Sessions of the General Assembly and behind the scenes at the United Nations. It was placed before the Security Council at the initiative of the U.S., both in August 1964 and January 1966. Moreover, the U.S. on September 22, 1966 solicited the further initiative of any organ or member of the U.N. whose influence could help in the search for peace in Southeast Asia. And on December 19, 1966, our government asked Secretary General Thant to take whatever steps he considered necessary to bring about discussions which could lead to a cease fire.

Extensive arms control negotiations and discussions were conducted within the United Nations forum during the past year, first in Geneva by the Eighteen-Nation Disarmament Conference and the Legal Subcommittee of the U.N. Outer Space Committee, and subsequently within the General Assembly last fall. The most significant achievement was the treaty concerning the exploration and use of outer space. Upon ratification, this treaty will reserve the use of the moon and other celestial bodies exclusively for peaceful purposes. It will prohibit the orbiting of weapons of mass destruction, their installation on the moon, or their stationing in outer space in any other manner. It will also prohibit claims of sovereignty, and make celestial bodies open to all for scientific exploration. This treaty represents the most important step forward in arms control since the Nuclear Test Ban Treaty in 1963.

Discussions are continuing between the United States and the USSR with respect to a nuclear non-proliferation treaty and the prospects for agreement appear promising. Other arms control measures considered by the 21st General Assembly have been referred to the Eighteen-Nation Disarmament Conference for further consideration when that body reconvenes in Geneva on February 21, 1967.

C. IMPACT OF THE DEFENSE PROGRAM ON THE BALANCE OF PAYMENTS

During the past year the progress that the United States has been making in its efforts to eliminate the troublesome deficit in its international balances of payments was arrested. By 1965, the overall "liquidity" deficit was slightly over $1.3 billion, down substantially from the $2.8 billion level of the previous year, and we were hoping for a further improvement in 1966. However, we now expect that when final data are available for that year, they will show that on a liquidity basis the deficit was roughly the same as the year before. The chief factors in this development were some deterioration on the trade account stemming from the rapid domestic economic expansion during the period and higher Defense expenditures abroad.

As you know, for many years the Department of Defense has been making a vigorous effort to reduce the net impact of its program on the U.S. balance of payments while still maintaining all necessary combat capabilities and avoiding undue hardships for the individual serviceman or his dependents. The following table summarizes the results of this effort over the FY 1961-66 period:

($ Billions, Fiscal Years)

EXPENDITURES	1961	1962	1963	1964	1965	1966
U.S. Forces and their Support (Excl Incr in SEA Exp over FY 61)	$2.5	$2.4	$2.4	$2.5	$2.3	$2.4
Military Assistance	.3	.2	.3	.2	.2	.2
Other (AEC, etc.)	.3	.3	.3	.1	.1	.1
TOTAL	$3.1	$3.0	$3.0	$2.8	$2.6	$2.6
RECEIPTS	- .3	- .9	-1.4	-1.2	-1.3	-1.2
NET ADVERSE BALANCE (Excl Incr in SEA Exp over FY 61)	$2.8	$2.1	$1.6	$1.6	$1.2	$1.4
Increase in SEA Exp over FY 61)	-	-	.1	.1	.2	.7
NET ADVERSE BALANCE	$2.8	$2.1	$1.7	$1.7	$1.4	$2.1

As you can see, between FY 1961 and FY 1965 we succeeded in reducing the net adverse balance on the "Defense" account by half, from $2.8 billion to $1.4 billion. This reduction was achieved through a dramatic rise in receipts from sales of U.S. military goods and services to foreign countries, coupled with a successful effort to hold down overseas expenditures in the face of substantial increase in foreign prices and wages and in the pay of U.S. Defense Department personnel. For example, in Europe the cost of living went up about 16 percent and wage rates rose more than 30 percent. However, during FY 1966 the requirements of the Southeast Asia conflict, together with a modest though, hopefully, temporary decline in military sales receipts, combined to raise the net adverse balance to $2.1 billion.

The major factor underlying this rise, of course, has been the war in Vietnam. Military expenditures abroad are closely related to the size of our deployments overseas. Between June 1965 and June 1966, the total number of U.S. military personnel in South Vietnam rose from 59,900 to 267,500, an increase of 207,600. In addition, it was necessary to undertake very large construction and logistics efforts in support of operations in Southeast Asia, both of which added to the payments deficit. These additional foreign exchange costs were not unexpected (once the dimensions of our commitment there became apparent), and I reported to you a year ago that the conflict might raise such costs several hundred million dollars above prebuild-up levels; indeed, we now estimate that there were approximately $500 million of such additional expenditures in FY 1966.

We recognized this threat to our balance of payments from the beginning and we have taken extraordinary measures to minimize its impact. Nevertheless, we must expect that the higher Southeast Asia deployments planned over the next year and a half will inevitably cause our overseas spending to rise still higher in the months ahead. Indeed, it now appears that Vietnam-related foreign exchange costs in FY 1967 will run over $1 billion higher than the prebuild-up year of FY 1965.

In previous years I have described in some detail the Defense Department's actions to limit the balance of payments effects of our overseas programs, including:

1. The prompt withdrawal of U.S. forces from overseas areas whenever changes in circumstances, our own capabilities, or those of our allies permit such action.

2. A continuing review of the requirement for and the efficient utilization of overseas installations with a view to eliminating or consolidating these facilities in order to reduce their costs to a minimum.

3. Acceptance of up to 50 percent cost penalties (in some cases more) in order to favor procurement of U.S. produced goods and services over those of foreign countries. Through FY 1966, nearly $300 million of such procurement was diverted to U.S. sources.

4. The virtual cessation of new off-shore procurement for the Military Assistance Program. In FY 1966, expenditures for such procurement were less than a third the FY 1963 level.

5. Efforts to encourage Defense Department personnel to reduce their overseas spending and, conversely, to increase their personal savings.

6. Sharp curbs on the size of U.S. headquarters staffs abroad and on the number of foreign national employees.

With the escalation of the conflict in Southeast Asia, a number of special measures have been added. For example, in the area of personal spending, disbursement procedures were modified to make it easier for a serviceman to leave his pay "on the books" or increase the size of the allotment sent home. A most promising step was the enactment by the Congress last August of the Uniform Service Savings Deposit Program which authorizes interest rates of up to 10 percent to encourage savings by servicemen overseas. We have initiated a vigorous educational program to complement this new savings opportunity and the results to date have been most encouraging. Total deposits under this legislation in the first three months (Sept.-Nov. 1966) totaled $23.4 million.

In the construction area, special procedures have been put into effect to minimize the balance of payments costs of our large building program in Southeast Asia, again with gratifying results to date. For example, during FY 1966, only about one-fifth of the $372 million paid our principal contractor in Vietnam entered the balance of payments. The rest in effect was "returned" to the United States to buy American goods and services, including transportation on U.S. flag vessels. Most important, this was accomplished without impeding in any way the progress of the construction work itself.

With respect to military receipts, the decrease in FY 1966 can be traced almost entirely to the phasing of actual receipts from the Federal Republic of Germany, with whom we have had an agreement to offset U.S. military expenditures in that country. The basic agreement called for the Germans to make payments in FY 1966-67 of $1,350 million for purchases of U.S. military goods and services required to meet their defense needs. If half ($675 million) of these payments had been made in FY 1966 instead of only about $300 million, total military receipts would have increased by about $300 million between FY 1965 and FY 1966 instead of decreasing by over $100 million. (It should be pointed out that the agreement did not specify that payments were to be spread evenly over the two-year period.) Despite certain budgetary and financing problems, the Germans have told us that they will make every effort to live up to their offset commitment and we have been holding extensive consultations with them to this end. Since the British also have an "offset" problem with Germany, the tri-lateral review, which I mentioned earlier, includes consideration of future financial arrangements.

With regard to our military sales program, I have the impression that our policies and objectives in this area are not very well understood, either at home or overseas. For example, allegations have been made:

1. That we are forcing unwanted arms on countries.

2. That we are selling arms to countries which have no legitimate use for them and which could better use their scarce resources to improve the lot of their people.

3. That by indiscriminately selling arms, we are promoting the arms race and undermining the peace.

4. That in some cases our military sales efforts are thwarting the objectives of our own economic aid programs.

5. That our military sales efforts are motivated primarily by balance of payments considerations, abetted by the desire for profits on the part of U.S. manufacturers.

All of these allegations are false and are based on a misunderstanding or lack of knowledge of the facts involved. I believe it would be useful, therefore, to review briefly the background and origin of the present foreign military sales program.

It has been widely recognized in our country, at least since the Korean War, that the collective defense of the Free World required armed allies, and somewhat more belatedly, that the internal security of most countries requires some armed forces. Circumstances of history, in particular the greatly weakened economic condition of most countries following World War II, forced on the United States the role of major armament supplier to the Free World. Accordingly, during the decade of the 1950s, the United States had to meet the legitimate armament needs of its friends primarily through a large grant aid program. Indeed, of the $22 billion of U.S. military exports during the 1950s, $17 billion were financed by Congressional appropriations.

By the latter part of the decade, however, many of these countries had become prosperous again, enabling them to produce more of their own arms or buy them abroad. At the same time, this rising affluence allowed several of these countries to rebuild their monetary reserves. Also, between FY 1957 and the end of FY 1961, the U.S. lost about $5 billion of its gold holdings while its liquid liabilities to foreigners (which represent potential claims on our gold) had risen from about $15 billion to about $22 billion.

This increasing prosperity of many of our allies was reflected in our military assistance policies. Grant aid by FY 1961 had already declined from an average annual level of $2 billion-plus during the 1950s, to about $1.5 billion. Since FY 1961, this downward trend has continued, with grant aid declining both absolutely and relatively. Whereas in FY 1961, there were two dollars of grant aid for every dollar of military sales to foreign recipients, by FY 1966 the ratio had been reversed. Moreover, I think it is important to note that, in terms of total value, U.S. military exports in the ten year period, FY 1962-71, are not expected to be measurably higher than in the decade, FY 1952-61; the big change will be the shift in the way these exports are financed -- from grant aid in the '50s to military sales in the '60s.

With this shift in emphasis from grant aid to sales, it was decided to organize the latter on a more formal basis within the Department of Defense, indeed, to make it a separate program. The principal objective of this foreign military sales program is, however, basically the same as that of the grant aid program, i.e., to promote the defensive strength of our allies in a way consistent with our overall foreign policy objectives. Encompassed within this objective are several specific goals:

1. To further the practice of cooperative logistics and standardization with our allies by integrating our supply systems to the maximum extent feasible and by helping to limit proliferation of different types of equipment.

2. To reduce the costs, to both our allies and ourselves, of equipping our collecitve forces, by avoiding unecessary and costly duplicative development programs and by realizing the economies possible from larger production runs.

3. To offset, at least partially, the unfavorable payments impact of our deployments abroad in the interest of collective defense.

Three basic standards were established to govern the conduct of our foreign military sales program:

1. We will not sell equipment to a foreign country which we believe it cannot afford or should not have.

2. We will never ask a potential foreign customer to buy anything not truly needed by its own forces.

3. We will not ask any foreign country to purchase anything from the United States, which it can buy cheaper or better elsewhere.

These standards are fully consistent with the spirit of the provision added to the Foreign Assistance Act last year, which calls for the sales program to be administered in such a way as to encourage reciprocal arms control and disarmament agreements and discourage arms races.

With respect to the first two standards, each and every proposed sale of U.S. arms and munitions is approved only after a thorough review of the legitimacy of the requirement, of the recipient's ability to pay, of its potential effect on the peace or stability of the area, and of all the other foreign policy considerations involved. In addition to the regular intra-governmental coordination process, which is required in any event under our munitions export licensing procedures, another review is performed where a significant arms sale is involved. This review is conducted at the highest levels of government, and no sale is approved until a positive determination has been made that, balance of payments considerations aside, it is in our best national interest and that of the country involved. I, myself, review all of the important proposed sales and have, in fact, turned down many which did not seem to be justified, even though they might have helped our international payments position.

Indeed, with respect to most of the world, our sales policy is essentially "negative", as evidenced by the fact that 90 percent of our sales are to the NATO and ANZUS countries and Japan. For example, although Iran indicated a desire last spring to purchase as much as \$500 - \$700 million of additional arms and equipment, we believe that this would seriously strain her economy and is more than she needs for internal security and a reasonable external defense. As a result, we have limited the new credit line recently approved for Iran to \$200 million and divided it into four \$50 million annual increments. The release of each of these increments must be approved by the President after an annual review of the economic and other pertinent factors with the Shah of Iran. In this fashion, we intend to ensure that these sales continue to be in the best interests of both countries over the course of the agreement.

In the case of Israel, our recent aircraft and tank sales were made only to prevent creation of an arms imbalance in the area. The sale of aircraft to Jordan and a pending sale of HAWK missiles to Lebanon are designed to preempt Soviet Bloc sales to those countries and help preserve their current Western orientation. In the case of India and Pakistan, only non-lethal items can be sold and these are subject to specific policy level approval in each instance. We will not sell anything to the Republic of China which would enhance its ability to mount an invasion of the mainland. In the case of Latin America, we have refused to make available at this time any advanced aircraft, such as the F-5 -- even in the face of offers by other countries to do so.

In summary, although we sell arms abroad, we do so in a very responsible manner and, in this foreign military sales program, I believe that we have established all the necessary policy and administrative safeguards to ensure that this will continue to be true in the future.

The third standard -- i.e., that we never ask a foreign country to buy anything from us which can be purchased more cheaply or better elsewhere -- is similarly predicated on the primacy of the collective defense principle. Our first concern is to raise the military effectiveness of allied forces; if one ally can get more defense for his money by purchasing from some other source, then it is in both our interests for him to do so. But the fact of the matter is that our own large military programs, and especially our leadership in military research and development, does make the United States the lowest cost and most effective potential supplier to the Free World for a wide range of military products. We must remember, however, that this cannot, nor should it, be a one-way street. We, too, must be willing to make some reciprocal procurements abroad where foreign equipment is competitive in price, quality, and delivery schedules. A good case in point is our agreement with the United Kingdom under which that country will buy about $2 billion of military equipment from us and we will buy about $325 million worth from them. (We will also be "credited" with the $400 million of United Kingdom sales of military equipment to Saudi Arabia.) Nothing will be bought from the United Kingdom under this agreement which could be obtained at the same or better terms at home. Some domestic critics have suggested that this agreement will result in the loss of business to U.S. industry; as a matter of fact, the opposite is true and, in the net, there will be a very sizable advantage to the U.S. economy.

During the period FY 1962 through FY 1966, the total program has resulted in sales of $8.1 billion, with over $5 billion in cash receipts already in hand. In addition, we have outstanding sales commitments amounting to about $3 billion. The list of equipment involved is dominated by the kinds of sophisticated weapons systems which, as I pointed out earlier, we develop and produce most efficiently: $1 billion of

F-111s, $1.1 billion of F-4s, $1 billion of other aircraft, $0.6 billion of POLARIS equipment, $0.6 billion of HAWK and PERSHING missile systems, etc. Of the $11.1 billion of sales and commitments, $8.2 billion are for cash and $2.9 billion are credit transactions. Of the latter amount, $2 billion is being financed by the Export-Import Bank, $850 million through the Foreign Military Credit Sales Program, and a small amount by private banks.

Over 80 percent of the sales and commitments to date have been negotiated with seven countries: Australia ($749 million), Canada ($307 million), France ($367 million), Italy ($498 million), Japan ($291 million), the United Kingdom ($2958 million), and the Federal Republic of Germany ($3747 million), with the last two alone accounting for more than 60 percent of the total. For the domestic economy, these sales will ultimately mean about 1.4 million man-years of employment spread throughout the fifty states and over $1 billion in profits to American industry.

Over the next five years, we estimate that the countries of the non-Communist world will have legitimate requirements for substantial amounts of new military equipment. Based on past experience, we believe that many of these requirements can be most effectively met by purchases from us. However, our ability to realize this potential will depend on one major condition: we must convince our allies that the U.S. military sales program is not a threat to their long-range national interests.

This will not be easy; it is, however, a most important task which we intend to pursue aggressively. Much of the solution to this problem depends on how well American industry does its job in selling our military products overseas. And, as I mentioned previously, we must be willing, as a nation, to make military trade a "two way" street. For our part, the Defense Department will continue to take every opportunity to promote cooperative logistics arrangements -- including cooperative research and development efforts -- and to emphasize the important contribution which the sales program can make in furthering the objectives of collective defense.

Turning again to our international payments position, for the near term future, the prospects for any reduction in the <u>net</u> adverse balance on the "military" account must rest on an increase in sales receipts, and there are both practical and desirable limits as to how much relief we can or should expect from this source. In Europe, we should be able to make a net reduction in the size of our logistics support establishment in the process of relocating from France, although there will be some initial offsetting costs for the relocation itself. In the Far East, we will face continuing high foreign exchange costs as long as our Vietnam deployments remain large.

Let me assure the Committee, however, that despite our preoccupation with the important national security objectives we are charged with accomplishing, we remain keenly aware of the burden that our overseas programs place on the nation's international balance of payments. In this regard, we have no intention of relaxing our efforts to make that burden as light as possible.

II. STRATEGIC FORCES

In this section of my statement I will discuss the three major programs which, together, constitute the foundation of our general nuclear war capabilities, the strategic offensive forces, the strategic defensive forces, and civil defense. Because of their close inter-relationship and, indeed, their interaction, it is essential that all three of these programs be considered within a single analytical framework.

A. THE GENERAL NUCLEAR WAR PROBLEM

During the past several years, in my annual appearances before this Committee, I have attempted to explore with you some of the more fundamental characteristics of the general nuclear war problem and the kinds of strategic forces which it involves. I noted that our general nuclear war forces should have two basic capabilities:

1. To deter deliberate nuclear attack upon the United States and its allies by maintaining, continuously, a highly reliable ability to inflict an unacceptable degree of damage upon any single aggressor, or combination of aggressors, at any time during the course of a strategic nuclear exchange, even after absorbing a surprise first strike.

2. In the event such a war nevertheless occurred, to limit damage to our population and industrial capacity.

The first capability we call "Assured Destruction" and the second "Damage Limitation". The strategic <u>offensive</u> forces -- the ICBMs, the submarine-launched ballistic missiles (SLBMs), and the manned bombers -- which we usually associate with the first capability, can also contribute to the second. They can do so by attacking enemy delivery vehicles on their bases or launch sites, provided they can reach those vehicles before they are launched at our cities. Conversely, the strategic <u>defensive</u> forces -- manned interceptors, anti-bomber surface-to-air missiles, anti-ballistic missile missiles -- which we usually associate with the second capability can also contribute to the first. They can do so by successfully intercepting and destroying the enemy's offensive weapons before they reach our strategic offensive forces on their bases and launch sites.

As long as deterrence of a deliberate Soviet (or Red Chinese) nuclear attack upon the United States or its allies is the overriding objective of our strategic forces, the capability for "Assured Destruction" must receive the first call on all of our resources and must be provided regardless of the costs and the difficulties involved. "Damage Limiting" programs, no matter how much we spend on them, can never substitute for an Assured Destruction capability in the deterrent role. It is our ability to destroy an attacker as a viable 20th Century nation that provides the deterrent, not our ability to partially limit damage to ourselves.

What kind and amount of destruction we would have to be able to inflict on an attacker to provide this deterrent cannot be answered precisely. However, it seems reasonable to assume that in the case of the Soviet Union, the destruction of, say, one-fifth to one-fourth of its population and one-half to two-thirds of its industrial capacity would mean its elimination as a major power for many years. Such a level of destruction would certainly represent intolerable punishment to any industrialized nation and thus should serve as an effective deterrent to the deliberate initiation of a nuclear attack on the United States or its Allies.

Assured Destruction with regard to Red China presents a somewhat different problem. China is far from being an industrialized nation. However, what industry it has is heavily concentrated in a [redacted] few cities. We estimate, for example, that [redacted] warheads detonated over 50 Chinese urban centers would destroy half of the urban population (more than 50 million people) and more than one-half of the industrial capacity. Moreover, such an attack would also destroy most of the key governmental, technical and managerial personnel, and a large proportion of the skilled workers. Since Red China's capacity to attack the U. S. with nuclear weapons will be very limited, even during the 1970's, the ability of even so small a portion of our strategic offensive forces to inflict such heavy damage upon them should serve as an effective deterrent to the deliberate initiation of such an attack on their part.

Once sufficient forces have been procured to give us high confidence of achieving our Assured Destruction objective, we can then consider the kinds and amounts of forces which might be added to reduce damage to our population and industry in the event deterrence fails. But here we must note another important point, namely, the possible interaction of our strategic forces programs with those of the Soviet Union. If the general nuclear war policy of the Soviet Union also has as its objective the deterrence of a U. S. first strike (which I believe to be the case), then we must assume that any attempt on our part to reduce damage to ourselves (to what they would estimate we might consider an "acceptable level") would put pressure on them to strive for an offsetting improvement in their deterrent forces. Conversely, an increase in their Damage Limiting capability would require us to make greater investments in Assured Destruction, which, as I will describe later, is precisely what we now propose to do.

[redacted]

It is this interaction between our strategic force programs and those of the Soviet Union which leads us to believe that there is a mutuality of interests in limiting the deployment of anti-ballistic missile defense systems. If our assumption that the Soviets are also striving to achieve an Assured Destruction capability is correct, and I am convinced that it is, then in all probability all we would accomplish by deploying ABM systems against one another would be to increase greatly our respective defense expenditures, without any gain in real security for either side. It was for this reason that President Johnson decided to initiate negotiations with the Soviet Union, designed, through formal or informal agreement to limit the deployment of anti-ballistic missile systems, while at the same time he included about $375 million in his FY 1968 Budget to provide for such actions -- e.g., protection of our offensive weapon systems -- as may be required if these discussions proved unsuccessful.

In this connection, it might be useful to reiterate another fundamental point, namely, that the concept of Assured Destruction implies a "second strike" capability, i.e., a strategic force of such size and character that it can survive a large scale nuclear surprise attack in sufficient strength to destroy the attacker. Thus, if Assured Destruction is also a Soviet objective, they must always view our strategic offensive forces in their planning as a potential first strike threat (just as we view their forces), and provide for a "second strike" capability.

B. THE SIZE AND CHARACTER OF THE THREAT

In order to assess the capabilities of our general nuclear war forces over the next several years, we must take into account the size and character of the strategic forces which the Soviet Union and Red China are likely to have during the same period. Again, let me caution, that while we have reasonably high confidence in our estimates for the close-in period, our estimates for the early part of the next decade are subject to much uncertainty. As I pointed out in past appearances before this Committee, such longer range projections are, at best, only informed estimates, particularly since they deal with a period beyond the production and deployment lead times of the weapon systems involved.

1. The Soviet Strategic Offensive-Defensive Forces

Two significant changes have occurred during the last year in our projections of Soviet strategic forces. The first is a faster-than-anticipated rate of construction of hard ICBM silos, particularly for the new small SS-11; the second is more positive evidence of a deployment of an anti-ballistic missile defense system around Moscow. Our current estimates for other elements of the Soviet strategic forces are generally in line with those I discussed here last year.

Summarized in the table on the following page are the Soviet's strategic offensive forces estimated for October 1, 1966, [redacted] Shown for comparison are the U.S. programmed forces.

[redacted]

U. S. VS SOVIET INTERCONTINENTAL STRATEGIC NUCLEAR FORCES

	1 Oct. 1966		
	U.S. a/	USSR	[redacted]
ICBMs b/			
[redacted]			
Total	934	[redacted]	
SLBMs c/			
U.E. Launchers	512	[redacted]	
Total Int Bal Msl d/	1446	[redacted]	
Intercont Bombers e/	680	155	[redacted]

a/ These are mid-1966 figures.
b/ Excludes test range launchers, [redacted] Soviet MR/IRBMs, capable of striking Eurasian targets [redacted]
c/ In addition to the SLBMs, the Soviets will possess submarine-launched cruise missiles whose primary targets we believe are naval and merchant vessels [redacted]
d/ In 1965, intelligence reports estimated Soviet intercontinental missiles as: mid-1966, [redacted] 500; [redacted]
e/ [redacted] In addition to the intercontinental bombers shown in the tables, the Soviet medium bombers, capable of striking Eurasian targets [redacted]

a. Intercontinental Ballistic Missiles

[redacted]

[redacted]

[redacted]

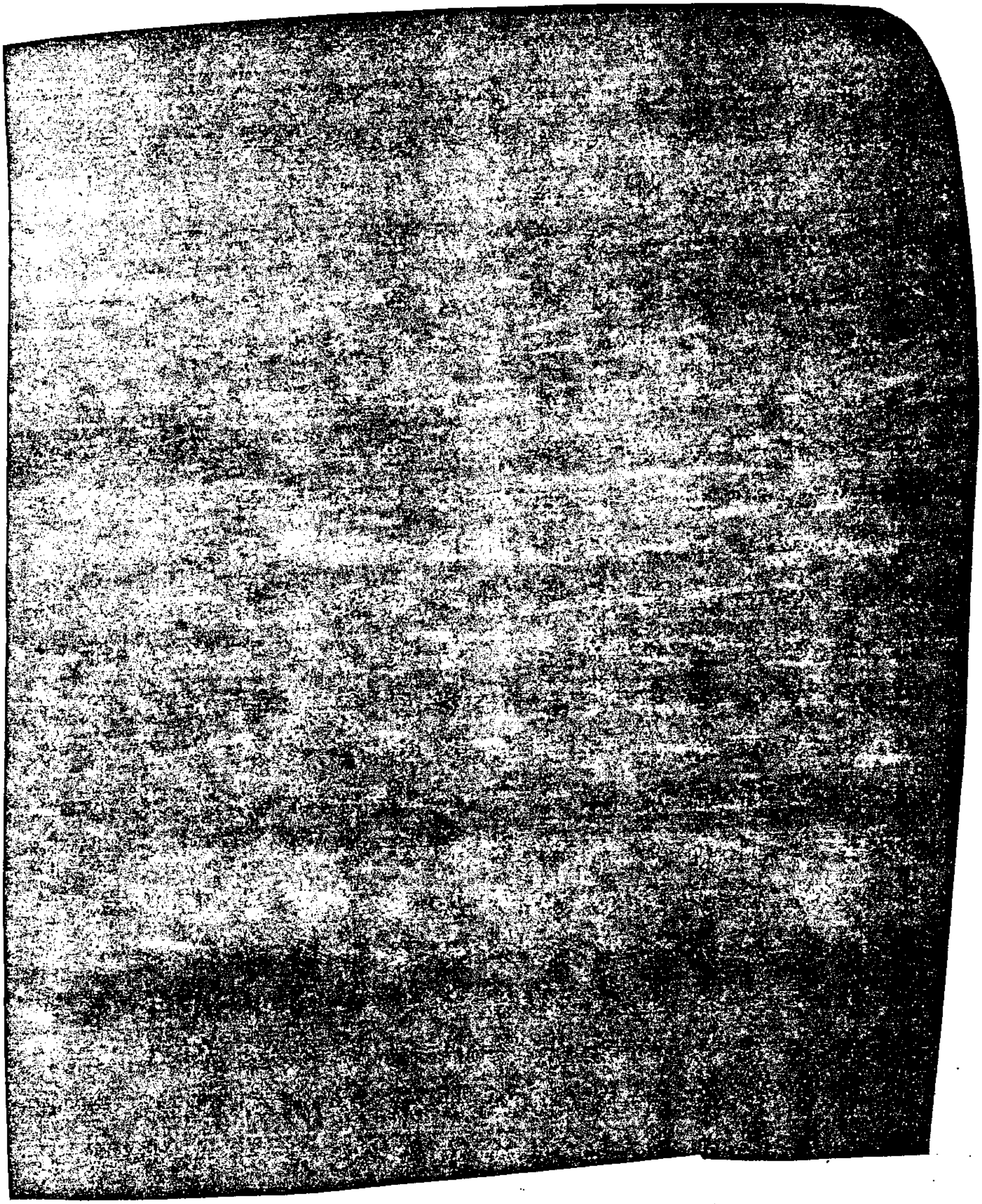
[redacted]

[redacted]

Anti-Ballistic Missile Defense

[redacted]

[redacted]



[redacted] However, knowing what we do about past Soviet predilections for defense systems[a], we must, for the time being, plan our forces on the assumption that they will have deployed some sort of an ABM system around their major cities by the early 1970s. Whether made up of GALOSH only, or a combination of GALOSH and a Tallinn type system, or even some combinations of GALOSH and a terminal missile of the SPRINT type, a full scale deployment would cost the Soviet Union at least $20 to $25 billion.

a/ The Soviets for more than a decade have spent substantially more on air defense against strategic bombers than has the U. S. But if our Strategic Air Command is correct in its judgment that [redacted] of the U. S. incoming bombers could penetrate the Soviet defenses and reach their targets, and I have no reason to dispute it, then we must conclude that the bulk of these Soviet expenditures has been wasted.

2. The Red Chinese Nuclear Threat

There has been no basic change in our estimates of the Red Chinese nuclear threat. As I noted last year, ". . . the Chinese Communists have the technical and industrial capabilities required for the deployment of ballistic missiles and we believe that they are making an intensive effort to develop a missile [redacted] We estimate that the first of these missiles could be deployed as early as 1967-68 and that by the mid-1970s they could have as many as 80 to 100 of these missiles operational". Their firing of a nuclear armed missile over a distance of some [redacted] miles last October falls within the limits of that estimate. They will require many more tests before they achieve a truly operational capability with a medium or intermediate range missile, and this will take time.

With regard to an ICBM, we believe that the Red Chinese nuclear weapons and ballistic missile development programs are being pursued with high priority. On the basis of recent evidence, it appears possible that they may conduct either a space or a long-range ballistic missile launching before the end of 1967.

Intelligence estimates continue to state that it appears unlikely that the Chinese could achieve an IOC before the early 1970s and deploy a significant number of operational ICBMs before the mid-1970s, or that those ICBMs would have great reliability, speed of response, or substantial protection against attack.

As I noted last year, the Red Chinese have one G-class ballistic missile submarine. While there is no positive evidence of development of a missile for this submarine, they could have a compatible missile with a nuclear warhead by 1970. In any event, this particular submarine would have very limited range without mid-ocean refueling [redacted]

Red China also has some bombers which could carry nuclear weapons, but most of them have an operational radius of only [redacted] It is highly unlikely, on the basis of cost alone, that they would undertake the development, production, and deployment of a new, long range bomber force. If they chose to do so, it would take them a decade or more before they could deploy it. Accordingly, we have no reason on this account to change our estimate that a significant Red Chinese nuclear threat to the continental United States will not develop any earlier than the mid-1970s.

C. CAPABILITIES OF THE PROPOSED FORCES FOR ASSURED DESTRUCTION

The most demanding test of our Assured Destruction capacity is the ability of our strategic offensive forces to survive a well-coordinated surprise Soviet first strike directed against them. Because no one can know how a general nuclear war between the United States and the Soviet Union might occur, prudence dictates that we design our own strategic forces on the basis of a greater threat than we actually expect.

1. Capability Against the Expected Threat

[redacted] even if the Soviets in the 1972 period were to assign their entire available missile force to attacks on our strategic forces (reserving only refire missile and bomber-delivered weapons for urban targets), more than one-half of the total forces programmed last year for 1972 would still survive and remain effective.

[redacted]

It is clear that under these circumstances, our strategic missile forces alone could destroy the Soviet Union as a viable 20th Century society, even after absorbing a well-coordinated, surprise first attack. Indeed, the detonation of [redacted] over Soviet cities would kill about 30 percent of the total population (73 million people) and destroy about one-half of the industrial capacity. By doubling the number of warheads delivered to eight hundred, Soviet fatalities and industrial capacity destroyed would be increased by considerably less than one-third. Beyond this point further increments of warheads delivered would not appreciably change the result, because we would have to bring smaller and smaller cities under attack.

Although it is not at all certain that they will do so, we must base our force planning on the assumption that the Soviets will deploy a reasonably effective ABM defense around their principal cities.

[redacted]

We have been hedging against this possibility for some time, and last year we took a number of actions of which the following are the most important:

1. Accelerated development of the POSEIDON missile.

2. Approved production and deployment of MINUTEMAN III [redacted]

3. Developed penetration aids for MINUTEMAN.

Now, in the FY 1968 program we propose to take a number of additional actions to enhance the future capabilities of our Assured Destruction forces, of which the following are the more important:

(1) Produce and deploy the POSEIDON missile, [redacted].

(2) Produce and deploy improved missile penetration aids.

(3) Increase the proportion of MINUTEMAN III [redacted] in the planned force and provide it an improved third stage.

(4) Initiate the development of new small reentry vehicles [redacted]

I will discuss each of these actions in greater detail later in connection with our other proposals for the strategic forces. But for now, let me point out that the net effect of these actions would be to increase greatly the [redacted] if the Moscow-type ABM defense were deployed at other cities as well, the proposed U.S. missile force alone could inflict about 35 per cent (86 million) fatalities on the Soviet Union in 1972 -- after absorbing a surprise attack.

As I noted earlier, [redacted] warheads detonated over fifty cities would destroy half of Red China's urban population and more than one-half of her industry.

Thus the strategic missile forces proposed for the FY 1968-72 period would, by themselves, give us an Assured Destruction capability against both the Soviet Union and Red China, simultaneously.

2. Capability Against "Higher-Than-Expected Threats"

As I indicated last year, our Assured Destruction capability is of such crucial importance to our security that we must be prepared to cope with Soviet strategic threats which are greater than those projected in the latest intelligence estimates.

The most severe threat we must consider in planning our Assured Destruction forces is an extensive, effective Soviet ABM deployment combined with a deployment of a substantial hard-target kill capability [redacted] An extensive, effective Soviet ABM system [redacted] might then be able to intercept and destroy a large part of our residual missile warheads, including those carried by submarine-launched missiles. (These Soviet offensive and defensive threats are both higher than [redacted]

[redacted]

To offset the possibility of such a decline in the damage potential of our land-based missile forces, we have authorized the development and production of the POSEIDON. Should still additional offensive power be required, and such a requirement is not now clear, we are considering the development and deployment of a new Advanced ICBM [redacted] designed to reduce vulnerability to a Soviet [redacted]. The deployment of the NIKE-X as a defense of part of our MINUTEMAN force would offer a partial substitute for the possible further expansion of our offensive force. [redacted]

[redacted] But even against this combined Soviet MIRVed missile/ABM threat, and even without a NIKE-X defense of MINUTEMAN, our proposed strategic missile and bomber forces could still inflict 40 percent or more fatalities on the Soviet population throughout the [redacted] time period.

More extreme threats are highly unlikely. In any event, the changes we are now proposing in our strategic offensive forces would make it dangerous and expensive for the Soviet Union to move in the direction of extreme threats to our Assured Destruction capability. If we assume, as I believe we should, that the Soviet Union would want to reduce the vulnerability of their own offensive forces against the possibility of a first strike by our very accurate forces in the FY 1972-73 period, they must further disperse and harden their strategic missiles, which is exactly what they appear to be doing now. To do so is expensive and for the same budget outlay results in reduced missile payloads. Not to do so would leave the Soviet force highly vulnerable to a first strike. Thus, we can, in planning our forces, foreclose any seemingly "easy" and "cheap" paths to their achievement of a satisfactory Assured Destruction capability and a satisfactory Damage Limiting capability at the same time.

We, of course, cannot preclude the possibility that the Soviet Union may increase its strategic forces budget at some time in the future. That is why we are now undertaking a very comprehensive study of a new strategic missile system. And that is why we are not precluding the possible future construction of new POSEIDON submarines or the defense of our presently deployed MINUTEMAN silos with NIKE-X. While I believe we should place ourselves in a position to move forward promptly on all of these options if later that should become necessary, we need not commit ourselves to them now.

D. CAPABILITIES OF THE PROPOSED FORCES FOR DAMAGE LIMITATION

The principal issue in this area of the Strategic Forces Program concerns the deployment of an anti-ballistic missile defense system, i.e., NIKE-X. There are three somewhat overlapping but distinct major purposes for which we might want to deploy such a system at this time:

1. To protect our cities (and their population and industry) against a Soviet missile attack.

2. To protect our cities against a Red Chinese missile attack in the mid-1970s.

3. To help protect our land-based strategic offensive forces (i.e., MINUTEMAN) against a Soviet missile attack.

After studying the subject exhaustively, and after hearing the views of our principal military and civilian advisors, we have concluded that we should not initiate an ABM deployment at this time for any of these purposes. We believe that:

1. The Soviet Union would be forced to react to a U.S. ABM deployment by increasing its offensive nuclear force with the result that:

   a. The risk of a Soviet nuclear attack on the U.S. would not be further decreased.

   b. The damage to the U.S. from a Soviet nuclear attack, in the event deterrence failed, would not be reduced in any meaningful sense.

   As I noted earlier, the foundation of our security is the deterrence of a Soviet nuclear attack. We believe such an attack can be prevented if it is understood by the Soviets that we possess strategic nuclear forces so powerful as to be capable of absorbing a Soviet first strike and surviving with sufficient strength to impose unacceptable damage on them [redacted] We have such power today. We must maintain it in the future, adjusting our forces to offset actual or potential changes in theirs. [redacted]

There is nothing we have seen in either our own or the Soviet Union's technology which would lead us to believe we cannot do this. From the beginning of the NIKE-ZEUS project in 1955 through the end of this current fiscal year, we will have invested a total of about $4 billion on ballistic missile defense research -- including NIKE-ZEUS, NIKE-X and Project DEFENDER. And, during the last five or six years, we have spent about $1.2 billion on the development of penetration aids to help ensure that our missiles could penetrate the enemy's defenses. As a result of these efforts, we have the technology already in hand to counter any offensive or defensive force changes the Soviet Union might undertake in the foreseeable future.

We believe the Soviet Union has essentially the same requirement for a deterrent or "Assured Destruction" force as the U.S. Therefore, deployment by the U.S. of an ABM defense which would degrade the destruction capability of the Soviet's offensive force to an unacceptable level would lead to expansion of that force. This would leave us no better off than we were before.

2. With respect to protection of the U.S. against a possible Red Chinese nuclear attack, the lead time required for China to develop a significant ICBM force is greater than that required for deployment of our defense -- therefore the Chinese threat in itself would not dictate the production of an ABM system at this time.

3. Similarly, although the protection of our land-based strategic offensive forces against the kind of heavy, sophisticated missile attack the Soviets may be able to mount in the mid- or late 1970s might later prove to be worthwhile, it is not yet necessary to produce and deploy the NIKE-X for that purpose.

I have already discussed, in connection with my review of the capabilities of our strategic forces for Assured Destruction, the third major purpose for which we may want to deploy an ABM defense (i.e., the protection of MINUTEMAN). Now, I would like to discuss the other two purposes.

1. Deployment of NIKE-X for Defense of Our Cities Against a Soviet Attack.

What is involved here is an analysis of the contribution the NIKE-X system might make to the defense of our cities under two assumptions:

(1.) That the Soviets do not react to such a deployment.

(2.) That the Soviets do react in an attempt to preserve their "Assured Destruction" capability.

As you know, the major elements of the NIKE-X system are being developed in such a way as to permit a variety of deployments; two have been selected for the purposes of this analysis. The first, which I will call "Posture A", represents a light U.S. defense against a Soviet missile attack on our cities. It consists of an area defense of the entire continental United States, providing redundant (overlapping) coverage of key target areas; and, in addition, a relatively low-density SPRINT defense of the 25 largest cities to provide some protection against those warheads which get through the area defense. The second deployment, which I call "Posture B", is a heavier defense against a Soviet attack. With the same area coverage, it provides a higher-density SPRINT defense for the 50 largest cities.

Shown on the following table are the components and the costs (which, if past experience is any guide, may be understated by 50 to 100 percent for the systems as a whole[a]) of Posture A and Posture B, together with the time frames in which the deployments could be completed:

a/ Even before the systems became operational, pressures would mount for their expansion at a cost of still additional billions. The unprotected, or relatively unprotected, areas of the U.S. [redacted] would claim that their tax dollars were being diverted to protect New York and Washington while they were left naked. And, critics would point out that our strategic offensive force is premised on a much larger Soviet threat (the "possible", not the "probable" threat); they would conclude that the same principles should be applied to our strategic defensive forces. For these and other reasons, I believe that, once started, an ABM system deployed with the objective of protecting the United States against the Soviet Union would require an expenditure on the order of $40 billion over a ten year period.

	POSTURE A		POSTURE B	
	Number	Invest. Cost ($ Billion)	Number	Invest. Cost ($ Billion)
Radars				
MAR	0	0	8	$ 2.8
TACMAR	7	$ 1.9	3	0.6
PAR	6	0.8	6	0.8
MSR	26	3.8	95	8.4
Invest. Cost		$ 6.5		$12.6
Missiles				
SPARTAN	1200	$ 1.7	1200	$ 1.7
SPRINT	1100	0.7	7300	3.1
Invest. Cost		$ 2.4		$ 4.8
DoD Invest. Cost		$ 8.9		$17.4
AEC Invest. Cost		1.0		2.0
Total Invest. Cost (ex-R&D)		$ 9.9		$19.4
Annual Operating Cost		$ 0.38		$ 0.72
No. of Cities w/Term. Def:	25		50	
IOC with Decision 1/67:	FY 72		FY 72	
Deployment Completed	FY 75		FY 76	

The Multi-function Array Radar (MAR) is a very powerful phased-array radar which can perform all the defense functions involved in engaging a large, sophisticated attack: central control and battle management, long-range search, acquisition of the target, discrimination of warheads from decoys or "spoofing" devices, precision tracking of the target, and control of the defense interceptor missiles.

The TACMAR Radar is a scaled down, slightly less complex and less powerful version of the MAR, which can perform all the basic defense functions in a smaller, less sophisticated attack.

The Perimeter Acquisition Radar (PAR) is a relatively low frequency, phased-array radar required for the very long-range search and acquisition functions involved in area defense. To achieve the full potential of the extended-range SPARTAN, the target must be picked up at much greater distances in order to compute its trajectory before the SPARTAN is fired.

The Missile Site Radar (MSR) is a much smaller, phased-array radar needed to control the SPRINT and SPARTAN interceptor missiles during an engagement. It can also perform the functions of the TACMAR but on a considerably reduced scale. Actually, a number of different sizes are being studied. This "modular" approach will permit us to tailor the capacity of the radar to the particular needs of each defended area.

The SPARTAN is a three-stage missile with a hot X-ray, [redacted] warhead capable of intercepting incoming objects at [redacted]

The SPRINT is a high-acceleration interceptor missile which can climb [redacted] It is designed to make intercepts [redacted]

The technical principles involved in the radars are now fairly well established. One R&D MAR-type radar has been constructed at the White Sands Missile Range. A contract has been let for the power plant of a second MAR-type radar, which is to be constructed on Kwajalein Atoll. The Missile Site Radar is well along in development and the construction of one of these radars on Kwajalein Atoll has also begun.

Testing of the SPRINT missile was started at White Sands in November 1965 with one complete success, two partial successes and three failures. The failures are attributed mostly to insufficient quality control but some of the missile's components may have to be redesigned. The tempo of testing will steadily increase during the current fiscal year and we are advised by our technical people that the missile will eventually reach its design goals. The nuclear warhead is also well along in development and does not appear to present any particular problem.

The SPARTAN is still on the drawing boards. It represents a very substantial redesign of the original ZEUS and we will not know until it is flight tested a year and a half hence how well it will perform. However, we are less concerned with the missile itself than we are with its warhead. A significant number of development tests will have to be performed, all underground, before the design parameters can be established; and then we will have to proof test the resulting warhead, again underground. (The feasibility of a full yield test underground has still to be established, but it may be possible to use a scaled-down test.) Accordingly, there is still considerable technical uncertainty concerning the warhead. Although alternative warheads could be used on the SPARTAN, they would be less effective against a heavy, sophisticated attack.

Facilities for testing both the SPRINT and the SPARTAN will be constructed on Kwajalein Atoll. These, together with the TACMAR and MSR and the programs for the computers will give us all of the major elements of the NIKE-X system which are essential to test its overall performance against reentry vehicles fired from Vandenberg Air Force Base in California. (We feel we know enough about the PAR technology to be able to use the mechanically steered radars already on Kwajalein as simulators.) The system will be tested in stages, starting with the MSR and SPRINT tests in January 1969, then the SPARTAN missile in July 1969 and the TACMAR radar between July and December 1970. Upwards of

100 test shots will be launched from Vandenberg to Kwajalein during the period 1969-72 to test the system thoroughly as a whole. The most important objective of this effort is to determine proper system integration and computer programming, since the individual components of the system will have already been tested ahead of time.

But even after this elaborate test program is completed, a number of technical uncertainties will still remain unresolved. Chief among these are the following:

[redacted]

[redacted]

5. Production and Operational Problems. We have learned from bitter experience that even when the development problems have been solved, a system can run into trouble in production or when it is put into operation. All too often the development prototype cannot be produced in quantity without extensive re-engineering. Production delays are encountered and costs begin to spiral. Sometimes these problems are not discovered until the new system actually enters the inventory

[redacted]

and has to function in an operational environment. The TERRIER, TALOS, and TARTAR ship-to-air missiles are a good example; after spending about $2 billion on development and production of these missiles, we had to spend another $350 million correcting the faults of those already installed and we still plan to spend another $550 million modernizing these systems.

In this connection, it is worth noting that had we produced and deployed the NIKE-ZEUS system proposed by the Army in 1959 at an estimated cost of $13 to $14 billion, most of it would have had to be torn out and replaced, almost before it became operational, by the new missiles and radars of the NIKE-X system. By the same token, other technological developments in offensive forces over the next seven years may make obsolete or drastically degrade the NIKE-X system as presently envisioned. We can predict with certainty that there will be substantial additional costs for updating any system we might consider installing at this time against the Soviet missile threat.

The deployment of a NIKE-X system would also require some improvement in our defense against manned bomber attack in order to preclude the Soviets from undercutting the NIKE-X defense; and we would want to expand and accelerate the fallout shelter program. The investment cost (including R&D) of the former is estimated at about $1.5 to $2.4 billion and would provide for a small force of F-111 or F-12 type interceptors [redacted] airborne warning and control aircraft (AWACS). The expanded fallout shelter program would cost about $800 million more than the one we are now pursuing. We would also need some of our anti-submarine warfare forces for use against Soviet missile submarines, but we are not yet clear whether these ASW forces would actually have to be increased over the currently planned levels. In any event, the "current" estimates of the investment cost of the total Damage Limiting package would amount to at least $12.2 billion for Posture A and at least $21.7 billion for Posture B.

To test the contribution that each of these NIKE-X deployments might make to our Damage Limiting objectives, we have projected both the U.S. and Soviet strategic nuclear forces (assuming no reaction by the Soviets to the U.S. ABM deployment) [redacted] by which time Posture B, the heavier defense, could be fully in place. [redacted]

[redacted]

[redacted]

[redacted]

The first case, "Soviets Strike First, U.S. Retaliates", is the threat against which our strategic forces must be designed. The second case, "U.S. Strikes First, Soviets Retaliate", is the case that would determine the size and character of the Soviet reaction to changes in our strategic forces, if they wish, as clearly they do, to maintain an Assured Destruction capability against us.

These calculations indicate that without NIKE-X and the other Damage Limiting programs discussed earlier, U.S. fatalities from a Soviet first strike could total about 120 million; even after absorbing that attack, we could inflict on the Soviet Union more than 120 million fatalities. Assuming the Soviets do not react to our deployment of an ABM defense against them, which is a most unrealistic assumption, Posture A might reduce our fatalities to 40 million and Posture B to about 30 million.

Although the fatality estimates shown for both the Soviet Union and the U.S. reflect some variations in the performance of their respective ABM systems, they are still based on the assumption that these systems will work at relatively high levels of effectiveness. If these ABM systems do not perform as well as our technical people postulate, fatalities on both sides could be considerably higher than shown in the table above, or the costs would be considerably higher if major improvements or additions had to be made in the systems to bring them up to the postulated level of performance.

If the Soviets are determined to maintain an Assured Destruction capability against us and they believe that our deployment of an ABM defense would reduce our fatalities in the "U.S. Strikes First, Soviets Retaliate" case to the levels shown in the table above, they would have no alternative but to increase the second strike damage potential of their offensive forces. They could do so in several different ways: [redacted] Shown in the table below are the relative costs to the Soviet Union of responding to a U.S. ABM deployment [redacted]

Level of U.S. Fatalities Which Soviets Believe Will Provide Deterrence a/ (Millions)	Cost to the Soviets of Offsetting U.S. Cost to Deploy an ABM
40	$1 Soviet cost to $4 U.S. cost
60	$1 Soviet cost to $2 U.S. cost
90	$1 Soviet cost to $1 U.S. cost

a/ U.S. fatalities if U.S. strikes first and Soviets retaliate.

[redacted]

If the Soviets choose to respond to our ABM deployment [redacted] the results would be as shown below:

Number of Fatalities in an All-Out Strategic Exchange (in millions), 1976
(ASSUMES SOVIET REACTION TO U.S. ABM DEPLOYMENT)

	Soviets Strike First, U.S. Retaliates		U.S. Strikes First, Soviets Retaliate	
U.S. Programs	U.S. Fat.	Sov. Fat.	U.S. Fat.	Sov.Fat.
Approved (no response)	120	120+	100	70
Posture A	120	120+	90	70
Posture B	120	120+	90	70

In short, the Soviets have it within their technical and economic capacity to offset any further Damage Limiting measures we might undertake, provided they are determined to maintain their deterrent against us. It is the virtual certainty that the Soviets will act to maintain their deterrent which casts such grave doubts on the advisability of our deploying the NIKE-X system for the protection of our cities against the kind of heavy, sophisticated missile attack they could launch in the 1970s. In all probability, all we would accomplish would be to increase greatly both their defense expenditures and ours without any gain in real security to either side.

2. Defense Against the Red Chinese Nuclear Threat

With regard to the Red Chinese nuclear threat, an austere ABM defense [redacted]; might offer a high degree of protection to the nation against a missile attack, at least through the 1970s. The total investment cost of such a program might amount to $3.5 billion, including the cost of the nuclear warheads.

The effectiveness of this deployment in reducing U.S. fatalities from a Red Chinese attack in the 1970s is shown in the table below:

	Chinese Strike First (Operational Inventory)	
U.S. Fatalities (In Millions)	[redacted] Missiles	[redacted] Missiles
Without ABM	5	10
With ABM	0+	1

This austere defense could probably preclude damage in the 1970s almost entirely. As the Chinese force grows to the level it might achieve by 1980-85, additions and improvements might be required, but relatively modest additional outlays could probably limit the Chinese damage potential to low levels well beyond 1985.

It is not clear that we need an ABM defense against China. In any event, the lead time for deployment of a significant Chinese offensive force is longer than that required for U.S. ABM deployment; therefore, the decision for the latter need not be made now.

* * * * *

In the light of the foregoing analysis, we propose:

1. To pursue with undiminished vigor the development, test and evaluation of the NIKE-X system (for which purpose a total of $442 million has been included in the FY 1968 Budget), but to take no action now to deploy the system.

2. To initiate negotiations with the Soviet Union designed, through formal or informal agreement, to limit the deployment of anti-ballistic missile systems.

3. To reconsider the deployment decision in the event these discussions prove unsuccessful; approximately $375 million has been included in the FY 1968 Budget to provide for such actions as may be required at that time - for example, the production of NIKE-X for the defense of our offensive weapon systems.

I would now like to turn to our specific proposals for the Strategic Forces in the FY 1968-72 period.

E. STRATEGIC OFFENSIVE FORCES

The force structure proposed for the FY 1968-72 period is shown on Table 2 of the set of tables attached to this statement. To facilitate discussion of these forces, I have rearranged the order in which they appear on the table, showing first the missile forces and then the aircraft and other related forces.

1. Missile Forces

Last year I told this Committee that:

"The U.S. response to a Soviet deployment of an ABM defense would be the incorporation of appropriate penetration aids [redacted] strategic missiles. Against area defense interceptors, [redacted] penetration aids can be provided for U.S. missiles (so that an Assured Destruction capability is maintained) at a cost to us of less than 10 percent of the cost of an ABM defense to the Soviets. The lead time for the Soviets to mount an ABM defense is greater than the time for us to produce and deploy penetration aids, provided we take timely action to develop them and can move forward promptly to produce them, and this we are doing. The decision actually to deploy new penetration aids can be made later this year. If the Soviets did attempt a large ABM defense we would still be able to produce and install the necessary penetration aids before the Soviets could achieve an extensive deployment.

"...against a combined Soviet [redacted] ABM threat, the most efficient alternative available to us would be to develop POSEIDON (with the new penetration aids) and retrofit it into POLARIS boats. To hedge against the possibility of such a threat, we now propose to accelerate the development of the POSEIDON missile (which was initiated last year) on a schedule which could make it operationally available in the summer of 1970. The timing of a decision to produce and deploy the missile would depend upon how this threat actually evolved."

This is essentially the program we now propose to pursue.

a. MINUTEMAN

Last year we had planned a MINUTEMAN force which, [redacted] would have consisted of [redacted] MINUTEMAN IIs and [redacted] MINUTEMAN IIIs, with all the MINUTEMAN Is having been phased out [redacted]

[redacted] The total cost of this program is estimated at $400 million, but it will cost the Soviet Union many times more in ABM defenses if they try to offset it.

[redacted] Engineering development was started on both of these penetration aid packages last year. The total FY 1966-72 cost of this program is estimated at $315 million, of which $100 million was provided through FY 1967, $125 million is required in FY 1968 and another $90 million in subsequent years.

By FY 1973-74 it will probably become necessary to replace the earliest MINUTEMAN II missiles because of their age. At that time we could add more MINUTEMAN IIIs if that should appear desirable. Meanwhile, I believe we should initiate the development of a new [redacted] re-entry vehicle, [redacted] for the MINUTEMAN III. [redacted]

[redacted]

b. POLARIS-POSEIDON

By the end of the current fiscal year, 39 of the planned 41-ship POLARIS force will have become operational. The last two POLARIS submarines will be deployed by September 1967. This is essentially the same schedule I presented last year. [redacted] Thus, for end FY 1967, we show 32 POLARIS submarines with 512 missiles deployed instead of the 39 POLARIS submarines with 624 missiles which will have become operational by that date. The difference of seven is made up of six A-2 submarines expected to be in overhaul on 30 June 1967 and one A-1 submarine undergoing A-3 conversion and overhaul. When the retrofit of this last of the first five POLARIS submarines is completed, the force will consist of 13 ships equipped with A-2 missiles and 28 equipped with A-3s.

[redacted] I believe it would be prudent at this time to commit the POSEIDON missile to production and deployment. You may recall that we took action last year to place ourselves in a position to deploy such a force in the early 1970s if that should become desirable. It was for this reason that we accelerated the POSEIDON development program and placed it on a schedule which would make it operationally available in calendar year 1970.

[redacted]

Of the 41 POLARIS submarines in the approved program, 31 can be retrofitted with the POSEIDON missile with a minimum amount of rework, i.e., without rebuilding the hull. The other ten, consisting of the five 598-Class originally designed to carry the A-1 missile and the five 608-Class originally designed to carry the A-2 missile, probably cannot be retrofitted with the POSEIDON without replacing the center section of the hull, and even then these ten boats would not be as good as the other 31. Such rebuilding would cost as much as a new submarine, thereby making it advisable, if more POSEIDON submarines are needed, to build new ships at a cost of about $120 million each.

While this issue need not be decided at this time, our present plan is to retrofit the five 608-Class ships, which now carry A-2 missiles, to carry the A-3 at second overhaul (the five 598-Class ships, which originally carried A-1 missiles, are already being retrofitted with A-3s). Five of the remaining eight SSBN 616-Class A-2 submarines will be converted to A-3 during their first overhaul and all eight converted to the POSEIDON during their second overhaul. The 23 original A-3 submarines will be converted directly to POSEIDON. This will give us a force of 31 submarines equipped with POSEIDON and ten with the POLARIS A-3. [redacted] The 31 POSEIDON-equipped submarines would be used in the Atlantic and the Mediterranean.

In order to hold to a minimum the number of submarines which would have to be withdrawn from the operational fleet we propose to spread the POSEIDON retrofit program over a period of [redacted] years on a schedule tied to the regular overhaul cycle, with the first three boats commencing retrofit in FY 1969 and the last two commencing in FY 1975. On this schedule, the first seven POSEIDON-equipped submarines can be redeployed by end FY 1971, as shown on Table 2, and the last of the 31 retrofitted submarines by FY 1977. In this way we hope to keep a minimum of 29 fleet ballistic missile submarines, with a total of 464 missiles, deployed throughout the entire period.

[redacted]

[redacted]

[redacted]. The total incremental cost of developing POSEIDON, and producing and deploying it in 31 submarines is estimated at $3.3 billion. A total of about $900 million is included in the FY 1968 Budget for POSEIDON. (The decision to deploy POSEIDON will produce an offsetting saving of about $200 million in the POLARIS program.)

[redacted]

c. TITAN II

The TITAN II force, consisting of 54 missiles deployed in hard silos, presently makes a unique contribution to our strategic offensive capabilities. Its long range (6,100 n.mi.) allows it to reach targets beyond the range of presently available MINUTEMAN missiles. However, with the deployment of MINUTEMAN III and, later, of the POSEIDON, this capability of the TITAN II will no longer be unique. The MINUTEMAN III from the continental United States and the POSEIDON from the Atlantic and the Mediterranean will be able to reach all the important targets in the Soviet Union.

The TITAN II is very expensive to operate, at least $600,000 per missile annually and probably closer to $1 million when the indirect costs of this relatively small force are considered. Accordingly, we now propose to end procurement of new TITAN boosters for testing and operational reliability demonstration with the FY 1966 buy, and, instead, use boosters already in the inventory for these purposes in the future. With about six follow-on tests per year, the force of 54 TITAN missiles on launchers can be maintained through FY 1970, declining thereafter to 45 missiles in FY 1971-72.

d. New Strategic Missile Systems

Although we believe the strategic missile program proposed through FY 1972 will be adequate to meet the threat, even if the Soviet Union were to carry out a full scale deployment of an ABM system and develop and deploy MIRVs for its SS-9 missiles, we are making a very comprehensive study of a new long range missile system. This system may take the form of a large new ICBM installed in very hard silos, or a hardened system defended by ABM missiles or a new mobile ICBM. To shorten the lead time on any option selected as a result of this study, we have included $9 million in the FY 1968 Budget for contract definition should such a decision be warranted during the next 12 to 18 months.

2. Strategic Bomber Forces

The manned bomber forces we propose to maintain through FY 1972 are the same as those I presented here last year for the FY 1967-71 period. The B-52C-Fs and B-58s will be phased out as planned, leaving a force of 255 B-52G-Hs and 210 FB-111As.

The cost of operating this force is strongly influenced by two factors: the ratio of crews to aircraft and the number of aircraft assigned per home base. The crew ratio and, in turn, the crew work week determine the proportion of the force which can be maintained on 15 minute ground alert. The number of hours each B-52 must actually be flown is determined primarily by the crew ratio, since each crew must be afforded a certain number of flying hours to maintain its proficiency. Shown in the table below are the percentages of the B-52G/H force which can be maintained on alert assuming various crew ratios and crew work weeks. Also shown are the dates when this force would accumulate 5,500 flying hours per aircraft for each of the crew ratios.

Crew Ratio	Alert Rate (%) For Various Crew Work Weeks: 50 Hrs	60 Hrs	70 Hrs	74 Hrs	80 Hrs	5,500 Hrs. Accumulated As of:
1.25	21.6%	27.8%	33.8%	36.2%	39.8%	Nov 30, 78
1.50	26.0%	33.3%	40.5%	43.4%	47.7%	Jan 31,77
1.60	27.7%	35.5%	43.2%	46.4%	50.9%	Jun 30, 76
1.80	31.2%	40.0%	48.6%	52.2%	57.2%	Jun 30, 75
1.90	32.9%	42.2%	51.3%	55.0%	60.4%	Jan 31, 75

As is to be expected, the higher the crew ratio and the longer the work week, the greater the proportion of the force which can be maintained on 15 minute ground alert.

The present work week of SAC crews is about 74 hours, with a crew ratio 1.8. This work week includes alert duty during which some sleep and recreation are permitted. As can be seen in the preceding table, this level permits an alert rate of something in excess of 50 percent of the force. While a high alert rate was necessary during the period when our strategic missile force was being built up, it is not as important today and will be even less so in the future. [redacted]

However, we must also take into account the possible requirement to use the force for large scale conventional bombing. Once crew ratios are reduced, it would probably take several years to train additional crews and rebuild the ratio. Accordingly, the crew ratio should be held high enough to support the maximum number of conventional sorties per B-52 squadron that could be sustained before aircraft maintenance becomes a limiting factor. [redacted] Therefore, we now propose to reduce the crew ratio from [redacted] and the 15 minute ground alert [redacted] percent of the force, [redacted] In order to support the extensive conventional bombing operations in Southeast Asia, I have authorized the continuation [redacted] crew ratio for the bomber units which are now being used in that effort.

Shown in the next table is the effect on the five year recurring costs of operating the proposed bomber force of various crew ratios, alert ratios, and the numbers of aircraft per home base.

FIVE YEAR RECURRING COSTS FOR
255 B-52G/Hs AND 210 FB-111s

Crew Ratio	Alert Rate	5-Year Costs ($ Billions) (Number of A/C per base) 15 A/C	20 A/C	30 A/C
1.25	36.2%	$6.0	$5.5	$5.0
1.50	43.4%	6.3	5.8	5.3
1.60	46.4%	6.4	5.9	5.4
1.80	52.2%	6.7	6.2	5.8
1.9/2.5(B-52/FB-111)	50%/60%(B-52/FB-111)	7.1	6.6	6.0

With a crew ratio of 1.5 and an alert rate of 43.4 percent, the five year operating cost would be $6.3 billion if all the bombers were deployed 15 per base. However, if the bombers were deployed 30 per base, the cost would drop to $5.3 billion.

[redacted]

[redacted]

Since the new FB-111s with the SRAM air-to-surface missile will be entering the bomber force during FY 1969-71 and the B-52G/Hs can be maintained in a suitable operational condition well into the 1970s, there is no pressing need to decide on the production and deployment of a new bomber in the FY 1968 Budget. Clearly, the first order of business in the strategic offensive forces program at this time is the provision of penetration aids and other improvements for our presently planned strategic missile force, and the production and deployment of the new POSEIDON. These are relatively expensive programs, particularly POSEIDON, but they are far more important to our future Assured Destruction capability than a new manned bomber. Indeed, if the Soviets were to deploy a full scale and highly sophisticated ABM system and provide their SS-9 missiles with a highly accurate [redacted] capability, I believe the requirement for a new highly survivable ICBM (costing about $10 billion) would have a far higher priority than a new manned bomber. Nevertheless, we plan to continue work on the engine, avionics and the related airframe studies, for which a total of $26 million is programmed for FY 1968.

3. Air Launched Missiles

Last year I said that we planned to keep the HOUND DOG missiles in the operational inventory through FY 1970, phasing them down to 350 in step with the phase out of the B-52C-Fs. Because of their relative ineffectiveness, i.e., a CEP of more than 2 n.mi. and low reliability, we now propose to phase out the HOUND DOG "A" by end FY 1968, retaining only the "B" models. These 340 missiles will be more than sufficient to meet the primary HOUND DOG mission -- attack of area bomber defenses and lower priority airfields.

The SRAM program is unchanged from that which I presented last year. The operational inventory of 525 missiles should be on hand by the end of FY 1972. While we still do not plan to deploy SRAM on the B-52G/Hs, we are continuing the development of the necessary avionics to permit such a deployment if it should become desirable.

4. Strategic Reconnaissance

The strategic reconnaissance force is the same as that presented a year ago. The SR-71 force should be fully operational in FY 1968. We will have procured a total of [redacted] a number adequate to support an operational force throughout the program period.

5. Other Strategic Offensive Forces

[redacted]

F. STRATEGIC DEFENSIVE FORCES

The strategic defensive forces proposed for the FY 1968-72 period are shown on Table 3. The Civil Defense program for FY 1968 is shown separately on Table 4.

1. Surveillance, Warning and Control

The programs shown under this heading are, with two exceptions, the same as those I presented last year. Activation of BUIC III control centers will slip somewhat from the schedule shown last year due to delays in firming up the technical details of the program. Instead of 14 such centers operational at the end of FY 1968, we now estimate seven. The delay will be made up by the temporary retention of two of the BUIC II control centers and 12 of the manual backup centers through FY 1968. By end FY 1969 all 19 BUIC IIIs should be operational and the remaining BUIC II and manual control centers will be phased out.

The second change pertains to the search radars. Last year we had planned to reduce the number of these radars to 151 by end FY 1967. As you may recall, this reduction was predicated on the internetting of our radar system with that of the Federal Aviation Agency. However, in order to make the inputs from the FAA radars compatible with the SAGE-BUIC III system, they must first be converted into appropriate computer language by a special piece of equipment called a "digitizer". Because of a slippage in the production of this digitizer, five more Defense Department radars will have to be operated until FY 1969, when we expect to be able to reduce the number to 149. [redacted]

There is one other difference from last year's data, but it results from a change in the way we count the SAGE combat and direction centers, rather than any change in the program. Two of the direction centers are collocated with combat centers. Heretofore, we have shown one of these, at Gunter AFB, Alabama, only as a direction center and the other at North Bay, Canada only as a combat center. Henceforth, because of their dual functions, we will count them in both categories. The net result of this "bookkeeping" adjustment is that for FY 1968 and after, instead of five combat centers we now show six and instead of eleven direction centers we now show twelve.

Under our present plan, the 19 BUIC III stations will be fully integrated with the 12 SAGE direction centers. Two BUIC IIIs are to be deployed in each of eight SAGE sectors along the western, northern and eastern borders of the United States. Three sectors will need only one BUIC. In each of these 11 sectors, the direction center and the BUIC IIIs will be integrated with 10 to 15 radars, thus enabling any one of the centers or BUIC IIIs to handle the entire sector even if the others were destroyed. The remaining interior SAGE sector will not have BUIC and will operate only with its direction center. All 12 sectors will feed into five combat centers. (The sixth combat center shown on Table 3 is a manual installation in Alaska.) These, in turn, will feed into the NORAD Combat Operation Center which is now fully functioning in its new underground facilities deep in the Cheyenne Mountain caves.

2. Manned Interceptors

The manned interceptor forces shown on Table 3 are generally the same as those presented last year. Although not shown on Table 3, six F-102s will be retained in the southeastern part of the United States to help defend against the possibility of an attack from Cuba and to perform surveillance of unidentified aircraft in that area. These six aircraft will be attached to the 4756th Air Defense Wing at Tyndall Air Force Base as a "non-force structure" unit.

As you know, we have been studying during the past several years various ways of modernizing our air defense forces. Interceptor versions of both the SR-71 (F-12) and the F-111 have been considered for this role. Either one, equipped with the improved ASG-18/AIM 47 fire control and missile system and used with an effective Airborne Warning and Control System (AWACS), would be better than the present interceptors in operating from degraded bases, independent of the vulnerable fixed ground environment, and in countering concentrated bomber attacks, including air-to-surface missiles. In fact, a small force of [redacted] of such aircraft operating together with some [redacted] AWACS would have a combat capability superior to the programmed force of about [redacted] Century series fighters and the hundreds of ground radar and control sites.

The feasibility of this plan, however, depends upon the successful development of the AWACS. We now have a test program underway to examine three proposed solutions to the problem of developing an overland airborne radar which could provide effective coverage at all altitudes. Design efforts are also being pursued on the airframe and avionics. We hope that by the end of this year sufficient data will be available to demonstrate the feasibility of the AWACS. Only then will we be in a position to make a decision on the interceptor force. Accordingly, we propose to continue development work on both the F-12 and the F-111 types of interceptors and on the fire control and missile systems, and $20 million is included in the FY 1968 Budget for this purpose. Although no additional funds are requested for work on the AWACS airframe, another $10 million is included in the FY 1968 Budget to continue work on overland radar technology.

3. Surface-to-Air Missiles

Two changes are being made in these forces, one in form and one in content. Heretofore we have shown on Table 3 the number of NIKE-HERCULES and HAWK missiles "authorized", even though not all of the missiles were actually "on site". We now believe it would be more meaningful to show just the number of missiles actually on site, excluding those being held in storage. On this new basis, we would have [redacted] missiles on regular Army sites at end FY 1967, instead of the 1,152 shown for that date last year. The difference of 81 missiles between the number authorized and the number actually on site stems from the fact that safety considerations limit the number of missiles which can be kept at certain sites. These [redacted] missiles are being held in storage and can be delivered to the site whenever needed. For the same reason, we now show [redacted] NIKE-HERCULES Army National Guard missiles at end FY 1967 using the "on site" criterion, compared with the [redacted] shown last year when the "authorized" criterion was used.

In the case of the HAWK, we showed last year a total of [redacted] missiles for end FY 1967. These are the HAWK batteries we deployed to the southeastern part of the United States in FY 1963 as a result of the Cuban crisis. Of this authorized number, [redacted] missiles were actually on site and the rest were in storage. We will continue to maintain these [redacted] "on site" missiles throughout the planning period [redacted]

In addition to the Improved HAWK, which is designed primarily for the field forces, we also have in advanced development a new surface-to-air missile called the SAM-D. While this system is also primarily oriented toward air defense of the field forces, it also has a potential application for Continental Air Defense. This effort, thus far, has been directed mainly to development of the required components or "building blocks" and a deployment decision at this time would be premature. Another [redacted] has been included in the FY 1968 Budget to continue development.

4. Ballistic Missile Warning

The numbers of Ballistic Missile Early Warning Systems (BMEWS) and Over-the-Horizon (OTH) radar sites are the same as shown last year. [redacted] The OTH radars, themselves, provide another form of early warning of ballistic missile attack, as I described to the Committee last year, particularly against Soviet missiles fired on trajectories beyond the BMEWS coverage.

We are also continuing work on "back scatter" Over-the-Horizon radars. In this system, echo signals from the target would be returned directly to the transmitter, thereby making separate receiving stations unnecessary.

An interim capability to detect sea launched ballistic missiles (SLBMs) is being phased in during FY 1968. The SLBM detection system will include seven modified SAGE radars and the phased array radar currently under development at Eglin Air Force Base, Florida.

5. Anti-Satellite Defense

As shown on Table 3, the four NIKE-ZEUS satellite interceptor missiles which had been stationed at Kwajalein are being dropped from the program. Initially, there had been some question as to whether the [redacted]

G. CIVIL DEFENSE

The Civil Defense program proposed for FY 1968 is essentially the same in content and objectives as that approved for the current year.

As you know, in addition to its important training, public information, warning, coordination, and control functions, the Civil Defense program's major effort in recent years has been directed toward the development of a nationwide fallout shelter system to provide protection for our population from the radiological effects of a nuclear attack. A significant amount of fallout protection exists today. By the end of the current fiscal year, we expect that this effort will have identified about 160 million shelter spaces with a standard protection factor of 40 or more. Of this total, about 97 million spaces will be marked and 82 million actually stocked with survival supplies for an average of about eight days.

Currently, there are a number of programs underway which will increase substantially the total amount of available shelter in the years ahead. These include the regular survey, marking and stocking of potential shelter spaces in newly constructed larger buildings, a more recently initiated survey of smaller structures, a survey to identify and measure shelter in private homes, community shelter planning, etc. Through these efforts, more than 50 million shelter spaces will be added in the next five years.

But, even after taking credit for all of the additional shelter space which can be expected from these programs, a substantial portion of our population would still be left without adequate fallout protection both at their places of work and at home because of maldistribution of shelter spaces in relation to population. Some of this shortfall, because of locally prevailing building practices, could be met only with special purpose construction -- a step we are not proposing at this time. However, much of the shortfall, we believe, could be met by making, at little or no cost, relatively minor changes in the design of new buildings, changes which would significantly increase their shelter potential. Accordingly, we intend to seek out every way possible to encourage private and public builders to make these changes.

The funds requested would carry forward the Civil Defense program at about the same level as the current fiscal year. A financial summary of the program, estimated to cost $111.0 million in FY 1968, appears on Table 4.

[redacted]

H. FINANCIAL SUMMARY

The Strategic Forces programs I have outlined will require Total Obligational Authority of $8.1 billion in FY 1968. A comparison with prior years is shown below:

	1962 Act.	1963 Act.	1964 Act.	1965 Act.	1966 Act.	1967 Est.	1968 Prop.
Strategic Forces	11.2	10.5	9.3	7.1	6.8	7.1	8.1

[redacted]

[redacted]

III. - GENERAL PURPOSE FORCES

The General Purpose Forces include most of the Army's combat and combat support units, virtually all Navy units (except for the POLARIS forces), all Marine Corps units, and the tactical units of the Air Force. These are the forces upon which we rely for all military actions short of general nuclear war, i.e., limited war and counterinsurgency operations.

A. REQUIREMENTS FOR GENERAL PURPOSE FORCES

Over the last few years I have presented to the Committee in considerable detail our analysis of the limited war problem and our requirements for General Purpose Forces. I have pointed out that our strategic nuclear capability is designed to deter attack at but one end of the spectrum of aggression and that we must, therefore, have other forms of military power, both to deter lesser aggressions and to defeat them if deterrence fails. We need these other forms of military power, not so much for the defense of our own territory as for the support of our commitments to other nations under the various collective defense arrangements we have entered into since the end of World War II. These include the Rio Pact in the Western Hemisphere, NATO in Europe, SEATO and ANZUS in the Far East, and the bilateral mutual defense agreements with Korea, Japan, the Republic of China, and the Philippines.

All of these mutual defense treaty commitments, involving a total of some 40-odd sovereign nations, stem from the great policy decision, made at the end of the Second World War, to base our security on the collective defense of the Free World. That decision itself and all of the mutual defense treaty commitments which followed were debated in the Congress, discussed in the public press, and approved by the United States Senate. I believe that these actions were wise and that the policy of collective defense still offers the best hope for a peaceful world, both for ourselves and our allies.

In fact, even without these treaty obligations, I suspect that our Country's action would not have differed significantly in the more than two decades which have elapsed since the end of World War II. I say this because in the longer view we have acted in our own national interest, which was of course the very reason why this Nation adopted the policy of collective defense in the first place. Admittedly, these treaty obligations carry with them very real risks of involvement in distant lands and in quarrels from which we might otherwise stand aloof -- for a time. The United States has a very great stake in a peaceful

[redacted]

and just world order, and any threat to the peace in any part of the world could, in some measure, become a threat to our own security and well being. We must remember that we twice came to the assistance of our friends in Western Europe without any prior treaty commitments; we did so because we deemed it vital to our own security. We came to the assistance of South Korea -- and we are now assisting South Vietnam -- for the same reason. So it is not the treaties themselves that cause our greater involvement in the affairs of the rest of the world, but rather what we deem to be our own vital national security interests over the longer run.

Admittedly, each of these commitments could give rise to contingencies for which we must plan and provide military capabilities. But this does not mean that, as a practical matter, we will ever be confronted by "40-odd South Vietnams simultaneously". Such sweeping generalizations bear no relation whatsoever to the real world in which we live. These commitments do not require us, automatically, to execute a particular contingency plan in response to a particular situation, without regard to existing circumstances. I have always said that we cannot expect to meet all possible contingencies simultaneously, but neither can our opponents -- and that is the crux of the matter.

The main sources of the potential threat of aggression are still the Soviet Union and Red China. It is the military strength of these two nations, whether exercised directly or through their allies, which constitutes the hard core of the threat against which the collective defense of the Free World must be primarily designed. U.S. total readiness in relation to this total threat is greater now than it was before we committed U.S. combat troops to Vietnam. And, we should not overlook the fact that the resources of the Soviet Union and Red China are also engaged in this conflict, although not to the extent that ours are. It should be perfectly clear that without the logistic support of these two nations, the North Vietnamese military effort in South Vietnam would rapidly deteriorate. Indeed, the logistics support requirements have grown to such size that the Soviet Union has recently appealed to other European Communist governments for help in carrying the burden. Thus, to the extent that these two nations are also engaged in the support of the Southeast Asian conflict, their capacity to undertake major military adventures elsewhere in the world is also reduced.

Moreover, the struggle for leadership of the world Communist movement and the long-standing disputes over territorial boundaries may limit the extent to which the Soviet Union and Red China will act in concert against the interests of the Free World. In fact, the growing antagonism between those two nations may cause them to be more cautious in undertaking new commitments elsewhere. While we should not base our military requirements on that possibility, it should be borne in mind in evaluating our capability to meet other contingencies while some of our forces are engaged in Southeast Asia.

With almost half a million men engaged in the conflict in Southeast Asia, we have by no means overcommitted our military forces. By the end of the current fiscal year, we will have about 730,000 more men on active duty than we had at the end of FY 1965, when the decision was made to deploy U.S. combat troops to Vietnam. We have not had to reduce deployments of our military units elsewhere in the world, call up our reserve forces, or declare even a limited mobilization of men or industrial resources. In fact, we still have in our central pool of active ground forces seven divisions to meet additional contingencies in Southeast Asia or elsewhere in the world -- and, in addition, we have nine divisions in the reserve components. Furthermore, our experience over the last 18 months has demonstrated the speed with which we can generate entirely new forces, even without a mobilization.

Finally, our forces would not be fighting alone. In the major contingencies for which we have to plan, we would be coming to the assistance of nations with relatively large military forces. In Europe, the NATO and Warsaw Pact forces are fairly evenly matched; in Asia, the Communists have the advantage of numbers but the Free World forces, collectively, have the advantage in materiel and in overall industrial capacity. Some of our allies have the manpower but not the economic resources needed to support their military forces. In these cases, modest amounts of U.S. military assistance can make a major contribution to the collective defense of the Free World against Communist aggression. It would be extremely shortsighted to begrudge the several hundreds of millions of dollars needed for military assistance when, at the same time, we are willing to spend tens of billions of dollars on our own General Purpose Forces whose primary mission is to defend these same allies against the same threat. That is why I have always considered military assistance an integral part of our own defense program.

In short, even if we were to group the European Communist states in the same camp as the Asian Communist states, the balance of power in the world today is still predominantly on the side of the United States and its allies -- provided we maintain our unity.

While the distinction between General Nuclear War Forces and Limited War Forces is somewhat arbitrary in that all of our forces would be employed in a general war, and certain elements of our strategic forces in a limited war (e.g., the B-52s against the Viet Cong forces in Vietnam), it is primarily the limited war mission which shapes the size and character of the General Purpose Forces. Because we cannot predict in detail the actual contingencies we may have to face, we must build into our forces a capability to deal with a very wide range of situations. This accounts for the great diversification in the kinds of units, capabilities, weapons, equipment, supplies, and training which must be provided and seriously complicates the task of determining specific requirements.

Nevertheless, our continuing study of these requirements has reaffirmed my conclusion that the General Purpose Forces which I presented here a year ago are about the right order of magnitude. This conclusion takes into account the contributions to collective defense which our allies can be expected to make, as well as our own growing capability to concentrate our military power rapidly in a distant threatened area. As I informed you last year, the currently planned expansion of our airlift, together with the recommended improvements in our sealift and increases in prepositioned equipment, will enable us within a few years to move most of our central reserve of active ground forces [redacted] in [redacted] 30-
[redacted] 60 days. It is this growth in our rapid deployment capability which makes it so important that we raise the readiness of the reserve components to a level where they could be rapidly deployed. Only then would they be of maximum value in the kind of limited war situations we see ahead.

Although our General Purpose Forces are primarily designed for non-nuclear warfare, we do not preclude the use of nuclear weapons even in limited wars. However, as I have pointed out in previous years, the employment of such weapons in a limited war would not necessarily be to our advantage in every case, and it would present some extremely difficult and complex problems.

For Europe, we are convinced that a theater nuclear capability is a necessary complement, but not a substitute, for a non-nuclear capability large enough to meet and withstand a major Soviet non-nuclear assault in central Europe for a reasonable period of time. (In this connection I do not consider a long drawn-out non-nuclear war in Europe on the scale of World Wars I and II a very likely possibility in an era when both sides have large and varied nuclear forces available.) We need a theater nuclear capability to deter Soviet use of such weapons (or to be able to respond in kind if they do) and to support [redacted]

We now have in Western Europe a total of about 7,000 tactical nuclear weapons. The need at this time is not for more weapons but rather for weapons which have a better chance of surviving in both nuclear and non-nuclear environments; for improved and more survivable command, control, and communications and logistics support; for more flexibility in the use of dual-purpose forces to ensure their availability for the non-nuclear option; and, finally, for a better balance among all the elements of the forces so that they can deal with the entire range of contingencies we face in Europe.

With respect to the Far East, we must distinguish between the Soviet and Red Chinese threats. [redacted] our present nuclear strength combined with a strong conventional defense posture in the area is now, and should continue to be, fully adequate to deter deliberate Soviet aggression, nuclear or non-nuclear.

The Chinese, however, will present a different kind of problem in the years ahead if their small but growing nuclear capability tempts them to threaten nuclear blackmail against their neighbors. The full implications of this potential new threat are as yet far from clear, and we have undertaken a comprehensive study of the entire problem. [redacted]

A careful review of our General Purpose Force requirements, including the temporary augmentations for Southeast Asia, indicates a need in FY 1968 for a total land force of about 31-1/3 division force equivalents. By "division force" I mean the division itself, plus all of its supporting forces, as I will explain in more detail later in this section of the statement. The Army will have 18-1/3 active division equivalents; and the Marine Corps, four. Of the 22-1/3 active divisions, eight and one-third will be deployed in Southeast Asia (six and one-third Army and two Marine Corps), five in Europe, and two in Korea (all Army), and seven (five Army and two Marine Corps) will be held as a central reserve of active forces. In addition, we will have nine divisions in the reserve components (eight Army and one Marine Corps), giving us a total of 16 additional divisions still available for overseas deployment. These are the land forces upon which we would be able to draw if additional reinforcements were needed in Southeast Asia or if contingencies arose elsewhere in the world.

With regard to tactical airpower, we have a total of about 4,800 fighter, attack, and reconnaissance aircraft which constitute the unit equipment of the combat squadrons of the active and reserve components of the Air Force, Navy and Marine Corps. About 1,200 are deployed in Southeast Asia, 200 elsewhere in the Western Pacific; and about 800 are stationed in the European area. This leaves about 2,600 in the continental United States, of which some 400 are engaged in rotational training in connection with our Southeast Asian operations. Thus, there are about 2,200 fighter, attack, and reconnaissance aircraft on which we could draw if additional forces were needed in Southeast Asia or to meet contingencies elsewhere in the world. I might also note that in addition we have 2,000 such aircraft which are used for support, combat readiness training, pipeline, etc.

The non-aviation naval forces are more difficult to summarize in this manner and I will discuss them in detail later in context with the Navy General Purpose Forces.

As I have pointed out on numerous occasions in the past, it is not enough that our forces be of the right size and composition; they must also be provided with the weapons, equipment, ammunition, and supplies needed to sustain them in combat. And, since most combat operations will usually involve all of the Services, the logistics objectives, which prescribe in broad terms the equipping and stockage standards to be followed, must be as uniform as possible throughout the Department. These objectives, together with the forces to be supported and our contingency deployment plans, determine the content (and costs) of the annual procurement programs. [redacted]

[redacted]

Of course, the specific procurement programs to achieve these logistic objectives must realistically take account of the state of the production base, especially for ammunition. The purpose of our war reserve inventories is to provide our forces with sufficient supplies to conduct sustained combat until production can be raised sufficiently to offset combat consumption. In peacetime, therefore, when production rates are tailored to low levels of consumption and attrition, it is important to have large stocks on hand, equal or nearly equal to the calculated war reserve objectives. However, once our forces have been committed to combat and production has been built up to offset current consumption, as is now the case in the current conflict, it is not necessary (indeed, it would be imprudent) to rebuild those stocks to their pre-combat inventory levels before the conflict ends. It is not necessary because our present expanded production base will be able to provide for all expected Southeast Asia consumption as well as any other contingency or contingencies which might arise. It would be imprudent because we know from experience that when the conflict ends, we either would have to shut down the lines abruptly, with all of the resultant adverse consequences for our economy, or we would have to acquire unwanted surpluses.

Accordingly, we have planned our FY 1967-68 procurement program in such a way that if the war should end suddenly, we can taper off production gradually, using the excess production capacity to rebuild our inventories to the desired pre-combat levels. At the present production rates, this could be achieved very quickly. For items which are not currently in expanded production for Southeast Asian operations, or for new items just entering the inventory, we will, of course, continue to procure towards our logistics objectives with the goal of achieving them, wherever feasible and desirable, with the FY 1968 buy.

B. CAPABILITIES OF THE PROGRAMMED FORCES

As I noted earlier, our General Purpose Forces requirements are derived from analyses of contingencies, including the support of our allies around the world. Accordingly, our General Purpose Forces capabilities must be assessed in conjunction with the capabilities of these allied forces. Although we have considerable knowledge of the force plans of our allies, we cannot be sure that [redacted] how they will change with the passage of time. This creates some uncertainty about the specific requirements for U.S. forces in the more distant years of the five-year programming period, for which we must make allowances in our force planning.

The largest single potential requirement for U.S. General Purpose Forces would be a non-nuclear war in Europe. But the most immediate requirement today relates to our military effort in Southeast Asia.

[redacted]

1. Southeast Asia

In the first section of this Statement, I discussed the broader aspects of the situation in Southeast Asia. In my statement to this Committee in support of the FY 1967 Supplemental request for Southeast Asia, I covered at considerable length the military situation in Southeast Asia, our objectives there, and how we plan to achieve them. Accordingly, I will not attempt to cover the same ground again, but simply refer you to my earlier statement.

[redacted]

[redacted]

[redacted]

3. NATO Europe

In assessing the relative military strengths of NATO and the Warsaw Pact, the most obvious development to be considered this year is the withdrawal of French forces from the integrated NATO command structure. This is unfortunate not only because it lessens our ability to plan together in peacetime for concerted action in an emergency, but also because we cannot be sure of the timely availability of French forces, terrain, and airspace in the event of actual combat. With respect to the first of these problems, I do not now expect serious difficulties to ensue. While French forces will not be formally integrated into NATO's overall emergency defense plans, informal liaison between the NATO and French military staffs can do much to bridge this gap in practice.

The possible unavailability of French terrain and airspace is of more concern, because it could limit our capability to conduct a defense in depth, and also because it requires a new wartime logistic supply line to replace the one in France. But [redacted] the need for French terrain is not nearly so important as it would be if we were planning to refight World War II in Europe, which we have no intention of doing. Moreover, our new Line Of Communications (LOC), which will run through the Benelux countries, while closer to the front than the former LOC in France, is only half as long and has considerably greater rail and road capacity. Finally, the loss of French airspace will, if necessary, be overcome by basing in the U.K., Benelux, and Germany aircraft which would otherwise have been located in France. Consequently, these aircraft would not have to overfly France to engage in the Central Region, if French airspace is not available.

The remaining issue -- the impact of the possible unavailability of French forces -- must be considered in terms of the overall military balance across the Central Region. The first point to be made is that France's actions have no significant effect on the backbone of NATO's

[redacted]

deterrent, namely, the nuclear forces (both strategic and tactical) of which the U.S., of course, provides the vast majority. However, with respect to NATO's non-nuclear capabilities, France's potential contribution could be more significant and it is important to consider how her action affects the balance between the NATO and the Warsaw Pact forces.

In NATO's Central Region, there are now 29 U.S. and Allied divisions, of widely varying size, [redacted] Of this total, five divisions (including two in Germany) with 97,000 men are French, leaving 24 non-French NATO divisions with about 625,000 men. These forces are faced by 45 much smaller Pact divisions [redacted] located in East Germany, Poland, and Czechoslovakia. Since these would be the land forces immediately available to each side if conflict began unexpectedly, it is important to note that even without French forces, NATO at present outnumbers the Warsaw Pact [redacted] on the Central Front.

Both the NATO and Warsaw Pact forces could, of course, be substantially expanded prior to a conflict. [redacted] In my view such NATO forces, even without France, if properly equipped, trained, and deployed, should be adequate to meet the objectives which I believe are relevant: (1) to deal with incidents arising out of miscalculation; (2) to meet a Warsaw Pact mobilization and build-up with a roughly parallel expansion of NATO forces; and (3) to deny the Warsaw Pact any high probability of major success with anything less than a maximum-scale attack upon the West, which would carry with it all the attendant risks of rapid escalation to nuclear war.

As I have noted in these hearings for the last several years, our Allies' land forces still suffer from a number of deficiencies (measured by U.S. standards), notably as regards equipment, war reserve supplies, and mobilization capability. While progress has been made in reducing many of these deficiencies, much remains to be done, and I believe the new NATO defense planning procedures can be invaluable in this respect. I should add, of course, that even the best Warsaw Pact land forces are not up to U.S. standards, and we see no reason to believe that on a man-for-man basis they are better than NATO forces.

Tactical air forces would also importantly affect any conventional conflict in the Central Region, and here NATO's potential capabilities are distinctly superior to the Warsaw Pact's. [redacted]

[redacted]

To sum up, I would assess the present balance of conventional capabilities in Central Europe as follows. First, while we would expect, hope for, and welcome the cooperation of France in time of emergency or war, such cooperation does not appear vital to maintaining an adequate conventional capability in NATO. Second, while we recognize significant qualitative weaknesses of various kinds in NATO's land and air forces, I believe that our present conventional forces are large enough to implement the strategy which we -- and increasingly our Allies -- recognize as an indispensable element of a sound overall NATO posture. Third, a number of the qualitative deficiencies which I have mentioned are being remedied and there is increasing interest within the Alliance in remedying the others. Fourth, the new defense planning procedures will help to achieve a better balance between political commitments, strategy, forces and resources.

However, I do not wish to leave an overly optimistic impression regarding the future outlook for NATO's conventional capabilities vis-a-vis the Warsaw Pact. Soviet and East European land and air forces today are formidable and will almost certainly remain so. Moreover, in addition to the French withdrawal from the integrated command, we may face a redeployment of some U.K. forces from the continent to the U.K. Hence, in addition, there will probably be increasing internal pressure on the defense budgets of Germany and certain other NATO nations that may make it difficult for these Governments to equip and maintain forces of the size and character we consider necessary. But all of these and similar issues are being currently addressed in the trilateral and NATO forums, and serious attention is being given at the highest governmental levels to these common defense problems. Given this spirit, and the immense resources at NATO's disposal, I see no reason why we cannot maintain and improve our already considerable conventional capabilities, and I believe that the U.S. should continue to lead the way, as we have for the last six years.

4. Other Contingencies

In addition to Asia and Europe, contingencies requiring the use of U.S. military forces may arise in other areas of the world. These requirements, however, would be small in relation to our overall military strength.

[redacted]

There is one possible contingency, however, which may require the large scale employment of our naval forces, and that is a war at sea with the Soviet Union not involving any land battles. Here,our global naval power would provide us with a unique advantage provided the Soviet submarine threat can be contained, which we believe it can. [redacted] (I will discuss the anti-submarine warfare problem in greater detail later in connection with the Navy General Purpose Forces.) The Soviet surface fleet, without aircraft carriers, would be ineffectual in challenging us for control of the seas. The cost to the Soviets of building an attack carrier force would be enormous and with our already large force we could always stay well ahead of them.

I would now like to turn to the General Purpose Forces proposed for the next five years.

[redacted]

[redacted]

C. ARMY GENERAL PURPOSE FORCES

The Department of Defense for many years, and under several Administrations, has been striving to make the "One Army" concept a reality as well as a slogan. You may recall that when I appeared before the Congressional Committees in May 1961 in support of President Kennedy's recommendations on the realignment of the Army reserve components, I noted that "they must be so organized, trained, and equipped as to permit their rapid integration into the active Army." Since that time we have not only been working on the question of how the reserve components should be organized but also on how the reserve and active Army structures could best be meshed together. This latter question requires not only a comprehensive analysis of the total Army force requirement but also a very careful and detailed analysis of which elements of the total structure should be provided in the active forces and which in the reserve forces.

Fundamental to this type of analysis is the concept of a "division force". Although the combat division has long been the most widely used standard for measuring the strength of the land forces, it accounts for only about one-third of the combat and support units required to sustain the division in combat over an extended period of time. By itself, the division is neither the best measure of combat capability nor a sound basis for force planning, although it has in fact been used for both purposes in the past. Because the other two-thirds of the combat and support units are vital to the division's effective employment, they too must be provided in the force structure, and they must be so manned, trained, and equipped that they are ready when needed. A "ready" division without "ready" support elements would be incapable of combat. The division force concept ensures that our planning explicitly recognizes this relationship (indeed, interdependence) between the division and its major support elements, since it requires us to identify these elements in detail.

As a first approach to the problem, we have grouped all of the organized (TO&E) units of the division force into three categories:

(1) The Division itself.

(2) The Initial Support Increment (ISI) -- i.e., the non-divisional combat and combat support units which are required to support the division in the initial combat phase.

(3) The Sustaining Support Increment (SSI) -- i.e., the additional non-divisional units including the combat, combat support, and service support needed by the division for sustained combat operations beyond the initial phase.

[redacted]

By structuring the division force in this way, we can see more clearly the relationship of the divisions themselves to the other Army units shown on Table 5 of this statement. For example, the Armored Cavalry Regiments and the Separate Support Brigades, shown under Major Supporting Forces, are part of the Initial and Sustaining Support increments for the division forces shown in the block above. (A brigade force consists of the brigade itself and the supporting increments. Three brigade forces are the equivalent of one division force.) Similarly, most of the Combat and Support Battalions shown on Table 5 are either units of the divisions and brigades themselves or their initial and sustaining support.

In addition, the division force concept helps us to:

(1) Relate standards of unit readiness, manning levels, etc., directly to the time phased unit deployment schedules, which underlie our contingency planning.

(2) Determine more precisely which units must be provided in the active forces and which could be provided in the reserve components.

(3) Tailor forces for particular missions, operational environments, and tempos of activity.

(4) Understand better the relationship between support functions (supply, maintenance, transportation, etc.) and combat functions (maneuver and fire power), thereby enabling us to achieve a better allocation of resources among them.

(5) Calculate more precisely the personnel and materiel requirements of each unit.

While the concept still needs considerable development before all of the foregoing advantages can be fully realized, it has already proved of significant value in our force planning. Very substantial progress has been made in working out the detailed composition of each division and brigade force -- infantry, mechanized, armored, etc. -- not only in terms of maneuver battalions but also in terms of the various other combat and support units, e.g., artillery, engineer, maintenance, etc. And, we have now tentatively identified which of these units should be provided in the active forces and which in the reserve components.

Summarized in the table below are the permanent division force equivalents proposed for the FY 1969-72 period, divided between the active and reserve forces.

Division Force Equivalents

Type	Active			Reserve			Total		
	DVE	ISI	SSI	DVE	ISI	SSI	DVE	ISI	SSI
Airborne	1-1/3	1-1/3					1-1/3	1-1/3	
Airmobile	2	2	2				2	2	2
Infantry	5	5	3	5	5	7	10	10	10
Mechanized	4	3	2	1	2	3	5	5	5
Armored	4	2	1-2/3	2	4	4-1/3	6	6	6
	16-1/3	13-1/3	8-2/3	8	11	14-1/3	24-1/3	24-1/3	23

No sustaining support increment is provided for the airborne forces because this type of unit, like the Marine Corps amphibious division, is designed primarily for the initial assault phase and not for sustained combat. (However, we have authorized equipment for 1-1/3 sustaining support increments so that they could be formed on relatively short notice if the total Army force were required for sustained combat.) You will notice that much of the sustaining support for the active divisions is included in the reserve forces, reflecting the fact that these types of units are usually deployed after the divisions themselves. Because it will take several months to deploy all of the active divisions, the initial support increments for some of them can also be assigned to the reserves. Thus, in this plan, we have fully integrated the reserve component units (for which there is a military requirement) into the total Army force structure. The remaining reserve component units, which we are supporting as a result of a combination of circumstances arising from the strength mandate of the FY 1967 Defense Appropriation Act and the failure of our proposed reserve force reorganization to win Congressional approval, are simply excess to this plan and accordingly are not included in the forces shown on Table 5.

1. Army Force Structure

The integrated active-reserve Army force structure proposed for the FY 1968-72 period is grouped on Table 5 under three main headings -- Division and Brigade Forces, Major Supporting Forces, and Combat and Support Battalions.

a. Division and Brigade Forces

Because of the temporary Vietnam augmentations to the active Army, the force structure we are proposing at the end of FY 1968 is the equivalent of 27-1/3 division forces in the active and reserve structure combined.

[redacted]

The recommended equipment authorization of 26-1/3 division force sets requires in effect that the equivalent of one set of equipment be "borrowed" from the reserves by active forces which have been created in lieu of mobilizing the reserves. (A recapitulation of all the temporary units added in the Army structure in FY 66-68 is shown in footnote "a" to the Table.)

You may recall that funds were included in the FY 1967 Budget to initiate procurement of long lead time items for the conversion of a second division to the airmobile configuration, if experience proved this desirable. The existing airmobile division, the 1st Cavalry, proved its worth in Vietnam and I have, therefore, tentatively approved the conversion of the 101st Airborne Division to an airmobile configuration. The actual timing of this action is subject to the preparation of a detailed conversion plan by the Army and the JCS, but for planning purposes we have scheduled it for early FY 1969. Our much improved airlift and sealift permits us to meet early deployment requirements with either airmobile or infantry divisions, both of which are better suited to a wider range of operations than the airborne type. On the assumption that the Vietnam conflict ends by June 30, 1968, the number of infantry divisions reverts to five in FY 1969.

The number of Priority Reserve division forces, shown in the next block, will remain at eight throughout the program period. During FY 1968, one of the reserve infantry divisions designated for support of NATO contingencies will be converted to a mechanized division.

As shown in the next entry, the three temporary active brigade forces are scheduled to phase out of the structure after FY 1968, leaving one active brigade force throughout the rest of the program period. The increase of one active brigade force in FY 1967 reflects the scheduled activation of one of the temporary brigades. The three reserve brigade forces shown on the next line are three "separate" brigades from the Major Support Forces which are being treated temporarily as "brigade forces", as discussed above. These three brigades will revert to their former status after FY 1968.

b. Major Supporting Forces

The next major grouping on the table covers the major supporting forces, most of which represent the initial or sustaining support for the division and brigade forces. In FY 1969 (when the 101st Airborne Division is converted to Airmobile), the Army will keep a portion of the airborne assets to form a new permanent airborne brigade, thereby establishing the brigade total at seven throughout the rest of the program period. With respect to the Priority Reserve, I authorized in

[redacted]

the fall of 1964, as part of the proposed realignment of the reserve components, an increase in the number of separate support brigades from 11 to 16, and the procurement of equipment for them. As mentioned earlier, we are temporarily treating three of the existing brigades as brigade forces, leaving 13 in the supporting forces in FY 1968, assuming the reserve components are reorganized. In FY 1969, all 16 are shown in this category.

No important changes are proposed for the Special Forces Groups or the one remaining Missile Command. (The Missile Command is essentially an administrative headquarters for the U.S. HONEST JOHN battalion in Korea which supports the Korean Army.)

c. Combat and Support Battalions

The next major grouping recapitulates the principal combat and support elements of the division and brigade forces discussed previously.

Last year, our planning contemplated a permanent active force structure of 174 maneuver battalions plus a Southeast Asia related augmentation of twenty battalions, for a total of 194 by end of FY 1967. We now propose to increase this total to 198 battalions and hold that level through FY 1968. The additional battalions will provide a fourth battalion for each of the two independently operating airborne brigades now deployed in Southeast Asia, and two additional battalions for the mechanized division in CONUS. The net increase of three permanent battalions, to 177, in the post-FY 1968 "permanent" force, is the result of adding the airborne separate support brigade described above.

Last year, I mentioned the Army's program to shift the numerical and geographic distribution of the various types of maneuver battalions in order to increase the armor content of the NATO-oriented forces and the infantry content of the other forces, so as to make both forces better adapted to the kinds of terrain on which they would most likely have to fight. This exchange of maneuver battalions will be completed in FY 1967.

No change is presently planned in the total number of Priority Reserve maneuver battalions, although the specific mission assignments of some of them will change when the temporary active force augmentations are dropped.

The number of armored cavalry squadrons in the active forces will be increased to 34, of which 6 will be part of the temporary Southeast Asia augmentation. This will provide one squadron organic to each division (excluding the airmobile division), three squadrons organic to each of

[redacted]

the five armored cavalry regiments, one squadron organic to a separate brigade, and two separate squadrons.

With respect to artillery battalions, the demands of the conflict in Southeast Asia together with our continuing study of the peacetime force requirements have caused us to make a number of changes in the structure. First, we now plan to increase the number of artillery battalions in the active forces from the pre-Vietnam level of 115 at end FY 1965 to 150 by end FY 1968, an increase of 35 battalions over the three year period. By the end of the current fiscal year we expect to have 147 battalions, compared with the 133 planned a year ago for that date. Second, our experience in Vietnam has shown that the mix of separate artillery battalions should contain more heavy 8" howitzers and 175mm gun battalions. Accordingly, of the 35 battalions to be added to the forces between end FY 1965 and end FY 1968, seven will be 8" howitzers (an increase of nearly 50 percent, from 18 to 25) and eight will be 175mm (an increase of more than 100 percent, from 7 to 15).

Although we show the permanent active artillery force reverting to 115 battalions after FY 1968, we are reexamining the possible need for a greater number and perhaps a different mix. This is also true for the reserve components artillery battalion structure, since its size and composition must be directly tied to the active structure.

The number of Divisional Signal Battalions is scheduled to remain the same, one for each division in the Active and Priority Reserve forces.

The Combat Area Signal Battalions are the chief component of the field army's area communications system. These battalions are authorized in the ratio of six for each deployed field army. The permanent Active and Priority Reserve force structures contain sufficient units to form three such field armies.

The number of Engineer Combat Battalions in the active forces has been temporarily increased from 38 to 43 through FY 1968 in order to meet Southeast Asia needs. One engineer combat battalion is organic to each active and reserve division. The remainder are separate units which are part of the initial and sustaining support increments. The Army is presently restudying the requirement for combat engineer units in light of our recent experience in Vietnam and, therefore, the numbers shown for the FY 1969-72 period must be considered tentative.

The next type of unit shown on the table, the Engineer Construction battalion, is equipped with more and heavier types of construction equipment than the Combat Engineer battalion and is capable of undertaking larger and longer term jobs such as the construction, repair, and maintenance of permanent type roads, buildings, and bridges. Temporarily

[redacted]

augmented to meet Southeast Asia requirements, the projected force for the FY 1969-72 period represents an allowance of two engineer construction battalions for each division force (except for the airborne division). These units are also used to support the Air Force in the construction of runways and other air base facilities.

This year, in order to reflect more accurately the growing importance of aviation in Army operations, the data shown on Table 5 have been revised to include aircraft-dominated (generally company size) units rather than just those specifically categorized in the force structure as "aviation companies". With respect to the active forces, we propose to continue the build-up of both temporary and permanent units in FY 1968 to a total of 218 an increase of 27 over the level envisioned a year ago. The permanent active force is tentatively planned at 167 units, including the additional units required for the second airmobile division. Paralleling the increase in the active force structure, the number of aviation units authorized in the reserve components is also scheduled to grow significantly, from 40 at the end of FY 1965 to 71 by the end of FY 1969.

The next block on the table shows the number of aircraft assigned to the Army's General Purpose Forces. (These data exclude aircraft in the maintenance float and those employed for training or support of other major programs.) As you can see, the aircraft inventory figures display two basic trends: (1) a rapid growth in the force which will see it double between the end of FY 1961 and the end of FY 1968; and (2) a decline in the relative importance of fixed-wing aircraft as compared with helicopters.

No major change is being proposed for the surface-to-surface missile force from that presented last year. One HONEST JOHN battalion is organic to the 9th Infantry Division, which was formed specifically for Vietnam, and is shown as a temporary unit. The Army has set aside the required equipment for this battalion, but has not manned the unit since it will not be needed in Vietnam.

We had hoped in FY 1968 to start replacing HONEST JOHN and LITTLE JOHN with the LANCE. However, delays encountered in the program have made it necessary to defer the deployment of the first battalion until FY 1969. (One LITTLE JOHN battalion still will be phased out in FY 1968 and its mission partially assumed by 8" howitzers and 155mm howitzers already in the force.)

By the end of FY 1970, six LANCE battalions will be operational, and seven HONEST JOHN battalions (including the one temporary unit) and all four LITTLE JOHN battalions will have been phased out of the active

Army. LANCE will be more mobile and have a higher rate-of-fire than HONEST JOHN, a bigger payload than LITTLE JOHN, and better range and accuracy than either. Furthermore, developmental effort has been initiated on an increased performance LANCE, which promises even further gains in missile accuracy, and range, and could provide a relatively low cost substitute for the SERGEANT.

Full implications of the LANCE capabilities have yet to be determined and we are still not certain how many LANCE battalions should ultimately be deployed.

Over the last few years we have taken a number of steps designed to increase the capabilities of our PERSHING missile battalions, particularly so that those stationed in Europe might take over the quick reaction alert (QRA) mission now being performed by tactical aircraft. Because of its mobility, PERSHING could provide a more survivable capability for the QRA nuclear mission, while the aircraft released from the QRA role could provide our ground forces with more air support in the early stages of a non-nuclear conflict. Originally equipped with four launchers per battalion, we are now planning to provide the three European-based battalions with 36 launchers each and the other two battalions with 24 each, for a total of 156 launchers in FY 1970-71. In addition, the battalions will be converted from tracked to wheeled vehicles and given new improved launchers and advanced fire control equipment. When completed, these changes will permit a European-based battalion to fire all of its 36 missiles in less than two hours, a more than five-fold improvement over the current capability. PERSHING actually became part of the QRA force in December 1965, initially with two launchers of each battalion held on alert during peacetime. By increasing the manning level we will soon be maintaining four launchers per battalion on peacetime alert and, in FY 1970, this will increase to 9 per battalion. During periods of tension, all launchers can be placed on alert.

The final major grouping on Table 5 depicts the Army's tactical air defense systems. Last year I described to the Committee the steps we were taking to improve the Army's forward area air defense capabilities. These included the deployment of the new gun/CHAPARRAL system, the conversion of five HAWK battalions to a self-propelled configuration, the HAWK Improvement Program, and the SAM-D development program. We now plan to initiate in FY 1968 a new development program designed to ensure that the NIKE-HERCULES can continue to operate effectively in the projected ECM environment of the 1970s. This new program, together with the HAWK Improvement Program, will provide a hedge against possible slippage in the development of the SAM-D which is tentatively planned as a replacement for both HERCULES and HAWK.

The NIKE-HERCULES will continue to be deployed throughout the program period. One battalion will be activated in FY 1968 to provide a second battalion for the active forces in CONUS. In FY 1969, eight of the HERCULES batteries now in Europe will be phased out. The 54 HERCULES batteries in the reserve components will be continued unchanged.

Twelve HAWK batteries were added to the program in FY 1967 for Vietnam. These 12 batteries will be continued through FY 1968. The increase of one battery in FY 1968, from 84 to 85, reflects the activation of the last four of the batteries authorized for Vietnam, offset by the conversion of three HAWK battalions to the self-propelled configuration. As I pointed out last year, the self-propelled battalion will have three batteries of three firing platoons each compared with the four batteries with two platoons each in the towed battalion. Thus, the conversion will actually increase total fire power -- nine platoons in the self-propelled versus eight in the towed version.

In FY 1969 two more HAWK battalions will be converted to the self-propelled configuration, thus reducing the number of batteries by two. However, eight new batteries will be formed (using the assets from the 12 temporary HAWK batteries in Vietnam, which we assume will no longer be needed in FY 1969) in order to provide four special air defense battalions for STRICOM. (The remaining equipment of the temporary units will be used for maintenance and rebuild stocks.)

Last year we had tentatively planned to start procurement of the improved HAWK in FY 1968. This system, which includes a new acquisition radar and a higher performance missile, promises a significantly increased effectiveness against advanced electronic countermeasures, very fast aircraft, low speed or hovering aircraft, and multiple targets. However, the project has encountered some development problems and the program has experienced an eight month slippage, moving the first unit availability from March 1969 to November 1969. Meanwhile, we will go ahead with production preparations, using the $10.4 million provided in FY 1967 for that purpose and the $25.0 million requested in FY 1968 for production engineering and production prototype missiles.

Last year we had planned to deploy a gun/CHAPARRAL missile battalion (four batteries) with each of the 16 active Army division forces plus three battalions (four batteries each) for low altitude defense of Army service area facilities, in Europe or Korea. One battery is to be provided for each of the four special air defense battalions for STRICOM, which I mentioned earlier, plus four school/rotation batteries, making a total of 84 batteries. As shown on the table, we still plan to deploy a force of 84 batteries, except that one of the six battalions (four batteries) originally scheduled for activation in FY 1968 will not become available until early FY 1969.

Three types of operational gun/CHAPARRAL battalions will be formed: a fully self-propelled battalion for the armored and mechanized divisions; a modified self-propelled version (including one towed gun battery which can be airlifted) for the infantry divisions; and an all-towed version for the airmobile and airborne divisions. We may field some of the gun batteries before the CHAPARRAL missile is ready, since the gun itself (a VULCAN 20mm) is a formidable air defense weapon even when deployed alone.

Except for two batteries permanently deployed in Panama, the self-propelled anti-aircraft gun batteries shown next on the table were activated in response to Southeast Asia needs. Last year, we had expected to organize 48 of these units by end FY 1967, but further review indicated that a total of 22 batteris would meet presently foreseeable requirements. Of the 22 batteries shown in FY 1967, five are presently being used for training. As the training program is completed, these five batteries will be phased out.

Although the REDEYE, another air defense system, is not shown in the force structure, each Army division is authorized approximately 58 two-man REDEYE teams (one for each combat company-sized unit). The first operational REDEYE teams are now in training and will be deployed in March 1967, and all will be in place by end FY 1969.

2. Army Procurement

The Army's materiel objectives provide for initial equipment for 26-1/3 active and reserve division force equivalents, and the associated support establishment. As explained earlier, the apparent surplus of the equivalent of one division force in the Reserve components occurs as a result of the fact that a portion of the Vietnam augmentation forces are in effect "borrowing" their equipment from Reserve Forces for which equipment had already been authorized.

With respect to the two surplus division sets which would remain after the three Vietnam augmentation forces phase out, we do not have to decide their disposition at this time, since there is no way of forecasting when the conflict will end or what its ultimate requirements will be. There are, in fact, several alternatives. For example, one or both sets could be held intact, thereby greatly speeding some future mobilization. Or, the equipment could be prepositioned, thereby enhancing our deployment flexibility.

War reserve stocks of equipment will be procured for 88-1/3 division force months of combat consumption, including 29 months at intensive rates (i.e., 50-75 percent higher). This provision is based in part on 90 days consumption for 8 division forces specifically oriented to Europe, and up to 180 days for the other division forces in accordance with their deployment schedules. Reserve stocks for ammunition and secondary items are based on the D-P concept for all forces except the 8 Europe-oriented division forces, which are provided 90 days. Combat consumption stocks for all forces planned for SEA deployment are provided on the basis of projected consumption through the FY 1968 procurement delivery period, including the temporary forces.

The revised FY 1967 Army procurement program now totals $5,863 million, of which $2,130 million is included in the Supplemental. The 1968 program totals $5,881 million. The Army's procurement program is shown on Table 6 attached to this statement.

a. Aircraft

The FY 1967-68 Army aircraft procurement program is designed to meet projected Southeast Asia attrition replacement needs together with the planned build-up in the Army's aviation force structure. The FY 1967 program now totals $1,202 million for 2,697 aircraft, of which $533 million is included in the Supplemental request. The FY 1968 program includes $769 million for 1,479 aircraft.

The first item on the list is the UH-1B/D (IROQUOIS), the primary tactical utility transport helicopter of the Army. The FY 1967 program now includes 753 UH-1B/Ds (of which 63 are in the Supplemental) and 528 more are included in our FY 1968 request.

The FY 1967 program also includes 420 AH-1G (COBRA) helicopters (of which 210 are in the Supplemental). This heavily armed version of the UH-1 is being procured as an interim airborne fire support platform until the Advanced Aerial Fire Support Helicopter, now in development, can be produced. Another 214 AH-1s are included in the FY 1968 program. Production of the UH-1/AH-1 will phase down from the current 150 a month to a rate of approximately 60 a month in calendar year 1969.

Production of the CH-47 (CHINOOK) transport helicopter will be reduced from the present rate of 15 a month to 10 a month during FY 1968 with a further phase-down to approximately six a month during FY 1969. Funds for 71 of these aircraft are included in our request.

We now propose to procure 687 OH-6A observation helicopters in FY 1967 and 600 more in FY 1968. Ultimately, this aircraft will be used to replace the older OH-13/23s and fixed-wing O-1s, but the currently proposed quantities are necessary to meet requirements for Southeast Asia and the training establishment.

Thirty CH-54A heavy lift helicopters are included in the FY 1968 request. These aircraft are presently being employed in Vietnam to great advantage where their ability to lift and deploy heavy weapons is proving most valuable.

We also propose to procure 36 more OV-1C (MOHAWK) fixed-wing observation aircraft in FY 1968. Funds are included in the FY 1967 Supplemental request for 81 U-21As, a twin turboprop aircraft used by tactical units for administrative support. These aircraft will replace those U-8s withdrawn and modified in FY 1966 for new intelligence missions in Southeast Asia.

The $25 million shown on the table for the AH-56A Advanced Aerial Fire Support System (AAFSS) will provide for procurement of long lead time components to permit early initiation of production, when development warrants such a decision.

Finally, to meet the greatly expanded needs of the Army's aviation training program, 536 training helicopters have been included in the FY 1967 Supplemental. At this time, no further trainer procurement is planned for FY 1968.

b. Missiles

Army missile procurement (including spares) will total $561 million in FY 1967 and $769 million in FY 1968.

The $91 million requested for PERSHING is required for the procurement of the previously mentioned ground support equipment for the three Quick Reaction Alert battalions deployed in Europe.

Funds requested for LANCE will procure [redacted] missiles and related ground support equipment and bring missile production to the desired rate of 60 per month early in FY 1968.

Procurement of the TOW missile system, which will gradually replace the 106mm recoilless rifle and the ENTAC missile as the primary heavy anti-tank weapon, will be initiated in FY 1968. The funds requested will procure 5,550 missiles, 211 launchers, and 203 vehicle adapters, sufficient to provide initial quantities for training and for equipping one battalion.

For SHILLELAGH, the FY 1968 request includes funds for 14,500 missiles. This infrared, command-guided anti-tank missile is the primary weapon for many of the M-60 tanks and the General Sheridan armored reconnaissance vehicles. In FY 1968, we plan to open a second production source for this missile in order to ensure an element of competition in future procurement awards.

The funds requested for 4013 REDEYEs, the shoulder-fired air defense missile, will complete our presently planned procurement objective.

The FY 1968 request provides funds for 1,440 CHAPARRAL surface-to-air missiles and related ground equipment. A delay in building up to the desired production rate of 360 missiles per month accounts for the smaller quantity which has to be financed in FY 1968.

No additional procurement of HAWK missiles is proposed for FY 1968 since the improved missile should be available for production in FY 1969. The $32 million requested for the system will provide ground support equipment for two battalions and some training equipment.

While no procurement funds are requested for HERCULES, we have undertaken a small development program (utilizing $1.7 million of FY 1967 emergency funds) to explore the feasibility of adapting this system to the surface-to-surface role. In addition, as previously mentioned, we plan to start a development program to improve HERCULES ECM capabilities and $1 million is included in the FY 1968 R&D request for this purpose.

c. Weapons and Combat Vehicles

The revised FY 1967 program for weapons and combat vehicles totals $589 million ($83 million in the Supplemental request), and $554 million is included in the FY 1968 Budget request.

The $24 million requested for the M-139 (HS-820) 20mm gun in FY 1968, will complete our planned procurement of the weapon which we have been buying to upgrade the fire power of the M-114 armored command and reconnaissance vehicle.

Another item, the 20mm VULCAN air defense gun, is the weapon which we will deploy with the CHAPARRAL air defense missile. For FY 1968, funds are requested for 192 of these six-barrel Gatling-type guns.

The FY 1968 request includes funds for another 175,000 5.56mm rifles which are now being used in Southeast Asia.

The FY 1967 Supplemental provides for an additional 175 81mm mortars, bringing the total for the year to 500. For FY 1968, we are requesting funds for 903 more.

The FY 1967 Supplemental also includes funds for an additional 138 self-propelled 155mm howitzers, bringing the total for the year to 420. A final quantity of 27 of these howitzers is included in the FY 1968 request. These larger weapons are being used to replace 105mm howitzers now in the force.

The FY 1967 quantity for the M-578 light recovery vehicles has been increased from 150 to 218 and an additional 79 vehicles are included in the FY 1968 request.

Production of the General Sheridan armored reconnaissance and airborne assault vehicle will be maintained at the rate of 50 per month in FY 1968 and funds for 600 are included in our request.

The next four items on the table -- the M-113 armored personnel carrier, the 81mm and 107mm self-propelled mortars, the M-577 command post carrier and the M-548 cargo carrier -- share a common chassis and are produced at the same facilities. We plan to maintain the current production rate of 250 per month during FY 1968. This will enable us to maintain a going production base through at least FY 1970. With the proposed FY 1968 procurement, we will have funded about 87 percent of our total inventory objective for these vehicles.

With respect to medium tanks, the FY 1968 program provides for continued modernization of the inventory. Rather than continue the retrofit of M-48 tanks with new diesel engines and 105mm guns to improve their operating range and firepower, we propose for FY 1968 to step up production of M-60 types. In recent years we have been buying only enough M-60s (equipped with the SHILLELAGH missile/152mm gun turret) and other vehicles which employ the same chassis to support the minimum sustaining production rate of 30 units per month. By doubling the production rate, we now believe we can obtain M-60s equipped with a 105mm gun at virtually the same cost of a retrofitted M-48. Therefore, in FY 1968, we have included funds for 300 M-60s with the 105mm gun, 300 M-60s with the SHILLELAGH/152mm gun and 30 each of the armored vehicle bridge and the combat engineer vehicle which use the M-60 chassis.

Development of the Main Battle Tank, a joint project with the Federal Republic of Germany, has encountered some delay, with the result that its introduction into the operational inventory has slipped from FY 1970 to FY 1971. Consequently, $8 million of the $10 million provided in FY 1967 for advance production engineering will be applied to other programs. In FY 1968, advance production engineering for the Main Battle Tank will require $11 million. In addition, $34 million will be required for the U.S. share of the joint development costs.

d. Tactical and Support Vehicles

The revised FY 1967 program for trucks and other non-combat vehicles totals $653 million ($154 million in the Supplemental request). For FY 1968, $483 million is requested for about 53,000 vehicles. As shown on the table, the major portion of these items for FY 1968 are: 11,605

1/4-ton trucks, 9,000 1-1/4-ton (M-715) trucks, 16,000 2-1/2 ton trucks, and 3,800 5-ton trucks of all types. No additional funds are requested in FY 1968 for the new 1-1/4-ton GAMMA GOAT (M-561) vehicles, since the FY 1967 quantity of 1,500 will support the production line through FY 1968. For the five principal vehicles in this category (the 1/4-ton, the 1-1/4-ton (M-715), 2-1/2-ton, and 5-ton trucks and 10-ton tractor), the FY 1967-68 procurement quantities, together with trucks funded in prior years, will provide an inventory of 343,000 vehicles, or about 97 percent of our objective.

e. Communications and Electronics

For communications and electronics procurement, the revised FY 1967 program provides $617 million, ($303 million in the Supplemental request) and the FY 1968 request totals $550 million.

Included in the FY 1967-68 request are a number of items related to Southeast Asia requirements. For example, substantial sums are provided for night vision equipment, counter-mortar radars, field wire, and a wide range of tactical radio and telephone equipment. Other important procurements include those for STARCOM (the Army's long-haul communications system) and communication security (COMSEC) equipment.

f. Ammunition

For ammunition the Army's revised FY 1967 program includes $1,361 million ($584 million in the Supplemental request). For FY 1968, $2,224 million is requested.

Procurement of small arms ammunition, (5.56mm, 7.62mm, and 30 caliber) will continue to increase in FY 1968 (2.2 billion rounds as compared to 1.8 billion rounds in FY 1967) in order to meet projected needs in Southeast Asia.

Procurement of 40mm ammunition will increase from about 3 million rounds in FY 1967 to approximately 10 million rounds in FY 1968; this ammunition is used primarily with the M-79 grenade launcher and a rapid fire helicopter-mounted version of this launcher widely employed in Vietnam.

Similarly, the increases shown for 81mm, 105mm, 106mm, and 4.2 inch cartridges and the 2.75 inch rockets are related to projected Southeast Asia consumption requirements. The increase in 152mm ammunition procurement is to build up initial inventories for the weapons being mounted on the M-60 tank and the General Sheridan vehicle. Larger quantities of 155mm ammunition are required to meet the growing inventory of 155 self-propelled howitzers and to provide for increased consumption in Vietnam.

The 2.75" rocket which is fired from Army helicopters, is being used in large quantity in Vietnam. In FY 1968 we expect to procure approximately 805 thousand rounds of 2.75" ammunition.

The last major ammunition item, the 66mm rocket, is the Light Anti-tank Weapon (LAW) which must now be bought in larger quantities as stocks of the 3.5 inch rocket (which it replaces) are consumed.

g. Other Support Equipment

The revised FY 1967 program for other support equipment totals $608 million ($247 million in the Supplemental request). These funds are required for such items as electric field generators, road graders, cranes, tractors, bridge components, shop equipment, fork lift trucks, etc. For FY 1968, $437 million is requested.

h. Production Base Program

The revised FY 1967 program for production base support totals $272 million, ($220 million in the Supplemental request). For FY 1968, $95 million is requested.

D. NAVY GENERAL PURPOSE FORCES

The Navy General Purpose Forces proposed for the FY 1968-72 period are shown on Table 7. Except for the Vietnam-related forces, the major changes from the program planned last year concern the anti-submarine warfare forces, the guided missile ships, the amphibious ships, and the minesweepers. There is, however, one general problem in this area which deserves special mention, and that is the dolorous state of the American shipbuilding industry.

It has become increasingly apparent in recent years that our shipbuilding industry, both public and private, has fallen far behind its competitors in other countries. Not only does it cost twice as much to build a ship in this country, it also takes twice as long. The reason for this highly unsatisfactory situation is not simply the difference in wage rates between the United States and other nations, or the inefficiency of American labor; other American industries, notably automobile, aircraft, and computers, have been more than able to hold their own against foreign competition. The root cause of the trouble is much more fundamental -- despite the efforts of several shipbuilding firms to modernize their facilities -- the American shipbuilding industry is generally technically obsolescent compared to those of Northern Europe and Japan.

This is a startling development in view of the fact that the United States is the most highly industrialized nation in the world. It is even more startling when we realize that the modernization of the European and Japanese yards has been achieved by applying, on a massive scale, U.S. automobile and aircraft manufacturing technology to shipbuilding. Let me read you two paragraphs from a report prepared by Assistant Secretary of the Navy Bannerman and the Chief of Naval Materiel, Admiral Galantin, following their visit to a number of North European shipyards:

> "The first obvious improvement was in the handling of new materials. Steel plate and shapes, stocked near the plant, are moved on to rollers and the processes of cleaning, shot blasting, priming, cutting and frequently shaping and welding are done automatically, as remotely controlled machine operations, with an amazingly small number of people, and with a minimum crossing as material moves to the assembly area. The assembly of each major sub-section is done in a fixed position indoors wherever possible. Significantly, these subdivisions are very large (up to 600 tons), thus minimizing individual handling operations. As a major sub-section is assembled indoors, piping, ventilation, wiring and work normally considered as outfitting are incorporated as much as possible and they are then moved into place on the building ways where the remaining structure is joined. This latter concept is in being or planned in most of the modernized yards.

"Important improvements have been made in the use of computers. Given the significant basic design parameters of a proposed ship, several yards had programs whereby their computers provide the required hull dimensions, lofting, weight of steel, power requirements, optimum compartmentation, etc. with great flexibility in casting up changes as needed by the specific requirements of individual ships. Depending upon past experience with the design, computers supply tapes which can be directly employed for programming and scheduling the work flow of all production and outfitting throughout the building cycle and for numerical control of the burning and welding processes in the shops. Through automatic drafting machines, these computers turn out production drawings without the use of draftsmen. The simplification and savings in labor in comparison with conventional manual methods are enormous. Some of the above improvements are in use in some U. S. yards today and some are in trial stages. However, it is believed that no U.S. yard has developed the completely integrated controls and production processes that we saw in northern Europe."

Unfortunately, public discussion of the shipbuilding problem in this country has been focused on what is actually the minor part -- its relationship to the Merchant Marine problem. I can well understand why the American Flag Line operators should wish to sever the present interlocking relationship between the Merchant Marine and the shipbuilding industry; they could buy ships abroad at half the price and get delivery in about half the time. But while this divorce might solve the problem of the Merchant Marine, it would not solve the problem of the Defense Department. The U. S. Merchant Marine provides only a few hundred million dollars of work per year to the shipbuilding industry; Navy work amounts to between \$2 and \$2½ billion a year. Thus the Defense Department, and the taxpayer, has a stake in the American shipbuilding industry which goes far beyond the immediate problems concerning the Merchant Marine.

Obviously, the more fundamental solution is to revitalize the American shipbuilding industry. Although we may never be able to overcome completely the wage rate differential, there is no reason why the American shipbuilding industry should not be, in a technological sense, as good as the best any other country has to offer. We have the technology and the manufacturing "know how"; what we need to do is to find some way in which they can be applied to the American shipbuilding industry and some way to finance the relatively large investments that would be required.

With regard to Navy work, the Defense Department has already embarked on such a program. Wherever feasible, we are grouping our annual shipbuilding programs into multi-year procurement. Last summer, the ten DEs provided in the FY 1966 program were combined with the ten in the FY 1967 program and the entire quantity of 20 was awarded to a single private yard. Similarly, six LSTs in the FY 1966 program were combined with the eleven in the FY 1967 program and awarded to another private yard. Needless to say, both of these programs were awarded on a competitive basis.

Of perhaps greater significance over the longer run is the new procurement package approach, of which the Fast Deployment Logistics (FDL) ship is an outstanding example. Under this approach, the shipbuilder is asked to bid on the entire package -- design, development, and construction -- of a relatively large number of ships to be delivered over a period of years, much like the package approach to aircraft procurement. Several new programs of this type are contemplated, and I will discuss these in context with our proposals for the Navy General Purpose Forces in the FY 1968-72 period.

1. Attack Carrier Forces

Last year, I described to the Committee a new plan under which we would maintain an active fleet of 15 attack carriers and 12 air wing equivalents, instead of the 13 carriers and 13 air wings we were planning on before. We made this change because the new force structure promises to provide significantly more usable combat power than the one previously planned -- and at no increase in cost. However, a force of 15 carriers and 12 air wing equivalents would require some change in the present mode of operation. Carriers would normally deploy in peacetime with less than the maximum complement of aircraft and additional aircraft would be flown to the carriers when and as needed. In effect, we would be treating the attack carrier as a forward floating air base, deploying the aircraft as the situation requires, much as we do in the present carrier operations off Vietnam. It is this kind of operational flexibility that enables the attack carriers to make a unique contribution to our overall tactical air capabilities.

Although the adjustment of the air wings to the new force structure is scheduled to begin in FY 1968 and be completed by FY 1971, the total number of combat aircraft assigned to the attack carrier force will remain virtually unchanged. You may recall that two years ago, in a decision unrelated to the number of carrier wings, we decided to increase the number of light attack aircraft per squadron [redacted] and the number of light attack squadrons per FORRESTAL-class carrier from [redacted] In terms of aircraft assigned, these increases, together with the replacement of ESSEX-class carriers with the much larger FORRESTALs and ENTERPRISEs will just about offset the reduction to 12 equivalent air wings. In other words, each equivalent air wing in FY 1971 will have about 25 percent more aircraft than the present average air wing.

a. Ships

As shown on Table 7, the attack carrier force at the end of the current fiscal year will consist of one nuclear-powered carrier, the ENTERPRISE, and seven FORRESTAL-, two MIDWAY- and five ESSEX-class. In FY 1969, the last of the conventionally-powered attack carriers now under construction, the JOHN F. KENNEDY, will join the Fleet, followed in FY 1972 by the second of the nuclear-powered carriers.

Last year we had planned to start the modernization of the FRANKLIN D. ROOSEVELT in FY 1968, when the MIDWAY was to have completed her modernization and rejoined the Fleet. However, it now appears that because of an increase in the scope of the work, the MIDWAY will not be ready to rejoin the Fleet until late FY 1969. Inasmuch as we plan to start construction of a new nuclear-powered attack carrier in that fiscal year, we now propose to delay the start of modernization of the FDR until FY 1970 so as to avoid peaking the workload in the shipyards. This means that we will have three MIDWAY-class carriers in the Fleet for a short period of time just before the end of FY 1969 and four ESSEX-class. In order to avoid having to lay up one of the ESSEX-class carriers in FY 1969 and then bring it back into the Fleet in FY 1970, we propose to retain all four during FY 1969, thus giving us a temporary force of 16 carriers at the end of that fiscal year. In FY 1970, when the FDR begins her modernization, the total number of attack carriers will again be 15.

When the FDR rejoins the Fleet in FY 1973, the attack carrier force will comprise two nuclear-powered ENTERPRISE-class, and eight FORRESTAL-, three MIDWAY- and two ESSEX-class carriers. As I stated last year, if we are to retain a force of 15 carriers, two more will have to be provided. These are scheduled for the FY 1969 and FY 1971 construction programs and both will be nuclear powered. Fifty million dollars is included in the FY 1968 budget for long lead time components for the FY 1969 carrier. When these ships are delivered to the Fleet, the remaining ESSEX-class carriers will be retired from the CVA force, which would then consist of four nuclear-powered, eight FORRESTAL- and three MIDWAY-class carriers, for a total of 15.

b. Carrier Aircraft

No major change is contemplated in the composition of the aircraft complement of the attack carrier forces from that projected a year ago. The decline in the number of fighter aircraft after FY 1967 reflects two factors -- the previously mentioned reduction from 15 to 12 air wing equivalents beginning in FY 1968, and the substitution of the more capable F-111B for other fighter aircraft on a less than one for one basis beginning in FY 1970. The transition from 15 to 12 air wings should be completed by FY 1971, at which time the fighter force will consist of 21 squadrons (12 aircraft each) -- 3 F-111Bs, 12 F-4s and 6 F-8s. The F-8 squadrons are retained for the ESSEX-class carriers which cannot effectively operate the F-4s or F-111Bs. Four more F-111B squadrons should replace six of the F-4 squadrons and two of the F-8 squadrons in FY 1972, thus providing a force of seven F-111B, six F-4 and four F-8 squadrons.

By end FY 1971, when the transition to the 12 equivalent air wings is complete, we will have a total of 57 attack squadrons -- 12 A-6 (9 aircraft each), 13 A-4 and 32 of the new A-7 (both with 14 aircraft each). The first few A-7s are scheduled to be delivered to the Fleet by the end of the current fiscal year, and by end FY 1973 we expect to achieve our objective of 42 squadrons (588 aircraft).

Inasmuch as the A-3 heavy attack aircraft (shown in the next block of Table 7) are no longer required for the strategic mission, they are now being used as tankers to extend the range of "shorter-legged" Navy aircraft. However, the tanker configuration package is readily removable and these aircraft can be reconverted to the attack role in a matter of days, if required. [redacted]

Although the number of reconnaissance aircraft shown on Table 7 declines after FY 1967, we actually plan to maintain this force at about the present level. A reconnaissance aircraft's overall performance is determined primarily by its specialized reconnaissance equipment -- i.e., the sensors, computers, etc. -- rather than its airframe. We have a number of aircraft in which such equipment can be installed -- the F-4 which is now in large scale production, the F-8 which is now being re-worked in large numbers, and the F-111 which is now coming into large scale production. There is also the possibility of increasing our presently planned procurement of the RA-5C, which, like the RF-8, is already being used in the reconnaissance role. With these alternatives available, we will have sufficient time to make a decision next year on which additional aircraft to procure in order to maintain the reconnaissance forces at the present level.

In the ECM/AEW area, the forces are essentially the same as those I presented last year, although there has been a slippage of one year in the expected introduction of the EA-6B. The work involved in converting the A-6A to the ECM role has turned out to be considerably greater than anticipated, and the costs will be significantly higher. But the EA-6B promises to be far more capable than the EA-1 which it will replace. [redacted]

No significant changes have been made in the combat readiness training aircraft forces but they have been regrouped in order to relate them more closely to the forces assigned to the carriers. All except the "Other" category are combat-capable aircraft used for readiness training.

2. ASW and Destroyer Forces

Three years ago, in recognition of the unsatisfactory state of our knowledge in anti-submarine warfare (ASW), I requested the Navy to undertake systematic, long-term studies of all of the related aspects of the problem. From these studies has come a much better understanding of both the character and extent of the threat and the capabilities of the forces required to cope with it.

[redacted]

[redacted]

As a result of these continuing studies, it now appears that some additional changes should be made in our ASW program. These involve the size of our ASW carrier forces, the substitution of land-based patrol aircraft for the seaplanes, and the extension of the SOSUS system into the central and far Pacific. I will discuss these and other less important changes in context with our proposals for the ASW forces through the FY 1968-72 program period.

a. ASW Carriers

We now have eight ESSEX-class ASW carriers, one of which, the INTREPID, is temporarily operating as an attack carrier in support of Southeast Asia operations. Our studies show that compared with other ASW forces, the CVS ASW Group is a relatively high cost system of limited effectiveness. The fixed-wing ASW aircraft aboard these carriers are able to detect the presence of enemy submarines but they are not very good at pinpointing their location and they have virtually no capability for destroying them. The carriers' helicopters, while able to pinpoint the submarines and destroy them, have a relatively limited operating range. Yet, the annual operating cost of a CVS is about $32 million, including about $17½ million for the aircraft complement.

As the newer ASW systems -- the SSNs, the DEs, the P-3 patrol aircraft, etc. -- join the Fleet in increasing numbers, the relative value of the ASW carriers will continue to decline. Accordingly, we now propose to reduce the force from eight to six carriers in FY 1969, assuming the conflict in Vietnam ends in FY 1968. We propose to hold the CVS force at six carriers pending the outcome of a number of promising developments now underway which give hope of a significant improvement in CVS aircraft capabilities. These include a new directional sonobuoy, a new airborne ASW radar, and new airborne data processing equipment. If these and other related programs succeed in raising the overall effectiveness of the CVS to the point where it becomes desirable to rebuild the size of the carrier force, this can be done quite readily since one ESSEX-class carrier will be phasing out of the attack role in FY 1969 and another in FY 1972. By holding these two carriers in the ASW role, the force could be rebuilt to eight.

As shown on the second page of Table 7, the older SH-34 helicopters have already been replaced by the new SH-3, 16 per CVS. The CVAs will also be provided SH-3 ASW helicopters, and by FY 1970 a force of 45 SH-3s will have been established to provide detachments of from 3 to 6 of these helicopters for each deployed CVA.

The older S-2s will have been completely replaced by the newer S-2Es by the end of FY 1967, with a complement of 20 aircraft per CVS. However, the S-2E is a relatively small aircraft and would be unable to carry the advanced sensor and data-processing equipment required to combat a more sophisticated submarine threat which might emerge in the future. While full scale development and procurement of a replacement aircraft should not be undertaken until the role of the CVS in the overall ASW effort of the 1970s has been clarified and until the need for a more sophisticated capability has been clearly demonstrated, we have included

$25 million for contract definition of a new ASW aircraft (VSX) should further study warrant our going ahead with this program.

In addition to its ASW aircraft, each CVS is authorized four A-4s in order to provide a limited intercept and air defense capability. Finally, we will continue to maintain eight squadrons of carrier-based ASW search aircraft and four squadrons of ASW helicopters in the Naval Reserve forces for the four CVSs we plan to retain in the Reserve Fleet.

b. Attack Submarine Forces

By the end of the current fiscal year the submarine force, excluding POLARIS, will number 105 submarines, 32 of which will be nuclear powered. We have continued to encounter difficulty in getting the SSN program on schedule, principally because of the Submarine Safety Program and a shortage of skilled workers. As a result, we will have eight fewer SSNs in the force at end FY 1967 than planned last year, but we hope to make up most of this shortfall next year and be back on our original deployment schedule by the end of FY 1970. In the meantime, we propose to offset this slippage by delaying the phaseout of an equivalent number of conventionally powered submarines.

The principal missions of the attack submarine force are the establishment and maintenance of submarine barriers and forward area operations in wartime. [redacted]

As I pointed out last year, a force of about 64 "first class" SSNs would be needed for the forward barrier operations. Through FY 1967 a total of 61 SSNs have been funded, one of which, the THRESHER, was lost. Two nuclear-powered submarines (one radar picket and one REGULUS missile equippped SSN) have been reassigned to the SSN role, making a total of 62 available. However, these two submarines and the two earliest SSNs are not deemed suitable for forward barrier operations, leaving 58 available for that mission. Five SSNs were provided by the Congress in FY 1967, leaving a total of six SSNs to be funded in FY 1968 and FY 1969. We now propose to start three more SSNs in FY 1968 and three in FY 1969. This program will give us a total of 64 first-class SSNs by FY 1973, plus four other SSNs which could be used together with the conventionally powered submarines for other ASW missions. If our continuing study of the ASW problem should indicate that additional SSNs are required, we can add to this program next year.

Sonar improvements will be made on all of the earlier SSNs earmarked for the forward barrier operations. About $22 million was included in the FY 1967 budget to start this program and $6 million more is requested for FY 1968.

Originally, we had intended to modernize twelve conventionally powered submarines (Korean War vintage or later), including provision of improved sonar. Last year, when it became apparent that these sonars were not going to be available in time, we decided to go ahead with the modernization of the first five submarines without the sonar improvements. It now appears that the new sonar components will still not be available for installation in the remaining seven submarines in FY 1968. Moreover, other modernization costs have risen to the point where we now believe that it is no longer practical to proceed with the program. Accordingly, the plan to modernize these seven submarines in FY 1968 has been dropped.

In the Submarine Direct Support category, we propose a phased replacement program for our present submarine rescue ships (ASRs). All of the ten ASRs in the force today are converted fleet tugs built during World War II, and their age can soon be expected to affect their reliability and performance. Moreover, these older ships are unable to support some of the important new techniques and new rescue and salvage equipment now being developed. Therefore, we tentatively propose to construct five new ASRs during the FY 1967-72 period, one each year except for FY 1970. These new ASRs will have catamaran (i.e., twin) hulls and provide much greater deck space, including a helicopter platform, and better sea-keeping qualities than the present ships. They will be capable of operating two rescue submersibles and supporting divers at great depths for prolonged periods. We are requesting $17.7 million for the ASR in FY 1968.

In addition to the ten ASRs, which we plan to maintain throughout the period, the Submarine Direct Support force includes six submarine tenders (AS) and nine auxiliary submarines (AGSS). Two new submarine tenders are tentatively scheduled to be constructed, one each in FY 1969 and FY 1971.

c. ASW Escorts

The requirement for ASW escorts can be met by several different types of ships, most of which are also capable of performing other missions such as patrol, fire support, and anti-air-warfare. In planning for our future ASW escort forces, all ships with an ASW capability are taken into account. However, only the destroyer types without a SAM capability are included under the ASW category on the table; the SAM ships are listed separately and will be discussed later.

The major contingency which the ASW escort forces would have to meet is that of a two-ocean war at sea, [redacted] This number would provide escorts for the attack carriers, the ASW carriers, the amphibious forces, and the merchant convoys in both oceans, plus a reserve for overhaul and attrition. The program we propose provides by FY 1972 an active force of 275 ships (including the ASW-capable SAM ships discussed later), which together with 37 highly ready DD/DDR/DEs in the Naval Reserve and 51 "mothballed" ships for which we actually buy ordnance, should be able to meet the requirement as we now see it. In addition to these 51 escorts, we will, of course, have a large number of Category CHARLIE ships in the Reserve Fleet, 219 at the end of the current fiscal year, declining to about 125 by the end of FY 1972.

As shown on Table 7, by the end of the current fiscal year there will be 173 destroyers (DDs), 29 destroyer escorts (DEs), 3 gun frigates (DLs), and 6 radar picket destroyers (DDRs). In addition there will be 17 radar picket escorts (DERs), 14 of which are now being used off Vietnam for the MARKET TIME coastal search and surveillance mission. The other 3 DERs support Operation DEEP FREEZE.

Two years ago we proposed a phased replacement program for the destroyer escort force, with 10 new DEs to be built each year. In accord with that plan $298 million has been included in the FY 1968 request for 10 more of these ships. All of the DEs funded since FY 1964 are being equipped with the new highly effective SQS-26 ASW sonar and the ASROC anti-submarine weapon system. These new DEs will also have longer cruising range and better command and control features than the earlier DEs.

With respect to the years beyond FY 1968, it now appears that substantial construction and operating economies could be achieved with a newly designed ship (tentatively designated the DX) employing the "total package" procurement concept and a large multi-year buy. It may also be possible to use the same approach and the same or a similar design for a new class of guided missile ships (tentatively designated the DXG). Accordingly, we propose to initiate a new program which would provide for:

(1) standardized design and serial production of a sizable quantity of identical ships in order to minimize total procurement cost;

(2) incentives to the contractor to design a highly automated ship requiring minimum manning in order to reduce operating costs;

(3) standardization in order to reduce logistic support costs;

(4) possible standardization/integration of the DX and DXG in order to maximize further the advantages of standardization and serial construction (e.g., both ships might have the same hull and differ only in their weapons systems, or perhaps their hulls could have common bow and stern sections with separate mid-sections for each type);

(5) possible use of modular design concepts so that major components (e.g., specific weapons systems) could be installed and removed en bloc, facilitating both repair and future modernization.

We have included $30 million in the FY 1968 Budget to initiate concept formulation and contract definition of the DX/DXG. At the conclusion of the contract definition phase the entire program will be re-evaluated in the light of the detailed designs and cost estimates which result, but for planning purposes we are assuming a construction program of 75 DXs over the FY 1969-74 period. We have tentatively scheduled 12 of these new ships each year FY 1969-71, and 13 each year FY 1972-74. (I will discuss the DXG later in connection with the SAM ship program.)

We are also continuing to improve the SQS-23 sonars on most of the earlier DEs and on a large number of DDs, guided missile destroyers (DDGs), and cruisers (CG/CGNs). This program will just about double the submarine detection and classification capabilities of these ships. About $18 million was programmed for this purpose in FY 1966, about $11 million in FY 1967, and we are requesting another $24 million in FY 1968.

Last year, I reported that delays in the production of the SQS-26 sonar were expected to slow delivery of some of the new destroyer escorts. Indeed, the number of DEs in the force at end FY 1966 was actually three less than expected last year. However, this shortfall is now being made up and the forces shown on the table for the FY 1967-71 period are the same as a year ago. By FY 1972, our plans call for 83 DEs in the active force.

The 14 DERs now being used for the Vietnam coastal patrol are scheduled to phase out in FY 1969 on the assumption that combat operations will have ceased by that time. By FY 1971 all of the DDRs and DERs will have been phased out of active service.

As I described a year ago, we are taking steps to improve the ASW capabilities of 13 remaining DD-931 class destroyers, all of which are less than twelve years old. We are providing them with ASROC, improved communications, a new variable depth sonar (VDS), improved ECM capabilities, the improvements to the SQS-23 sonar, a modern ASW combat information center, etc. -- at a cost of about $14 million each. Since the VDS equipment will not be available before FY 1969, the ships are being rewired now to accept it later when it does become available. With these improvements, the 13 remaining DDs should offer comparable, and in some ways even better, ASW performance than the new DEs we are building.

Originally, having funded one in FY 1964, we planned on five of these DD-931 conversions in FY 1966 and five this year, with the last three scheduled for FY 1968. However, because of equipment procurement problems, we have rescheduled the program. We have one in conversion now and plan to start three conversions this year, seven more in FY 1968, and the last three in FY 1969, as shown in Table 8.

d. Patrol Aircraft

While we still plan to maintain a total of 30 squadrons of ASW patrol aircraft, we now propose to phase out the three remaining squadrons of seaplanes (SP-5) and retain, instead, three squadrons of SP-2 land-based patrol aircraft. One squadron will be converted this year and the other two in FY 1968. This change will permit us to decommission the three remaining seaplane support ships (AVs) and thereby save $17 million per year in operating and indirect costs, with no reduction in our overall ASW or surveillance capability. Except for these three squadrons (12 aircraft each), all the SP-2s will be phased out of the active ASW patrol forces by end FY 1971 and replaced with 27 squadrons [redacted] of the new P-3s. (Ten squadrons of SP-2s will be retained in the Navy Reserve.)

Beginning in FY 1968, all new P-3s will be procured with the A-NEW avionics system and when the force build-up is completed, we will have nine squadrons so equipped. The A-NEW system should greatly improve the overall effectiveness of the P-3 by increasing its capacity to analyze data from either existing or new sensors.

[redacted]

[redacted]

[redacted]

3. Multi-Purpose SAM Ships

The multi-purpose surface-to-air missile (SAM) ships provide an important part of the Fleet's anti-air warfare (AAW) capability. As I described last year, our current program objective for the SAM force is 79 ships, a level we expect to achieve in FY 1973. This force would provide four guided missile escort ships for each of our 15 attack carrier groups and two ships for each of the four CVS groups operating independently in areas subject to enemy attack, leaving 11 ships available for other missions (e.g., amphibious assault operations, underway replenishment, etc.). Since peak requirements are unlikely to occur in all areas simultaneously, and since the CVAs will frequently be operating together or with CVSs, more than the 11 SAM ships will be available for assignment to other missions as needed. These multi-purpose SAM ships, as I noted previously, also provide a significant portion of the fleet's ASW capability.

By the end of FY 1967 the SAM ship force will consist of 70 ships, three of them nuclear powered. A year ago we had expected to have 27 guided missile frigates (DLGs) in the force by the end of FY 1966. However, priority work associated with the Southeast Asia ship deployments delayed delivery of some of these DLGs and they will not enter the force until this fiscal year. Similarly, tardy deliveries of the SQS-26 sonars has caused some slippage in the previous schedule for the guided missile escort ships (DEGs). Four of these ships originally funded in FY 1962-63 had been scheduled to enter the force in FY 1966, with the last two being delivered in the current fiscal year. Now, as shown on Table 7, the last two are not scheduled to be delivered until FY 1968.

Last year Congress added funds to our original budget request for construction of a nuclear-powered frigate. As you know, we did not recommend the inclusion of such a ship in our FY 1967 program. However, we have decided to proceed with construction this year, building it ahead of the time it will actually be needed to support the plan for one high speed nuclear-powered escort (three DLGNs and one CGN) for each of the four planned nuclear-powered carriers. (The fourth nuclear-powered carrier will not be recommended for authorization until FY 1971.)

I am also again recommending the construction of two guided-missile destroyers (DDGs). As I noted last year, the DDGs would provide AAW and ASW capabilities to the fleet simultaneously, thereby reducing our requirement for DEs (which are primarily limited to ASW). The construction of these two conventionally powered SAM ships will promote missile ship design and technology, and provide us with valuable recent experience upon which to base our plans for the DX/DXG program. (The last DDGs were funded in FY 1961, the last frigates in FY 1962.)

[redacted]

The new DDGs and DLGN would have significantly improved AAW and ASW capabilities compared with present SAM ships, particularly in a hostile ECM environment. The recent improvements in SAM technology will give these ships highly capable and reliable missile launch, fire control, and data handling systems. They will employ the new STANDARD missile and be equipped with the latest ASW equipment, the Navy Tactical Data System, and the improved SQS-26 sonar. Provisions would, of course, be made to incorporate new systems and technologies as they become available, and space will be provided for this. Some $167 million is requested for the two DDGs in FY 1968.

With the two new DDGs and the new DLGN, we would have a total of 80 SAM ships authorized compared with a currently estimated requirement of 79. However, 11 of our present guided missile cruisers have World War II vintage hulls and obsolescent missile systems and are expensive to operate. Moreover, the six DEGs, although new and economical to operate, provide only a limited guided missile capability because of their small size. Accordingly, we now propose to replace these 17 ships in the early 1970s with a new class of missile ship, the previously mentioned DXG. This ship, with the latest SAM systems and highly automated controls, should have a high effectiveness and low operating cost. (The six DEGs would be reassigned to the ASW role, and all of the World War II cruisers would eventually be phased out of the active Fleet, although we may wish to retain two of them for a time as fire support ships.) We have tentatively scheduled construction of 16 of these DXGs, two in FY 1969, three in each year FY 1970 through FY 1973, and the last two in FY 1974. The replacement of the 17 cruisers and DEGs with sixteen DXGs would bring the SAM ship force level to the programmed total of 79.

The AAW modernization program for the multi-purpose SAM ships has been revised partially because of schedule slippages and partially in order to achieve greater weapons system standardization and shortened conversion time. Last year, we proposed to convert or modernize three cruisers and 16 frigates over the FY 1967-70 period. We now propose to cancel two cruiser conversions, defer the third from FY 1967 to FY 1969, and reschedule the 16 frigates over the FY 1967-71 period, as shown on Table 8.

In addition to this modernization and conversion program, we are continuing the SAM Improvement Program, under which the STANDARD missile is now being procured to replace both TARTAR and TERRIER. The STANDARD can be fired from either TARTAR or TERRIER launchers and is produced in both the medium range and extended range versions. It provides much higher reliability, faster reaction time, improved high altitude and multiple-target capabilities, and easier maintenance than the older missiles.

[redacted]

Last year I mentioned that we were studying the feasibility of providing a "close-in" or "point" air defense capability for other types of combat ships. We now propose to procure and install a basic Point Defense Surface Missile System (PDSMS) on ships which are not likely to encounter the more sophisticated forms of air attack and which do not generally operate in the company of regular SAM ships -- e.g., amphibious assault ships and destroyer types operating independently near hostile land areas. This system makes use of existing hardware (e.g., SPARROW III missiles) and can be installed on existing gun mount foundations. It will provide a significant improvement in short range anti-aircraft defense over current conventional gun type systems, both in terms of numbers of targets engaged and in kill probability. About $14 million has been included in the FY 1968 Budget for the first 30 PDSMS systems and we tentatively plan to buy 45 more in FY 1969. An advanced PDSMS is now under development to meet the needs of the 1970s.

4. Other Combatant Ships

At end FY 1967, there will be 23 ships in the Small Patrol category and the planned force level of 33 ships should be attained by end FY 1969. These ships are used for coastal surveillance and patrol, and many of them are now operating off Vietnam. Ten fast patrol boats (PTFs) costing $17 million have been added to the FY 1967 program.

The primary mission of fire support ships is to provide a heavy concentration of ship-to-shore fire during amphibious assaults. The heavy gun cruisers provide accurate long-range, all-weather eight inch fire for distant hard targets, and the rocket-launching ships (LSMRs and the IFS) provide area saturation fire for covering the actual assault wave or for attacking enemy troop concentrations. In addition to the six fire support ships shown in the Other Combatant category, there are eight SAM cruisers with six or eight inch guns which can also provide major caliber gunfire support for amphibious operations, and, of course, the destroyers could also be used for gunfire support.

However, the Navy is presently studying the feasibility of a new type of landing force support ship which would combine the fire support capabilities of the cruiser's heavy guns and the rocket ship's saturation fire. Pending the outcome of these studies, we plan to retain the four rocket ships and two cruisers in the Fire Support force through FY 1972.

5. Amphibious Assault Ships

Last year I informed the Committee that while our objectives of achieving a modernized (20-knot) amphibious lift for one and a half Marine Expeditionary Forces (MEFS, or division/wing teams) and sufficient

[redacted]

[redacted]

older ships to provide a slower lift for another half of a MEF remained the same, further study of the composition of the force had convinced us that some modification of the future construction program was desirable. I also noted that the Navy was investigating the possibility of designing a multi-purpose ship which could combine the features of several different types of amphibious ships and that one of the reasons we had rescheduled the program was to provide time to develop a design for this new ship.

Over the years since the end of World War II both the tactics and the equipment of the amphibious forces have undergone a continuing evolution. Up through the Korean War, the ocean-going amphibious fleet consisted primarily of ships specialized in terms of what they carried -- attack transports (APAs) for personnel, attack cargo ships (AKAs) for general supplies and equipment, landing ship docks (LSDs) for carrying and launching landing craft, and the tank landing ships (LSTs) for heavy equipment. In making the assault the men and equipment were off-loaded over the side from the APAs and AKAs into landing craft which, together with the LSTs carrying the tactical vehicles, then proceeded to the beach.

In the post-Korean period the rapid development of the helicopter opened up a new type of assault tactic called "vertical envelopment" in which the helicopter was used to transport both men and equipment during the assault phase. To provide a platform for these helicopters, we modified some of our older aircraft carriers into amphibious assault ships (LPHs). To provide a conventional over-the-beach capability we built new LSDs which are capable of launching relatively large preloaded landing craft from its floodable wells. Thus, we began to specialize our new amphibious ships in terms of the assault tactic they were designed to employ, although of course the older types continued to constitute a large portion of the amphibious fleet.

The next logical development was to design a ship which would be capable of both over-the-beach and vertical envelopment assault tactics. Our initial effort with such an all-purpose ship was the amphibious transport dock (LPD). Unfortunately, experience has shown that our current LPDs are too small to be truly effective as a multi-purpose amphibious ship in the assault role and they cannot by themselves serve as a replacement for a variety of specialized ships. For this purpose we need a bigger assault ship capable of landing, either by air or by sea, a much larger and more balanced land force than is now possible with any existing amphibious vessel, and this was the type of ship I mentioned last year.

[redacted]

Our further study of this problem indicates that the development of such a ship is not only feasible but highly desirable. On the basis of the Navy's preliminary design work, this amphibious assault ship, now designated the LHA, would be quite large (about 40,000 tons, compared with less than 18,000 tons for the LPD) and would have both a boat well and a helicopter deck. It would be able to carry as many troops and helicopters as the LPH, as much cargo as an existing AKA and as many landing craft as the LSD. Operating together with one or two LSTs (for over-the-beach landing of the tanks and other heavy equipment) one LHA could handle an entire Marine Corps battalion landing team. At present, five amphibious ships (an LSD, LPH, AKA and two LSTs) are typically required to do this job. The LHA would also overcome one of the major shortcomings of the specialized ships, i.e., the imbalance which occurs when one of the specialized ships is lost. The LHA would not only carry a balanced load of men, equipment, and supplies, but because of its size, should be more difficult to sink. Moreover, a smaller number of large ships are easier to protect against air and submarine attack and from mines than a large number of smaller specialized ships.

In view of these advantages, we now propose to substitute the construction of six LHAs (at an estimated cost of about $650 million) in lieu of 18 of the specialized amphibious ships (with an estimated cost of about $600 million) which we had previously programmed. The first of these LHAs has been included in the FY 1968 program, and we tentatively plan two more in FY 1969 and the other three in FY 1970. As in the case of the C-5A and the Fast Deployment Logistics ships, we plan to use the two step contract definition, total package procurement technique for the LHAs, and $18 million is included in the FY 1968 Budget for contract definition.

One of the goals we hope to achieve in this program is a considerable reduction in operating costs. To this end the competing contractors will be encouraged to design this ship so that it can be operated by significantly fewer personnel than previous ships of this size. Our preliminary analyses show that this program will not only permit us to achieve our objective of a 20-knot lift for one and a half Marine Expeditionary Forces (MEFs) more effectively (from a military point of view), but also more economically (13 percent lower on a 10-year systems cost basis) than we could under the program proposed last year. Under this revised program, the 20-knot/one and a half MEF lift capability should be realized by the end of FY 1973 when the last of the LHAs phase into the force.

[redacted]

For FY 1969 we have tentatively scheduled the construction of seven LSTs and a third amphibious force flagship (AGC) as a backup ship for the two new AGCs funded in FY 1965 and FY 1966. The three new AGCs, together with three older ships, will give us two AGCs for each ocean -- with a third ship in each ocean as a backup to offset regular overhauls, or to meet unanticipated contingencies. When the proposed construction program is completed in FY 1973, the amphibious forces will consist of 129 ships (excluding three miscellaneous types), 69 of which will have been delivered to the Fleet in FY 1962 or later years.

6. Mine Countermeasure Force

At the end of this fiscal year we will have a mine countermeasure force of 88 ships, composed of 64 ocean minesweepers (MSOs), 18 coastal minesweepers (MSCs), three mine countermeasures support ships (MCSs), and three other support ships.

In order to modernize this force and improve its mine countermeasure capabilities, we propose to undertake a major rehabilitation program for all the existing MSOs [redacted] The proposed modernization program will add at least 10 years to the useful life of these ships at about half the cost of new construction. Improved engines, new navigational and communication systems, and the latest sonars, minesweeping, and neutralization devices will be installed, giving these ships a minehunting and neutralization, as well as a minesweeping, capability. We propose to start the rehabilitation of nine MSOs in FY 1968 (for which we are requesting $33 million) and have tentatively scheduled ten more each year through FY 1973, with the last five in FY 1974. [redacted]

In FY 1970 we will receive the first six new MSOs from our presently planned 16-ship construction program. Four MSOs were funded in FY 1966, five more in FY 1967, and we are requesting $61 million in FY 1968 for the last seven. As these new MSOs enter the force, we will phase out the old coastal minesweepers (MSCs) on a one-for-one basis. [redacted]

[redacted]

To round out the modernization of our mine countermeasure forces, we plan to build two mine countermeasure support ships (MCSs) and two more minesweeper special (MSS) "guinea pig" ships. As I stated last year, we plan to begin one MCS in FY 1969 and another in FY 1970. Two of these ships have already been started; one joined the force in FY 1966 and another will be delivered this year. These MCSs carry two minesweeping helicopters and 20 small minesweeping launches for close inshore work and can also provide limited logistic support to the ocean minesweepers. The MSS is a converted Liberty ship [redacted] We expect the first of these ships to join the Fleet in FY 1968, and we tentatively plan to convert another in FY 1969 and a third in FY 1970. Since these are not commissioned ships, they are not counted in the totals shown on the table.

Last year we initiated a program to provide about 70 Marine Corps assault helicopters (CH-53s) with a secondary mine-sweeping capability. These helicopters are embarked on assault ships but are not needed in the assault role until the assault actually begins. By providing them with relatively inexpensive removable minesweep gear, they can perform a valuable mine countermeasure mission during the pre-assault stage. Each of the helicopter assault ships (LHA/LPH) will be given a minimal capability to support the helicopter minesweeping mission. Modification of 18 helicopters to accept the sweep equipment was begun last year, and we plan to start 36 more in FY 1968. This program will give our assault forces a significantly augmented minesweeping capability against less sophisticated mines at a total cost of only about $12 million.

7. Logistical, Operational Support, and Direct Support Ships

This category includes: the underway replenishment ships; major fleet support ships such as destroyer tenders and hospital ships; and minor fleet support ships such as ocean tugs and salvage ships. As shown on Table 7 we plan a force of 185 ships at the end of the current fiscal year and 186 at end FY 1968; the decline in FY 1969 to 166 ships reflects chiefly the assumed phaseout of the temporary force augmentations associated with the Southeast Asia conflict. The projected decline to 160 ships by end FY 1972 reflects the delivery in the later years of the new, more effective, underway replenishment ships which replace older ships on a less than one-for-one basis, a reduction in the size of the CVS force, and the introduction of additional nuclear surface ships.

Qualitative shortcomings in the underway replenishment force can impact seriously on the overall effectiveness of the combatant fleet. In order to take advantage of modern re-supply methods and to complement the higher speeds of our latest ships, we have planned a long range construction program to rebuild the underway replenishment fleet. During the FY 1968-72 period we have tentatively scheduled construction of 26 ships including 10 ammunition ships (AE), 5 combat stores ships (AFS), one fast combat support ship (AOE) and 10 fleet oilers (AOR). The FY 1968 program includes two AEs and one AOE at an estimated cost of $137 million.

In the Fleet Support category, we have tentatively programmed for the FY 1969-72 period the construction of 34 ships, including two destroyer tenders (AD), three hydrofoil countermeasure support ships (AGHS), five replenishment tankers (AORL), two repair ships (AR), eight ocean tugs (ATF), and 14 salvage tugs (ATS). The auxiliary tug(ATA) procurements scheduled a year ago for FY 1968 have been dropped from the program while the Navy re-examines the question of contracting for commercial tug services; a hydrofoil countermeasures support ship also scheduled for FY 1968 has been deferred pending completion of testing of the experimental version. We have decided to defer the remaining ships originally planned for the FY 1968 Fleet Support building program in order to group these ships for multi-year buys beginning in FY 1969.

8. Marine Corps Forces

The major Marine Corps ground and air units are shown on Table 9. These forces are essentially the same as those we projected last year. The temporary units added to support the Southeast Asia deployments include a fourth active division with its associated nine infantry, one tank, one amphibian tractor, and the equivalent of five artillery battalions, four HAWK air defense batteries, and two light observation and two medium transport helicopter squadrons. The temporary units are dropped from the force after FY 1968, on the assumption that the conflict ends by that time. Thus, in FY 1969 and later years the permanent force remains at four divisions/aircraft wings (3 active and one reserve). (A fourth active duty temporary aircraft wing was not organized since it is not needed for Vietnam.)

The three active Marine aircraft wings will comprise 1348 UE aircraft at the end of FY 1967, as shown on Table 9. The aircraft for the Marine Corps Reserve wing are combined with those of the Navy Reserve Forces in Table 10, and I will discuss them later. The fighter forces will be maintained at 225 aircraft throughout the FY 1968-72 period. In FY 1968, the last of the F-8s in the active air wings will be replaced by F-4s. As additional A-6s and the new A-7s are delivered, the older A-4s will gradually phase out until by FY 1972 the attack force consists of 72 all-weather A-6s and 120 visual attack A-7s.

In the reconnaissance/ECM aircraft area, the principal change from last year's program involves the retention of the EF-10s somewhat longer than previously planned because of the EA-6B delays described earlier.

The size of the Tactical Air Control (TAC) forces, which are used to locate enemy targets and then direct the attack aircraft to them, is programmed to remain at the present level of 36 aircraft throughout the FY 1968-72 period. The older T-1s will be completely phased out of the force by end FY 1968 and the TF-9s by end FY 1969 as both these aircraft are replaced by the newer TA-4Es, the first few of which will enter the force this year.

In the transport helicopter category, we now plan to maintain the currently augmented active force level of 480 aircraft through FY 1969, while simultaneously building our Reserve structure (which had only 11 transport helicopters at end FY 1965) to a level of 144 by end FY 1969. In FY 1969 the Marine Corps transport helicopter force will return to the planned permanent level of 432. Meanwhile, we will continue to replace the older UH-34s with the new CH-46 medium transport helicopter. The CH-37s, currently in the active forces, will have been replaced by the new CH-53 heavy helicopter by the end of the current fiscal year; they will then be used to activate a new heavy helicopter squadron for the Reserve Marine division. This modernization program will be completed in FY 1970, at which time the transport helicopter force will consist of 360 CH-46s and 72 CH-53s, a major increase in Marine Corps helicopter lift capability as compared with FY 1965 and prior years.

In the light helicopter and observation category the total number of aircraft will be increased significantly in FY 1968 through the temporary retention of O-1s and UH-1s previously scheduled to phase out after the new OV-10s are delivered. In FY 1969 the force is scheduled to be reduced to its permanent level, consisting of 36 UH-1s and 54 OV-10s.

Last year we undertook a major program to increase the fixed-wing combat readiness training capabilities of the Marine Corps from about 40 aircraft to over 150; this program will be continued through FY 1972, as shown on Table 9. We also undertook at that time, on a temporary basis, a program of combat readiness training for Marine Corps helicopter pilots. In order to initiate that program promptly, and to equip two medium helicopter squadrons for the temporary active division, we diverted 48 UH-34Ds from the Marine Corps Reserve in FY 1966. We now plan to make the combat crew readiness training program permanent and to expand the force level. Later, as the OV-10 enters the operating force, we plan to add some of these aircraft to the combat readiness training force.

The numbers of tanker/transport aircraft and of support aircraft are essentially unchanged from those presented last year.

9. Navy and Marine Corps Reserve Forces

As shown on Table 10 the Navy will continue to maintain a total of about 50 ships in the Naval Reserve. These ships are partially manned with active duty personnel, with the remainder of the crew being in the Naval Reserve; they can, therefore, be mobilized on very short notice. This Fleet now consists of 38 destroyer types and 12 mine countermeasure vessels. As more modern ships become available from the active forces, older ships will be phased out. Beginning in FY 1970, as the coastal minesweepers (MSCs) are replaced in the active force by the new MSOs, they will be transferred to the reserve forces where they will replace the old MSCOs and build up the force [redacted] Similarly, the newer destroyers from the active forces will replace the older DEs now in the NRTF.

As shown at the bottom of the table, the Navy also maintains a large number of ships in the Reserve (or "mothball") Fleet, in either Category B (BRAVO) or Category C (CHARLIE) according to their physical condition and readiness status. At end FY 1967, we will have 51 destroyer types, 4 CVSs, and 20 other vessels (mostly amphibious assault ships) in the BRAVO category. While the ships in both of these categories are of approximately the same age -- all built during World War II -- BRAVO Category ships are generally in better condition, have better equipment (e.g., newer sonars), and are provided stocks of combat consumables such as ordnance. [redacted] As a newer ship phases out of the active force (or the Naval Reserve Training Fleet) into Category BRAVO, the oldest BRAVO ship is transferred into Category CHARLIE.

As I noted last year, because of their relatively poor physical condition many of the CHARLIE ships would be usable only after extensive overhaul and modernization. Accordingly, the Navy is continuously surveying these ships in order to identify those which have no further value. These ships are then scrapped or otherwise disposed of. As a result, the size of the Reserve Fleet has been progressively reduced. [redacted]

In addition, the Maritime Administration maintains in the National Defense Reserve Fleet (NDRF) [redacted] mostly non-combatant, specifically for potential Navy needs. The Commission also maintains a reserve fleet of merchant ships, but I will discuss these vessels later in connection with the Airlift and Sealift programs.

The Naval and Marine Corps Reserve air units are programmed for 738 aircraft at the end of this fiscal year, and this number will increase to about 900 by FY 1970, compared with about 760 at end FY 1965.

All of the fighters and about one-third of the attack aircraft shown on the table are earmarked for the Marine Corps Reserve air wing; the rest are for the carrier forces. The Search Units are for the four ASW carriers in the BRAVO Fleet.

10. Navy-Marine Corps Aircraft Procurement

The Navy and Marine Corps aircraft procurement program is shown on Table 11. In order to meet the requirements of the Southeast Asia conflict and continue the planned modernization of the force, we propose to increase the FY 1967 program from the original 620 aircraft to 1,047, and to buy another 680 aircraft in FY 1968 instead of the 604 planned a year ago. The addition of 427 more aircraft to the FY 1967 program and 76 to the FY 1968 program is the result of several factors, the most important of which is the decision to provide for projected combat attrition in Vietnam through the normal procurement lead time, i.e., December 1968 for the FY 1967 Budget, and December 1969 for the FY 1968 Budget. (The original FY 1967 Budget was based on the assumption the conflict would end by June 30, 1967.) Other factors influencing the increase, particularly in the FY 1967 program, are:

(1) The somewhat higher than expected losses of Navy aircraft which have resulted from a higher than planned number of sorties flown, coupled with a larger proportion flown against North Vietnamese targets.

(2) The need for more combat readiness training aircraft to handle the higher training loads.

With regard to the modernization of the attack carrier fighter forces, we still plan to initiate F-111B procurement in 1968 with 20 aircraft. The technical problems involved in mating the PHOENIX missile system and the airborne missile control system with the F-111B airframe appear to have been solved.

To provide for combat attrition beyond FY 1967 and complete the equipping of the Marine Corps fighter squadrons, we have increased the FY 1967-68 F-4 procurement programs by a net total of 207 aircraft over the number previously planned (FY 1967 was increased from 0 to 250 and FY 1968 was reduced from 76 to 33). This will permit the replacement of the last Marine Corps F-8 squadron in FY 1968, as shown on Table 9.

Because of the high rate of utilization of the F-8s in Southeast Asia, all of them will have reached their flying hour limits for structural safety by end FY 1968. Since we plan to retain a number of these aircraft in both the active Fleet (for the ESSEX-class CVAs) and the reserve forces for some time beyond FY 1968, we have decided to rework 375 of the latest models, providing them with new wings and other life-extension modifications. The program was initiated last spring, using about $17 million of FY 1966 funds; $70 million is included in the revised FY 1967 Budget, another $70 million is requested for FY 1968, and the balance of about $30 million will be required in FY 1969.

In the attack category we now plan to procure 393 aircraft in FY 1967 and 318 in FY 1968, an increase of 163 in FY 1967 and 42 in FY 1968 over the program envisioned a year ago. We have added 100 A-4Fs and 63 A-6As to the FY 1967 program, and 42 A-6As to the FY 1968 program (making a total of 78). We presently plan no further procurements of A-4s and expect to complete our A-6 procurement with 48 aircraft in FY 1969. The A-7 program for FY 1967-68 is almost the same as presented a year ago. Fifty-eight A-7s have been added in FY 1969 and ten advanced from FY 1971 to the FY 1970 program to offset combat attrition this new aircraft will encounter when it is deployed to Southeast Asia. The 160 A-7s shown for FY 1972 would complete the presently planned procurement for the Navy and Marine Corps.

Last year we had planned on buying the first 100 OV-10 aircraft for the Marine Corps in FY 1967. However, the need for certain design changes has delayed the award of the contract and has caused us to reduce the FY 1967 quantity to 76 aircraft. We now propose to buy 38 more OV-10s in FY 1968, for a total procurement of 114.

As I noted earlier, the estimated cost of the new electronic countermeasure aircraft, the EA-6B, has increased significantly, and pending redesign and the award of a new contract, we plan to buy five test aircraft in FY 1968, one of which will be procured with RDT&E funds and is therefore not included in Table 11. We still hope to be able to proceed with the procurement program shown on Table 11 since there is an urgent need for an ECM aircraft of this type. However, if the cost of the EA-6B, which is an adaptation of the A-6A, cannot be brought into line, it may be cheaper in the long run to develop an entirely new aircraft and provide an improved interim ECM capability in other existing aircraft such as the A-3.

[redacted]

We also plan to modify another six A-5s into RA-5Cs and to buy 12 more new RA-5Cs in FY 1968 to help offset the high loss rates being experienced by reconnaissance aircraft in Southeast Asia. Procurement of another 24 new RA-5Cs is programmed in FY 1969 and 10 more in FY 1970, for a total of 46. In addition, funds are included in the FY 1967 Supplemental and FY 1968 Budget request to convert 20 of the older RF-8As to the RF-8G configuration.

Our continuing review of the post-FY 1970 requirement for Fleet early warning indicates that the E-2A equipped with the presently available sensors and avionics would not be able to provide the desired capability in that time period. We have, therefore, canceled procurement of the ten E-2As planned for FY 1966, and are using some of these funds for the development of an improved avionics package. We now plan to install this package, which promises considerably greater reliability and better detection capabilities, on an improved version of the E-2, and the E-2B. We have tentatively scheduled procurement of ten of these E-2Bs in FY 1969 and 24 more in FY 1970.

As a result of the decision to reduce the CVS force, we are canceling the SH-3D procurement in FY 1968 which we had programmed last year. We now plan to buy 40 P-3s with A-NEW in FY 1968, another 40 in FY 1969, and complete the procurement with 29 aircraft in FY 1970. This will give us 109 A-NEW equipped P-3s by the end of FY 1971, when the last of these aircraft enters the force.

To provide for the higher tempo of operations and combat attrition in Vietnam, we now plan to buy 125 helicopters in FY 1967, compared with the 100 requested last year, and another 84 in FY 1968.

In the Fleet Tactical and Mission Support category, we have added eight C-130 radio relay aircraft to the FY 1967 program in support of the POLARIS force, an action I discussed earlier in connection with the strategic forces. We have canceled the previously planned C-2A procurements in FY 1967 (12 aircraft) and FY 1968 (9 aircraft) since we feel that the 17 C-2s already procured, in conjunction with the present C-1s in the force, will suffice to meet our carrier-on-board delivery requirements as we now see them.

The increase in planned pilot production from 2,200 to 2,525 per year will require the procurement of additional training aircraft. Further analysis of our training requirement indicates that we can transfer some T-28 aircraft now being used for proficiency flying to the training mission, and that we can best meet our remaining fixed-wing trainer requirements by procuring T-2B and T-37B twin-jet two-seater aircraft for basic training, and TA-4s for instrument and combat readiness training.

[redacted]

The T-37B, the Air Force's basic jet trainer, can provide approximately equal performance in all basic training missions except carrier landing, and can be procured at about one-third the cost of a T-2B. While the optimum mix of T-2Bs and T-37Bs is still being studied, it is clear that the T-37B can be substituted in many of the basic training roles with no degradation of pilot performance. Accordingly, we have canceled the previously planned procurement of 72 T-28Cs in FY 1966 and 58 in FY 1967, and instead we now propose to procure 36 T-2Bs, and 94 TA-4s in FY 1967, and 90 T-37Bs in FY 1968. We have also included in the FY 1967 program 9 TC-4Cs (a version of the Grumman Gulfstream) for navigator bombadier training. This will reduce the requirement for A-6As now being used for this purpose.

For helicopter training we will be able to utilize UH-1Es as they are released by new OV-10s phasing into the force, thus permitting the cancellation of the 20 TH-1E planned for procurement in FY 1967. In addition, we plan to buy 40 new instrumented light turbine helicopters (LTHs) in FY 1968 to provide the increased training capacity I mentioned earlier.

11. Other Navy Procurement

The present logistics objective for the Navy General Purpose ships (including the Naval Reserve Training ships and one-third of the Category BRAVO reserve ships) provides:

(1) for the ASW forces and ships with NATO commitments - initial shipfills plus sufficient stocks to support 90 days of combat consumption.

(2) for all other ships - initial shipfills plus 180-days of combat consumption of equipment and D to P stocks of ammunition and secondary items.

The logistics objective for Navy attack carrier aircraft is to provide support for twelve air wing equivalents for three months of combat for NATO and for six months for the Pacific in the case of equipment (less aircraft), three months for NATO and D to P for the Pacific in the case of ammunition and secondary items -- with three-quarters of the air wings committed (i.e., a total of 54 "wing months" of combat consumption). At an estimated activity rate of 27.6 sorties per month per aircraft, this would be equivalent to about 103,000 sorties during the first six months of combat and 11,400 sorties per month thereafter. For the first time the logistics objective provides pipeline stocks for the Navy's non-NATO oriented forces, i.e., up to an additional 135 days consumption in the form of operating and safety-level stocks.

In order to build toward these objectives and to provide for projected combat consumption in Southeast Asia, we are requesting $1,389 million in FY 1967 (of which $164 million is included in the Supplemental request) for Navy missiles, ordnance, and ammunition; and $1,723 million more is requested in the FY 1968 Budget for this purpose.

Large quantities of air-to-ground munitions will continue to be needed in FY 1967-68. The largest single item in this category is the MK-82 500-lb. bomb -- 382,000 in FY 1967 (57,200 in the Supplemental) and 373,800 more in FY 1968. In the case of the 250-lb. MK-81 bomb, 178,900 are included in the FY 1967 program and 188,200 more in FY 1968. In terms of dollar value, another important item in FY 1968 is the procurement of about 1.6 million 2.75" rockets, at $109 million. The number of 5" ZUNI rockets requested in the FY 1967 program now totals 68,500, and 81,500 are requested for FY 1968. With respect to the CBU-24/29 cluster bomb, the Navy now proposes to procure about 6,800 in FY 1967 (2,900 are financed in the Supplemental request) and 18,000 more in FY 1968.

[redacted]

[redacted]

For the surface-to-air missile ships which provide the Fleet's air defense, the Navy will procure only the new STANDARD missile beginning in FY 1968, although deliveries of TERRIER and TARTAR missiles will continue for some time. We are requesting $52 million for 240 medium range and 660 extended-range STANDARD missiles.

As I mentioned last year, we decided to buy out our TALOS missile inventory objective at a more rapid rate in order to take advantage of production economies. Funds for the procurement of the final [redacted] TALOS missiles to meet this objective are included in the FY 1968 Budget.

With respect to air-to-air missiles, some production difficulties have been encountered with SIDEWINDER, resulting in a high rejection rate. We have, therefore, reduced our originally planned FY 1967 procurement from 1,252 to 952 and have included 960 more in the FY 1968 request. We propose to procure 1,195 SPARROW III air-to-air missiles in FY 1968, some of which will be used for the new Basic Point Defense Surface Missile System mentioned earlier. We also propose to initiate pilot line production of the PHOENIX missile in FY 1968 with an initial quantity of 45.

In the ASW category, we plan to continue the procurement of ASROC and SUBROC. The ASROC rocket is capable of long-range delivery of ASW conventional or nuclear homing torpedoes or depth charges against high performance submarines, and provides our ASW forces with a highly reliable and effective stand-off anti-submarine capability. The SUBROC is a long-range underwater-air-underwater solid propellant rocket, armed with a nuclear warhead, which can be fired from a standard submarine torpedo tube. The FY 1968 Budget request includes funds for 856 ASROC and 72 SUBROC.

Last year I informed the Committee that the DASH ASW drone helicopter was encountering higher-than-expected peacetime attrition and lower-than-expected performance, and that we would review the entire program. As a result of this review, we have now decided to reduce the planned deployment of this system by about one-third. The FRAM I DDs, which we had previously planned to equip with DASH, already have the highly effective and reliable ASROC system, and any additional performance gains which DASH might provide would be marginal. The DASH system will continue to be maintained on the FRAM II DDs and certain DEs, since it provides their only stand-off ASW capability. This reduction in deployment will permit cancellation of the previously planned FY 1967 procurement.

Improved ASW torpedoes continue to be a major prerequisite to a more effective ASW force, and this category of weapons has continued to receive our close attention. The MK-46 lightweight ASW torpedo is an effective weapon against the newer high-speed deep-diving nuclear-powered submarines, and can be launched either by surface ships (tubes or ASROC) or by ASW aircraft (helicopters or fixed-wing). In an attempt to expand the production base for the MK-46 and obtain the cost benefits of competitive procurement, we have opened a second production source. Although we have achieved the cost benefits (the 3,500 torpedoes bought in FY 1966, for example, cost $124.3 million compared with the budget estimate of $179 million), it now seems clear that we will not achieve the production levels in FY 1967 originally expected. Accordingly, the FY 1968 procurement is planned at 2,300 (compared with 3,000 in FY 1967) to take this slippage into account.

The MK-48 is a submarine-launched wire-guided long-range high-speed acoustic-homing torpedo for use against deep-diving fast evasive nuclear submarines, and is expected to be far more effective against these targets than the MK-37 presently in use. However, we have continued to encounter substantial cost increases as well as delays in the test program for the development prototype. As a result, production of the MK-48, originally scheduled to begin in FY 1967, has been deferred to FY 1968, and $96.5 million is included in our request for the first 180 torpedoes. These funds will also provide for 50 MK-27 mobile target torpedoes which must be used with the MK-48 since actual submarines cannot be safely employed as targets.

The AN/SSQ-41 (JULIE/JEZEBEL) is an improved sonobuoy capable of employment in either an active (JULIE) or passive (JEZEBEL) mode, and replaces the separate JULIE and JEZEBEL sonobuoys. It will provide ASW aircraft with greater tactical flexibility, since they will now be able to employ whichever mode sonobuoy is most advantageous in a particular engagement, instead of being required to decide the optimum passive/active sonobuoy mix when loading. The FY 1968 Budget includes funds for the procurement of 173,000 JULIE/JEZEBEL sonobuoys.

Finally, a total of about $125 million is included in the FY 1968 Budget for 8", 6", and 5" naval gun ammunition to meet the consumption requirements of Southeast Asia and continue the build-up of our stocks.

12. Marine Corps Procurement

[redacted]

The FY 1967 Marine Corps procurement now totals $541 million, of which $253 million is included in the FY 1967 Supplemental. For FY 1968, a total of $715 million is requested. Included in the FY 1967 total is $231 million for munitions and ordnance ($114 million in the Supplemental); $463 million is included for this purpose in FY 1968.

The FY 1967 Supplemental provides about $70 million for the procurement of support vehicles such as 1/4-, 1/2-, 2-1/2-, and 5-ton trucks, and $39 million more is included for support vehicles in FY 1968. For tracked vehicles, $4 million is included in the FY 1967 Supplemental and $5 million in the FY 1968 Budget.

In the communications and electronics category, which includes such major items as radars and the Marine Corps Tactical Data System (MTDS), we have increased our FY 1967 procurement to $107 million, $29 million of which is included in the Supplemental request. Another $145 million is included for communications and electronic equipment in FY 1968.

E. AIR FORCE GENERAL PURPOSE FORCES

The Air Force General Purpose Forces shown on Table 12 are essentially the same as those presented a year ago, with the exception of certain changes related to our operation in Vietnam.

1. Fighter and Attack

Our long range force objective in this category is the same as last year, namely, 1728 UE aircraft organized in 24 wings - 13 F-4, 6 F-111 and 5 A-7. In the near term, however, we now propose to make several changes in the force structure and procurement programs. For the most part, these adjustments are related to operations in Southeast Asia, in particular, the changes in our budget planning assumptions and the variations from the projected combat attrition rates reflected in our force planning last year. And, in a few cases, the proposed changes are the result of adjustments in production schedules.

The two B-57 squadrons (48 UE aircraft) that we are using in South Vietnam will decline to 36 at end FY 1967, and to 24 at end FY 1968, after which they are scheduled to phase out of active service.

With respect to the F-100s, we had originally planned to phase down the active force to 450 aircraft (25 squadrons) by end FY 1967. However, attrition has been lower than forecast and we will have four more squadrons in the force at end FY 1967 than we had previously planned. One of these squadrons was deployed to Southeast Asia in December 1966. The other three squadrons will be part of the rotation base in the U.S. We had previously planned to transfer F-100s to the Air National Guard on a schedule that would have left only one squadron in the active force by the end of FY 1970. Now, because of force changes related to the Vietnam conflict, we plan to retain these aircraft in the active force an extra year; accordingly, the F-100s are shown in the table as transferring to the Air National Guard in FY 1970-71. These changes will not affect the nine squadrons of Air National Guard F-100s which are now being maintained in a fully ready status through FY 1969, giving us an important "backup" capability if it should be needed.

Last year we had planned to hold 131 F-102s in the force through FY 1967 and then phase down to 46 aircraft in FY 1968. However, in order to free two F-4 squadrons for deployment to Vietnam, two squadrons of F-102s (a total of 44 UE aircraft) scheduled to phase out of the continental air defense forces were transferred to the tactical forces in FY 1966; one squadron was deployed to Okinawa and the other to Clark AFB in the Philippines. Six of these F-102s at Clark AFB are now being continuously rotated to DaNang, Vietnam. As shown on the table, we now plan to retain 175 F-102s through the end of the current fiscal year, 163 during FY 1968-69, and zero by end FY 1970.

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Last year we had planned to retain the two F-104 squadrons (18 UE aircraft each) through FY 1967. However, the introduction of MIG 21s into North Vietnam in the spring of 1966 caused us to deploy one squadron to Southeast Asia. As a result of combat losses and training attrition, we will have only enough aircraft to retain one squadron by the end of the current fiscal year and this squadron will phase out by the end of FY 1968.

Higher than expected attrition, both actual and projected, will cause the F-105 force to decline faster than scheduled last year -- by 36 aircraft at end FY 1967 and 78 aircraft by end FY 1968. The higher attrition stems basically from an increase in the actual number of sorties flown combined with a large proportion of sorties flown against the higher value but better defended targets in North Vietnam. By the end of FY 1971, we would expect that the last of the F-105s would be phased out to the Air National Guard.

The F-4s, in contrast, are experiencing somewhat lower attrition than forecast last January and this will help the force to build up faster than planned. Thus, we now expect to have 810 UE aircraft at the end of the current fiscal year, 54 more than expected last year. By the end of FY 1968, the F-4 force will rise to 990 UE aircraft, and then decline to the planned objective of 936 aircraft (13 wings) by end FY 1970. This 13 wing force will be composed of 20 squadrons of F-4Ds (which have improved ground attack features) and 20 squadrons of F-4Es (which have the F-4D's ground attack features, an internally mounted gun, and an improved low altitude intercept capability. The F-4Cs will be allocated to the combat readiness training role. Thus, the more modern and capable aircraft will be in the tactical force.

The F-111 activation schedule is the same as planned last year, except for a delay in activating two squadrons in FY 1970 and one squadron in FY 1971. The first production models are scheduled for this February.

Last year, in order to help diversify the Air Force tactical fighter force, we proposed the procurement of the A-7, a relatively inexpensive subsonic aircraft with good range, large ordnance-carrying capability, long loiter time, and good close ground support features. Our original deployment schedule called for activation of the first two squadrons in FY 1968 with five more to be introduced in FY 1969, building toward a tentative objective of 15 squadrons (five wings) in FY 1971. However, this schedule was predicated on an early decision to proceed with the development of an afterburner for the Air Force A-7. (Although the engine now being installed in Navy A-7s is adequate for carrier operations, it would have required the thrust augmentation of the afterburner for take-off from land bases.)

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Two considerations caused us first to delay and then change this decision. First, it appeared desirable, if possible, to find a new engine production source rather than add to the already crowded schedule of one of our principal engine manufacturers. Second, if a different, more powerful engine could be used, the load-carrying capacity of the A-7 would not have to be penalized by several hundred pounds of dead weight which the afterburner would involve. Such an engine, the Rolls Royce's "Spey" proved to be obtainable from Allison, who will produce it in the United States under license from the British firm. The net result of this decision will be a more capable aircraft but a delayed delivery schedule. As shown on the table, the first unit is now planned for activation in FY 1969. By the end of that year, we expect to have one squadron in the force, 144 aircraft fewer than envisioned last year. However, a new, faster production schedule will still permit the achievement of the planned five wing force by the end of FY 1971.

2. Tactical Reconnaissance

The present long range objective for the tactical reconnaissance force remains the same as a year ago, 4 squadrons of RF-101s and 16 squadrons of RF-4s, and will be achieved in FY 1970.

Because of anticipated Southeast Asia attrition and higher training requirements, the RF-101 force had been expected to decline to 80 aircraft by the end of the current year and then level off at four squadrons (72 UE aircraft) in the FY 1968-71 period. We will still be able to maintain a force of 84 aircraft in FY 1967, but in order to keep the four squadrons through the FY 1968-72 period we will have to modify an additional 38 F-101s to the RF-101 configuration. This will also permit us to operate an additional squadron in FY 1969 to maintain the size of the force until enough RF-4s can be delivered from new production.

With respect to the RF-4s, we still plan to build the force to a total of 16 squadrons (288 UE aircraft). However, the projected attrition of another year of combat in Southeast Asia will cause a slight delay in the scheduled build-up of the force, with the result that there will be 18 fewer UE aircraft (one squadron) at end FY 1968 and FY 1969 than previously planned, and the full 16 squadrons will not be operational until FY 1970.

Ultimately, we will probably want to introduce a more advanced capability into the tactical reconnaissance force. To this end we initiated in FY 1966 a development project which would provide a reconnaissance version of the F-111. This development consists of a reconnaissance pallet (i.e., a modular sensor and processing unit) which can be installed in the attack version of the F-111 with minimum modification to the aircraft. Through FY 1967, $25 million has been devoted to this effort and $2 million more is included in the FY 1968 request. Tentatively, we plan to procure 72 of these pallets at an estimated cost of $96 million.

3. Tactical Electronic Warfare Support

With the increasing importance of electronic warfare, underscored by our experience in Southeast Asia, we have decided to establish a separate Tactical Electronic Warfare Support (TEWS) force in the Air Force General Purpose Forces. As shown on the table, this force will be composed of 28 UE EB-66s converted from the RB/EB-66 aircraft previously shown in the reconnaissance category, and 47 UE EC-47s (formerly RC-47s). The missions of the TEWS force will include active and passive electronic countermeasures (ECM) operations, airborne radio direction finding (ARDF), and paramilitary communications countermeasures.

The EC-47s, which were originally a temporary addition to the force structure to meet Southeast Asia needs, will continue to perform the ARDF mission. They have been equipped with the necessary sensors and direction finding equipment to intercept enemy radio transmissions. This data is then used to provide operational intelligence to field commanders, help locate enemy activity for artillery or attack aircraft, etc. A test version of the RC-47 was first flown late in calendar year 1965. Based upon its initial success, two squadrons were authorized for use in Southeast Asia, where about 30 of these aircraft are now operating.

The RB/EB-66s have been providing the Air Force's present tactical ECM capabilities. While these aircraft are not new, they have the range and speed (and available space for gear) necessary for at least an effective interim ECM system. In order to provide sufficient aircraft for training, maintenance, and advance attrition, we plan to convert the 26 RB-66s now in the force and 9 WB-66s now in storage to the EB-66 configuration; this will involve some modification of the engines and provision of new ECM gear. A total of about $45 million is requested in the FY 1967 Supplemental for these modifications. Later, as advanced electronic equipment becomes available (e.g., from the Navy EA-6B program), it may be retrofitted into these aircraft.

Although we presently plan to retain the 28 UE EB-66s through the FY 1968-72 period, we will continue to study optimum types, force levels, and mixes of electronic warfare aircraft. The Air Force will initiate a short contract definition phase for possible improvement of the EA-6Bs jamming system and its integration into an aircraft suitable to Air Force needs. This contract definition phase will also provide data to help guide the decision whether the EB-66 with an advanced electronics system, or the EA-6B, or a modification of some other aircraft still in production, or a completely new airframe design would best meet our projected future requirements for this capability.

4. Special Air Warfare Forces

Since its creation in 1962, the Special Air Warfare Forces have grown both in size and in the range of missions performed. Although designed to support our own and allied forces in counterinsurgency situations, more recently some elements of the SAW forces in Southeast Asia have also been employed in conventional attack missions similar to those performed by the Tactical Air Command. The SAW force's diversity of missions is reflected in the variety of different types of primarily older aircraft presently assigned to it. Eventually, we will probably want to modernize this force with fewer types of newer, specially designed aircraft, and we are currently studying this matter.

In order to meet the requirement of the Vietnam conflict, we have increased the size of the SAW force from the 327 aircraft estimated last year for end FY 1967 to 374. This net increase consists of the addition of 18 O-2s, 6 AC-47s, 11 C-123s, 8 C-47s, and 18 A-37s, partially offset by the reduction of 14 A-1s. The O-2s and C-47s will be used for psychological warfare operations. The AC-47s provide high intensity fire support for hamlet and base defense from three fixed sidefiring machine guns mounted in their cargo compartment. The additional C-123s are employed principally in foliage spraying operations. The A-37s (an attack version of the T-37 trainer) will replace the older A-1s now in the force.

In FY 1968, the number of A-1s will decline further to 25 and the number of A-37s will increase by 7. By end FY 1969, the second 25 UE squadron of A-37s will enter the force and the number of A-1s will drop to 14. In FY 1970, 12 more A-37s (which have about double the T-28s ordnance carrying capacity) would replace the 24 UE T-28 squadrons in our presently planned permanent SAW force.

5. Other Aircraft

The Tactical Air Control System (TACS) provides the command and control capability for the tactical air commander in field operations. Currently, the Air Force is using modified O-1 aircraft transferred from the Army for the Airborne Forward Air Controller (AFAC) mission in Southeast Asia. Last year, we had planned to convert this force completely to OV-10s by the end of FY 1968. However, during the past year the requirement for AFAC aircraft has virtually doubled and, as shown on Table 12, the authorized TACS force has been increased to 250 aircraft. In addition, the OV-10 program has slipped and we do not now expect deliveries of that aircraft to the Air Force to be completed until FY 1969. In order to build up the force as soon as possible, we have already taken action to procure

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an off-the-shelf Cessna aircraft designated the O-2. These O-2s will give us an improved AFAC capability for the near term until the OV-10s become available; they will also allow us to meet the attrition projected for both U.S. and Vietnam Air Force units. With respect to the longer term, it is too early to make a final determination of the size and composition of the TACS force, a matter we now have under study. Tentatively, for planning purposes, we show a post-Vietnam force of 96 UE OV-10 aircraft.

6. Combat Readiness Training.

As described a year ago, we want to increase the size of the advanced flying training base very significantly over what it has been in recent years, from about one-eighth of the operational force to about one-fifth. Predicated on the assumption that the Southeast Asia conflict would end by 30 June 1967, this expansion was to have been substantially achieved by the end of FY 1968. Now, however, under our revised budget planning assumption, completion of the build-up of the training base in terms of aircraft would be delayed until the following year. Meanwhile, the Air Force has been able to achieve a very significant improvement in the monthly utilization rates of combat crew training aircraft. Except for the F-105, the average rate was increased from 25 hours to 40 hours during FY 1966 and we hope to achieve a rate of 45 hours per month in FY 1968. The F-105s' utilization rate was raised from 25 hours a month to 30 hours and we plan to hold at that level until this aircraft is retired from the active force.

7. Tactical Missiles

As I indicated last year, the remaining 18 MACE B missiles (one squadron) deployed in Germany will be phased out during FY 1969 as PERSHING takes over the quick reaction alert (QRA) role. These fixed site missiles represent relatively "easy" targets for the Soviet's offensive forces and therefore could not be counted on being available following a surprise attack. The remaining 36 MACE Bs deployed in Okinawa, however, are tentative scheduled to remain in the active force through the program period. It would be very difficult, if not impossible, for the Communist Chinese to attack them successfully at the present time, and, at least during the early stages of a build-up in their nuclear capabilities, an attack on the MACE Bs would require considerable effort on their part.

8. Air National Guard

A number of changes have been made in the planned equipage of Air National Guard squadrons, most of them related to changes in the active structure. The Guard will retain more F-84s and F-86s longer in order

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to offset delays in the transfer of F-100s and F-105s from the active forces. Moreover, based on current attrition projections, few F-105s will be ultimately available (only enough to maintain the present UE until FY 1971, when a few more will begin to phase in) and, consequently, the Guard will use more F-100s in the later years than previously planned. As shown on Table 12, the Guard will have 547 tactical fighters at end FY 1967 and 575 by end FY 1970.

9. Aircraft Procurement

As shown on Table 13, the Air Force will procure a total of 732 tactical, air control, and reconnaissance aircraft for the General Purpose Forces in FY 1967, at a total cost of $1,847 million. (Of this total, 102 aircraft costing $457 million are in the FY 1967 Supplemental request.) For FY 1968, 874 aircraft costing $2,076 million are requested for these forces. Both the FY 1967 and FY 1968 programs provide for combat attrition through the normal production lead time, i.e., December 1969. Accordingly, if the Vietnam conflict should end before that date, both the active and reserve Air Force structures would be modernized faster than shown on Table 12.

Last year, we had scheduled procurement of 102 F-4 aircraft for FY 1967 and a final procurement of 32 in FY 1968. We now propose to increase the FY 1967 program to 191 aircraft and buy 245 in FY 1968. The planned procurement of 100 F-4s in FY 1969 and 53 in FY 1970 is for advance peacetime attrition.

With respect to the F-111A, 175 aircraft (including 24 for eventual sale to Australia) were funded through FY 1967. Last year, we had tentatively planned on financing 180 more in FY 1968. However, we have now decided to adjust the production rate so as to be able to include certain improvements, which are now being made, in more of the aircraft. As a result, we plan to buy only 143 aircraft in FY 1968, adding the difference of 37 aircraft to the end of the line in FY 1971. In addition, another 23 aircraft will be procured in FY 1971 (a total of 121) for advance peacetime attrition.

Production of the F-111A is on schedule and the first aircraft are expected to enter the operational forces in FY 1967. The net result of the F-111A's tests to date indicates that it will meet or exceed its desired performance standards in all essential respects.

The Air Force's A-7 program has, as I indicated earlier, slipped substantially from that projected a year ago. We originally thought that this program could get under way in FY 1966 and funds were included in the FY 1966 Supplemental for the first seven aircraft, and in the original FY 1967 request for 99 more. Since it has now been decided that the Air Force's A-7 should employ a more powerful engine than the Navy's version and that it should include certain other improvements, the procurement program has been rescheduled as shown in Table 13. The FY 1966 buy has been deleted and the FY 1967 buy reduced from 99 aircraft to 20. For FY 1968 we plan to buy 181 A-7s, and additional offsetting upward adjustments in procurement in subsequent years should permit us to achieve a force level of 360 UE by FY 1971, as previously planned. The contract was awarded last fall and we now expect delivery of the first Air Force A-7 aircraft in late FY 1968.

Last year we had tentatively scheduled procurement of 157 OV-10s for the TACS force. However, the TACS requirement has grown sharply during the past year leading to the decision to buy the O-2 and this, coupled with a delay in projected OV-10 deliveries and an increase in the cost of that aircraft, has caused us to revise our planned procurement program. Although we still plan to purchase 157 OV-10s for the TACS mission, the FY 1967 buy has been reduced from the 123 scheduled a year ago to 98, with the difference of 25 being added to the FY 1968 program which now totals 48. Further procurement of the OV-10 for the Air Force will depend upon a future decision to use it to help modernize the Special Air Warfare Forces.

As previously mentioned, action has already been initiated to procure 176 O-2A aircraft in FY 1967, 145 for the TACS force, and 31 for the SAW force's psychological warfare mission (including support aircraft). Forty-seven more O-2s are included in the FY 1968 program to provide for combat attrition replacement. The first deliveries of the O-2 will be made over the next few months, with the last to be delivered early in calendar year 1968.

Also added to the FY 1967 program are 57 A-37 aircraft, and 120 more will be procured in FY 1968 to form three squadrons in the U.S. SAW force and three squadrons in the South Vietnam Air Force, plus training and attrition. We now plan to buy a total of 45 F-5s -- 10 in FY 1966, 31 in FY 1967 and 4 in FY 1968. These aircraft will be used to re-equip one Vietnamese Air Force A-1 squadron (18 UE), provide 4 aircraft each to Korea and Thailand, and replace F-5s lost by the Air Force in Southeast Asia.

Finally, to offset projected attrition of reconnaissance aircraft in Southeast Asia, the FY 1968 quantity of RF-4 aircraft has been increased from the 23 shown on the table last year to 86, and 46 more will be procured in FY 1969 for advance peacetime attrition. And, as previously mentioned, to maintain a level of four RF-101 squadrons, we will convert 38 F-101s to the reconnaissance configuration in FY 1968.

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10. Other Air Force Procurement

The present logistics objective for the Air Force General Purpose Forces provides for procurement of equipment (less aircraft), non-nuclear ordnance, combat consumables, and secondary items to support three months of combat consumption for NATO forces. For non-NATO forces, combat consumption is provided for six months for equipment items and for D to P for non-nuclear ordnance, combat consumables, and secondary items. A pipeline of up to 135 days is also provided for non-NATO forces. The forces to be supported are:

a. A force of 1,900 tactical fighter/attack aircraft.
b. The Special Air Warfare (SAW) Forces.
c. A force of 80 B-52s.
d. The tactical reconnaissance forces.

The logistic objective now provides for the first six months of combat about 200,000 tactical sorties (about 400,000 tons of ordnance), 4,800 B-52 sorties (144,000 tons) and 15,000 SAWF sorties (30,000 tons), for a grand total of about 220,000 sorties (574,000 tons of ordnance). This is an increase of about 53,000 sorties (104,000 tons of ordnance) over last year's objective for the first six months of combat.

The Air Force's aircraft non-nuclear ordnance program for FY 1967 totals $1,739 million, of which $438 million is included in the Supplemental request. The proposed FY 1968 program totals $1,629 million. As previously discussed, the funds requested will finance production through the reorder lead time, and wherever possible the existing production base will be utilized to produce proven weapons, with purchases of newer or developmental weapons deferred until a later time.

"Iron bombs", which are being consumed at high rates in Southeast Asia, will continue to dominate the FY 1967-68 procurement programs. For these two years, $1,409 million will be spent on these bombs, including 166,500 250-lb. bombs; 1.4 million 500-lb. bombs, 1.1 million 750-lb. bombs, and 10,800 2,000-lb. bombs; $31 million is for 109,000 napalm bombs and $463 million is for 2.75 inch rockets and 20mm ammunition. For "cluster" types, the CBU family and other canister bombs, $888 million is included for about 487,700 units.

Also included in the Air Force's FY 1967-68 proposed program is $74 million for 4,678 TV-guided WALLEYEs, about $106 million for 7,214 SHRIKE/ARM anti-radar missiles, and about $61 million for 2,395 SPARROW air-to-air missiles.

[redacted]

11. Theater Air Base Vulnerability

The theater air base vulnerability program is designed to minimize the damage an enemy could do to our overseas airfields, and the aircraft on them, in a non-nuclear attack. This program is oriented to the entire range of possible enemy action from a highly sophisticated aircraft attack to the kind of guerilla type penetration of an air base's defensive perimeter with which we have had to contend in Southeast Asia. Our deployed tactical aircraft represent a very valuable asset, not simply in terms of their dollar cost but more important in terms of the great contribution that their immediate post-attack fighting capability can make to the favorable outcome of a conflict. The importance of the relatively inexpensive measures which we recommend to protect these aircraft should be judged in this light.

An air base's vulnerability to attack can be reduced in many ways, e.g., aircraft can be camouflaged with paint, POL and communications facilities can be hardened, and the visual contrast between the base and its surroundings can be toned down. These types of actions are already being carried out extensively. In addition, kits for rapid repair of bomb damaged runways have been provided for all Southeast Asia bases and are now being procured for other Pacific and European bases. These kits consist of a supply of runway base material (we are experimenting with several new types)plus the necessary repair equipment. Some steel revetments have been provided for our aircraft in Vietnam. In addition to these passive measures, of course, our program to improve our forward area air defense with the improved gun/CHAPARRAL/HAWK weapons will also contribute to the protection of tactical aircraft.

However, what we consider to be the most important element of a balanced effort in this area, the provision of protective shelters for the aircraft themselves, has yet to be even started, although the funds to do so have been requested in each of the past four years. Each time the Congress has denied our request, most recently perhaps in the belief that uncertainties regarding the size and character of our future overseas deployments make such fixed investments as shelters unwise at this time. With respect to our European deployments, it is true that we are currently in a period of change and reconsideration. However, those few currently outstanding questions which might affect our tactical aircraft basing plans in Europe should be settled within a matter of months. In any event, we would not actually undertake shelter construction at any location where there remained any substantial question about our near-term occupancy.

A prefabricated metal, earth mounded shelter has already been developed and successfully tested by the Air Force. In a conventional attack it would provide protection against anything but a direct hit by a heavy bomb;

it would also offer considerable protection in a nuclear attack. This shelter can be built at a cost of about $135,000 to $175,000 apiece (depending on whether the shelter is equipped with blast resistant steel doors), a small fraction of the value of the aircraft it protects. This year's request for $26 million will provide various vulnerability reduction measures (shelters, paving for dispersal sites, POL facility hardening, etc.) at eight European and four Pacific bases. The total program presently envisioned would ultimately provide shelter for some 360 aircraft and other high-value aviation equipment, together with the full range of other vulnerability measures -- at a total cost of about $178 million. I urge the Congress to provide the $26 million included in our FY 1968 request so that we may get started promptly on this critical program.

F. TACTICAL EXERCISES

Under normal peacetime conditions, large scale strategic mobility and tactical exercises contribute to the maintenance of high combat readiness, provide highly visible demonstrations of our capabilities, help test new operational concepts and weapon systems, and permit U.S. and allied forces to perfect coordination procedures which they would have to use in wartime. However, with the expansion of combat operations in Southeast Asia during the past 18 months, the importance of simulating such operations has dropped sharply and in FY 1966, only about $9 million was used for the larger exercises "directed" or "coordinated" by the Joint Chiefs of Staff. Therefore, on the assumption that the Vietnam conflict will continue through FY 1968, we have budgeted only $27 million for this purpose, far below the $100 million plus level of pre-Vietnam years. This amount would support a very modest program, the specific content of which will be chosen from several tentatively scheduled exercises as future conditions may permit.

In addition to these larger exercises, the Military Services will continue to supplement their normal unit training schedules with unilaterally planned readiness exercises, including a number with elements of allied military establishments.

G. FINANCIAL SUMMARY

The General Purpose Forces Program outlined above will require total obligational authority of $34.4 billion in FY 1968.

A comparison with prior years is shown below:

($ Billions, Fiscal Year)

	1962 Act.	1963 Act.	1964 Act.	1965 Act.	1966 Act.	1967 Est.	1968 Prop.
Total Obligational Authority	18.0	17.9	18.0	19.1	29.5	34.3	34.4

[redacted]

IV. AIRLIFT AND SEALIFT FORCES

Included in this program are the Military Airlift Command transports, the Air Force's troop carrier aircraft assigned to the Tactical Air Command and the Unified Commands, the transport and troop carrier aircraft in the Air Force's reserve components, and the troop ships, cargo ships, tankers and "forward mobile depot" ships operated by the Military Sea Transportation Service.

Although not specifically included in the Airlift/Sealift Program, those elements of other major programs whose missions and capabilities are closely related to the general requirement for lift have also been considered in determining what forces should be provided here. These other elements include such specialized transportation forces as the carrier-on-board delivery aircraft of the Navy and the cargo aircraft of the Marine Corps.

Within the context of this specific program, the lift mission consists of two main tasks: the strategic requirement for transport support of military operations in overseas areas and the tactical requirement for intra-theater and assault airlift. The strategic task can be further divided into the requirement for the initial rapid military response to distant crises and the longer term requirement for continuing support and re-supply of overseas military operations. This distinction is very important because it helps determine what kind of equipment is needed, when it must be available, how it should be organized and deployed, and who should control it. As you know, during the past several years, our principal concern in the airlift/sealift area has been to build up a quick-reaction capability adequate to meet our global security commitments. More recently, our experience in supporting a major military deployment in Southeast Asia has focused our attention on the problems of providing lift support over the longer term, and especially under conditions when it is not feasible to requisition commercial shipping.

A. STRATEGIC MOVEMENT

All of our studies show that the length and cost of a war, as well as the size of the force ultimately required to terminate it favorably, are importantly influenced by how fast we can bring the full weight of our military power to bear on the situation.

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In previous posture statements I have discussed at some length the range of strategies available to us for meeting the requirement for such prompt and effective response to distant military contingencies. Basically, these choices range from reliance on large ready forces deployed overseas in advance of need, to reliance on a central reserve of men and equipment in the U.S. to be deployed by airlift and sealift as required. A strategy which combines features of both these extremes might provide for prepositioning equipment and supplies overseas, either on land or aboard ship, with the men to be airlifted in as needed. Although each of these approaches has its own advantages and disadvantages with respect to operational flexibility, foreign exchange costs, total manpower and equipment requirements, etc., the strategy of a mobile central reserve supported by an adequate lift capability and balanced prepositioning has long been accepted as the preferred alternative for meeting the rapid response objective.

During the past several years, the Defense Department has been embarked on a major effort to achieve the rapid deployment capability needed to support such a strategy. In the main, this effort in the early years concentrated on improving our strategic airlift capacity, principally through the procurement of large numbers of C-130 and C-141 transport aircraft. Thus, between FY 1961 and the end of the current fiscal year, we will have increased our [redacted] lift capability to Southeast Asia or Europe fourfold. Now, we are buying a new transport, the C-5A which will enable us to make another major improvement, both qualitative and quantitative, in our strategic airlift capacity. Thus, when our presently planned six squadrons of C-5As are all in the force in FY 1972, our airlift capacity will be more than ten times what it was in FY 1961.

Over the years, forward prepositioning of military materiel, especially heavy and bulky equipment, has grown in importance, partly because of the great increase in our ability to airlift forces and partly because of the emergence of new prepositioning concepts and equipment. The most important of these concepts has been the "forward floating depot (FFD)" in which balanced stocks of equipment and supplies are maintained on ships stationed overseas within a few days steaming distance of potential trouble spots, and thus very quickly available to "marry up" with airlifted forces from the central reserve. As a first generation "floating depot" system we planned to use old VICTORY-class ships, specially modified for this purpose. Three of these ships were actually deployed to the Philippines in FY 1963 and we had planned to add 16 more this year. However, the requirements of the conflict in Southeast Asia have now caused us to defer this deployment, at least until FY 1969.

Our future plans call for this first generation system to be replaced by a new class of ships, the FDLs, which are being specifically designed to support a rapid deployment strategy. Unlike the relatively slow (16 knots) and small payload (2,265 short tons) VICTORY ships, the FDLs will be fast [redacted] large payload (8-10,000 short tons) ships capable of rapidly delivering cargo either over-the-beach, using embarked lighters and helicopters, or at established ports. Because of these improvements, the FDLs will provide a wider range of operational flexibility than the VICTORYs. While we would probably always want to have some of them fully loaded and deployed forward, some of them could also be held partially loaded with ammunition and supplies but in a ready status in either U.S. or overseas ports where vehicles, helicopters, etc., tailored to the mission, could be placed on board quickly as the situation requires. This mode of operation, which is feasible only because of the speed and efficiency of the FDLs, would allow us to meet the desired rapid deployment schedules without immobilizing indefinitely large amounts of high cost equipment, some of which also requires substantial continuing maintenance. In either mode of operation, however, the FDLs would have to be committed to the rapid deployment mission at all times and would not be available for regular point-to-point service. Thus, while they will make an enormous contribution to our rapid deployment capability and will also be highly efficient carriers for resupply after the initial deployment phase, these FDLs, in themselves, do not provide the answer to the overall sealift problem.

Indeed, all of our study and experience shows that the requirement for sealift continues to grow after the initial build-up phase, as more forces are deployed and stocks of consumables have to be replaced. To meet this larger and longer term need, we must rely in large part on merchant shipping. Based on the transportation requirements implicit in our contingency planning for a number of the most likely limited war situations, it appears that the equivalent of up to 460 general cargo ships (averaging 15,000 MT capacity, 15 knot speed) might be needed in a future emergency, over and above those available in our own Airlift/Sealift Forces. Simply in terms of size, the U.S. Flag Merchant Fleet (active and reserve) is adequate for such contingencies now, and should continue to be so in the future. The real problem, underscored by our recent experience in supporting our Southeast Asia deployments, concerns the availability of these U.S. Flag merchant ships to the Defense Department on a timely basis.

For the past year and a half, we have been engaged in a massive sealift of men and supplies to Vietnam. In the first quarter of FY 1967, the Military Sea Transportation Service (MSTS) exceeded its FY 1965 average quarterly shipping rate by 165 percent. However, only about a third of the increase was obtained from the U.S. liner fleet (both subsidized and unsubsidized). These, of course, were the ship operators who had been given preference in carrying peacetime Defense cargoes, who up until recently (when MSTS introduced competitive bidding) had collectively negotiated freight rates with MSTS, and on whom Defense had traditionally counted for the "hard core" of its sealift augmentation in wartime. But, when the heavy demands for sealift to Southeast Asia began to develop, most of the liner operators chose to continue to ply their normal commercial trade routes, and in the July-September 1966 period only 8 percent of the subsidized fleet and something less than 10 percent of the non-subsidized liner fleet were under charter to MSTS. This choice was understandable under the circumstances. In a total war, neither the Government nor the shipline operators would have any choice, the ships would be requisitioned. But in a limited war, such as Vietnam, the issue is not as clear; the shipline operators, understandably, don't want to lose their place on the world trade routes and the Government doesn't want to be forced to requisition the ships it needs.

Fortunately, in the present situation, we have been able to obtain the needed sealift without recourse to requisitioning, principally through the use of the unsubsidized tramp fleet and through reactivations from the reserve fleet (NDRF). Almost two-thirds of the increase in Defense sealift capacity achieved since the start of the Vietnam build-up has come from these sources. As of January 1, 1967, 73 privately owned ships, representing about 70 percent of the total general cargo capacity of the U.S. tramp fleet, were in Government service and 153 Government owned ships had been reactivated from the NDRF to carry Government cargoes under private operation.

While these resources have successfully met the needs of the present emergency, they may not all be available in another emergency a decade hence. By 1975, most of the ships in the NDRF will be 30-35 years old and will require larger expenditures for conversion to assure satisfactory reliability. Moreover, the unsubsidized tramp/irregular fleet will probably have disappeared because its aging World War II vessels cannot be replaced at an economical price. As a result, the Defense Department may in another emergency be far more dependent on the subsidized berth line operators than it is today.

The greater requirement for berth line ships is disturbing not only because of the problem of responsiveness but also because of the cost implications involved. We know from past experience, and we cannot realistically expect it to be otherwise, that unless the operators are assured a good profit (at prices established in a tight market) their ships will not be forthcoming voluntarily in an emergency. This makes the subsidized liner fleet a very costly form of sealift for the Defense Department to hire, just when it needs it most.

Furthermore, U.S. Flag ships are twice as expensive to operate, even in normal times, as most foreign flag ships. And, as I mentioned earlier, ship construction in U.S. yards costs about twice as much as that abroad. To offset these cost differentials, the U.S. Merchant Marine is subsidized by the taxpayer, directly and indirectly, to the tune of nearly three quarters of a billion dollars a year -- on the premise that this shipping is required for potential national security needs. Yet, despite this large annual subsidy, virtually all our sealift needs since World War II have been met without requisitioning merchant ships. Moreover, it seems clear that the most likely requirements for sealift augmentation in the future will be associated with limited war situations like Vietnam, in which recourse to requisitioning will be as undesirable as it seems today.

In summary, from the viewpoint of the Defense Department, there is a firm requirement for reliable, responsive sealift augmentation for a wide range of limited war situations, a requirement which the present subsidized U.S. liner fleet, for various reasons, has not met. Various solutions have been suggested, ranging from a major increase in the subsidized U.S. Flag merchant fleet to a full scale program of reserve fleet modernization. I do not propose to offer a solution at this time; other agencies of the Government are also involved. I believe a way can be found to revitalize both the American shipbuilding industry and the U.S. Merchant Marine and make them both more truly competitive in the world markets -- and I believe that these objectives, along with our military requirements, can be met at costs lower than those our nation is incurring today.

B. AIRLIFT

The airlift forces currently planned through FY 1972 are shown on Table 14. In the active forces, the C-5A deployment schedule is the same as that envisioned a year ago with the first two squadrons scheduled to become operational in FY 1970 and the entire six squadron force in FY 1972. The C-5A procurement program, unchanged from last year, is shown on Table 15. The first eight aircraft were included in the current year's program and $423 million is included in the FY 1968 request for the next 18, plus advance procurement. The total C-5A program cost (including research and development and facilities construction) is estimated at $3.4 billion.

Fabrication of the C-5A was begun last summer and the first flight is scheduled for late in FY 1968. This aircraft will have a maximum gross weight of about 769,000 lbs. and a maximum payload of 265,000 lbs. at a range of 2,700 n.mi. About 98 percent of the heavy bulky equipment which the ground forces require for maximum combat effectiveness can be carried by the C-5A compared with only about two-thirds of such equipment in the case of the C-141. With its "visor" nose and rear cargo doors, the C-5A will permit fast drive-through loading and unloading. An upper level in the aircraft, above the cargo bay, will provide accommodations for a relief crew plus 75 troops. Its high flotation landing gear will allow it to operate from relatively primitive airfields characteristics of so much of the world. It will be not only the most capable, but also the most efficient air cargo carrier ever built.

Last year we had tentatively scheduled the phase-out of the C-133 fleet from the active forces in FY 1971. However, in order to maintain the squadron integrity of the Military Airlift Command's force structure, we now plan to phase out the last two squadrons of C-133s as the last two C-5A squadrons become operational in FY 1972.

We also plan to retain one additional C-124 squadron (16 UE aircraft), previously scheduled to be phased out this year, through FY 1968 in order to provide rotational aircraft for support of USAFE, thereby releasing additional MAC airlift for support of Southeast Asia.

The C-141 force will reach its planned strength of 14 squadrons in FY 1968 and is scheduled to hold at that level throughout the program period.

Before the end of FY 1967, we plan to reorganize the existing C-130 fleet within a force structure of 28 squadrons rather than the 31 previously planned. This reorganization, although it reduces the number of UE aircraft shown on the table, does not change the number of aircraft actually in the force. Instead, it will provide a better distribution of these aircraft between the operational units, the maintenance float and the training mission. As the C-5As enter the force, some of the C-130s will be transferred to the Air Force reserve components.

The C-135s will be phased out of the active airlift forces in FY 1968, the same schedule planned a year ago.

As a result of an Army-Air Force agreement in April 1966, which redelineated certain air support mission responsibilities within the combat theater, the Army's CV-2 CARIBOU transports (redesignated the C-7A) have now been transferred to Air Force operation and are, therefore, accounted for in this program for the first time.

No major changes are contemplated in the airlift force structure of the reserve components from that proposed a year ago. Last year the Congress directed that one C-121 and two C-97 squadrons should be retained through the current fiscal year, and this is reflected on the table.

[redacted]

In FY 1968, we propose to continue one C-121 squadron and one more C-97 squadron than planned last year. Over the next few years, as shown on the table, the Air Force Reserve and Air National Guard will phase out the C-119s, C-121s, C-97s and C-123s. Then, as C-130s are received from the active forces, the reserve components will progressively retire their C-97s and C-124s. Eventually, the reserve airlift force will consist entirely of C-130s. During FY 1968, we propose to continue the 100 percent manning for the 11 Air Force Reserve C-124 squadrons, which was inaugurated as a readiness measure in the summer of 1965.

C. SEALIFT

As discussed earlier in this section, we propose to build a fleet of Fast Deployment Logistic (FDL) ships with a tentative force objective of thirty ships. The Congress approved funds ($67.6 million) for two of these ships in FY 1966, including $10 million in the FY 1966 Supplemental for the initiation of contract definition. As I explained a year ago, actual contracts for these first two ships are being deferred in order to permit their inclusion in the "total package" contract. We now plan to award the multi-year contract late this fiscal year. Funding for five FDLs ($233.5 million) is included in the FY 1968 request. Tentatively, 12 more FDLs would be funded in FY 1969 and 11 in FY 1970 as shown on Table 15.

The FDLs we now propose will be considerably larger, faster and more efficient ships than those we originally envisioned. Two years ago, the preliminary FDL concept called for a vessel capable of carrying about 5,600 tons of division equipment and supplies; the ships we are now considering will be able to carry perhaps twice that tonnage and at an estimated increase in the cost per ship of less than 10 percent.

As I noted earlier in the discussion of the shipbuilding problem, the FDL program represents the first application of the concept formulation and contract definition process and the "total package" approach to ship procurement. The first phase of this approach, "concept formulation", was completed in July 1966 when three contractors were awarded definition contracts. During the first phase of contract definition, the competing contractors prepared their initial proposals around Army and Navy performance requirements and standards instead of detailed ship specifications. Thus, for the first time, the talents of private industry are being brought to bear on the initial design of the ship. During the second phase of the definition process, which has just been completed, the three competing contractors prepared detailed proposals for their design and a comprehensive program plan for their production. As part of these detailed proposals, each of the contractors has developed plans for a new shipyard or modernization of an existing one. Any one of these, in terms of efficiency,

[redacted]

would be far superior to the existing U.S. yards and in terms of design and layout would be equal to the best of the foreign yards.

We are now in the last stage of the definition process, i.e., bid evaluation and source selection. During this period we will be seeking not just the proposal which gives us the most effective FDL from a performance point of view but also the one which offers the required capability at the lowest "life cycle" cost, i.e., design, construction, facility and operating costs. Thus, for the first time in ship design, major considerations are being given to all significant life cycle cost elements, such as the manning, the skill levels, training, the degree of automation, the amount of ship maintenance and reliability required, and integrated logistic support aspects. Since the FDLs will all be constructed to one design and in a single highly efficient yard, we expect to achieve a greater amount of capability from each shipbuilding construction dollar than we ever have before. If this proves to be correct, and we have every reason to believe it will, the FDL program may pioneer the revitalization of the American shipbuilding industry.

At this time last year, the Navy was just entering the first phase of FDL contract definition, which made it difficult to forecast accurately the exact development schedule of these ships. We can now be more definite and as shown on Table 14, we believe we could have the first eight ships operational by the end of FY 1971 and a force of twenty by the end of FY 1972. The entire presently planned 30 ship fleet could be available the following year.

The three VICTORY-class cargo ships which had been used as forward mobile depots since FY 1963 have been temporarily converted to point-to-point service in support of our current effort in Southeast Asia. Our plans now call for retaining these ships in this role through the end of FY 1968. Subsequently, with the end of the Vietnam conflict, we would expect to return them to their forward mobile depot role. At that time we would also plan to add 16 more VICTORY ships to this mission, giving us a fleet of 19 ships which would be retained until a sufficient number of the more efficient FDLs became available in FY 1972.

During FY 1966, MSTS operated in the nucleus fleet an additional general purpose cargo ship to help meet the increased requirements of our Southeast Asia operation. Tentatively, we now plan on retaining this ship through FY 1968, after which the active general purpose cargo fleet is scheduled to decline as shown on Table 14. Another minor change in last year's planned deployments resulted from the fact that one roll-on/roll-off ship which had been expected to enter service in May or June 1966 has been delayed.

With respect to special purpose cargo ships, the temporary Vietnam augmentations which I described a year ago have now been extended through FY 1968. In addition, MSTS will operate 13 more LSTs in FY 1967 than envisioned last year and 14 more through FY 1968. After FY 1968, the special purpose cargo fleet is tentatively scheduled to return to the pre-Vietnam level, as shown on Table 14.

During the past three years, funds have been provided to increase the capacity of six MSTS tankers built during World War II by adding a new center section, at a cost of $4.2 million per ship. Ultimately, a total of ten tankers were scheduled to undergo this modification. Concurrently, as I pointed out last year, we also took under study the alternative of replacing some of these older tankers with new ships. While we are not yet ready to recommend this course, or the long-term chartering of private tankers which is also being studied, we have concluded that the tanker "jumboization" program no longer represents the best or most economical approach to the modernization of the MSTS tanker fleet. Therefore, the tanker conversion program, which actually never got underway, has been terminated and the $24.6 million previously appropriated for this purpose has been used to offset other requirements.

Finally, as described in former years, we intend to keep 16 troop ships in the force through 1970 as a hedge against emergency requirements. To the extent they are not needed in active status, they will be placed in ready reserve, manned by skeleton civil service crews. After FY 1970, we tentatively plan on keeping eight of these troop ships to meet a requirement for transporting the follow-on assault elements of two Marine Corps divisions. Currently, all operating troop ships are in the Pacific in support of our Southeast Asia deployments, and the remainder are in the Atlantic in a Ready Reserve status.

D. FINANCIAL SUMMARY

The Airlift and Sealift Forces I have outlined will require Total Obligational Authority of $1.6 billion in FY 1968. A comparison with prior years is shown below:

($ Billions, Fiscal Years)

	1962 Actual	1963 Actual	1964 Actual	1965 Actual	1966 Actual	1967 Est.	1968 Proposed
Total Obligational Authority	1.1	1.1	1.2	1.4	1.7	1.5	1.6

V. RESERVE AND GUARD FORCES

A. GENERAL

In the preceding sections of this statement, I have discussed the Reserve and Guard forces as they contribute to our various military missions. In this section, I will summarize the numbers of men serving on a paid drill status and the costs of the program. The numbers of Reserve and Guard personnel in regular paid training for the fiscal years 1961 through 1968 are shown on Table 16.

As shown on the bottom of the table, we have budgeted for 1,049,000 Reserve and Guard personnel on paid status at the end of FY 1968. This compares with 1,054,100 at the end of FY 1966 and an expected 1,068,500 at the end of the current fiscal year. Of these numbers, 936,600 personnel are expected to be in a paid drill training status by the end of FY 1968, compared with 985,100 at the end of FY 1967 and 969,200 at the end of FY 1966.

B. ARMY RESERVE COMPONENTS

In accord with the provisions of the FY 1967 Appropriation Act, we are programming the Army reserve components during FY 1967 at average strengths at or above those specified (380,000 for the Guard and 260,000 for the Reserve). In the case of the Guard, the actual FY 1967 end strength is estimated at 418,500, the level originally established a year ago to accommodate the 100 percent manning standard required for the Selected Reserve Force. In addition, by this coming June, the Army plans to reduce the number of untrained enlistees in the Reserve Enlistment Program (REP) to a more normal level of less than 20,000 (compared with about 120,000 in December 1966).

For end FY 1968, we are budgeting paid drill training strengths of 400,000 for the Guard and 260,000 for the Reserve. With a revised allocation of drill pay strength within the Guard structure, the 18,500 men added last year to provide for the 100 percent manning of the Selected Reserve will no longer be needed. Even so, the total strength of 660,000 is still more than we believe to be required to support our current contingency plans. Furthermore, additional work needs to be done to bring the Army's Reserve Force structure into better balance with its Active Force structure. As I noted earlier in my discussion of the Army General Purpose Forces, very good progress was made during the last year in meshing these two structures together under the "One Army" concept. But that work has shown even more clearly that the Army still has units in its reserve components which it doesn't need and still lacks units which are required. Until these conditions are corrected, the Army as a whole will not be able to attain the properly balanced and ready posture which it should have.

In the light of the strong objections raised against the reorganization plan proposed in 1965 and 1966 to alleviate these organizational and structural problems, the Department of the Army is now exploring other ways of solving them. In order that the views of the Joint Chiefs of Staff may be taken into account, the Army's analysis of these problems will not be completed until after the Chiefs have finished their annual review of the military forces in March. Pending the results of this analysis we plan to maintain substantially the status quo. After the Army's study is completed, we will submit appropriate revisions to the FY 1968 Budget request, if necessary.

C. NAVAL RESERVE

For the Naval Reserve, we have programmed a total of 126,000 men on paid drill training status for the end of FY 1968, the same number estimated for the end of the current fiscal year and about 2,200 more than were actually in paid status at end of FY 1966. In addition, about 8,000 Naval Reservists (the same as last year) are expected to perform short active duty training tours during FY 1968.

D. MARINE CORPS RESERVE

The Marine Corps Reserve authorized paid drill training strength was raised by 2,500 in FY 1966 to a total of 48,000 in order to increase the readiness of the Reserve Division/Air Wing Team. This strength will be maintained through FY 1968. In addition, about 2,800 other Reservists will participate in two weeks annual active duty training tours.

E. AIR FORCE RESERVE

For the Air Force Reserve, the FY 1968 Budget provides an end year paid drill training strength of 44,800 compared with 49,900 estimated for end FY 1967. As you may recall, in August 1965 we raised the manning levels of the eleven C-124 groups to 100 percent of authorized strength. In FY 1968, there will be a total of nineteen C-124 groups in the Reserve, all programmed for 100 percent manning. Eight C-119 groups are scheduled to phase out during FY 1968. This phase down, together with other adjustments will result in a net decrease of about 5,100 drill pay spaces. The remaining C-119 groups will be provided a C-2 manning readiness status (combat ready in 48 hours). In addition, 3,400 Air Force Reservists will receive two weeks active duty training and 200 will receive four weeks training during FY 1968, the same as now estimated for FY 1967.

F. AIR NATIONAL GUARD

The FY 1968 Budget provides an end year paid drill training strength of 84,800 for the Air National Guard, about 2,100 higher than the number estimated for the end of the current fiscal year. As in the case of the Air Force Reserve, the Guard was authorized additional spaces in FY 1966 and FY 1967 to raise the manning levels of one tactical air control group, nine F-100 fighter squadrons, and four RF-84 tactical reconnaissance squadrons to 100 percent authorized strength and these authorizations have been extended through FY 1968. In addition, the Guard's C-124 squadrons will also be manned at 100 percent of authorized strength, the fixed AC&W and selected airlift and weather service units will be provided a C-1 readiness manning level and most of the other units a C-2 manning level.

G. OFFICERS EDUCATION PROGRAM (ROTC)

The Senior Reserve Officers Training Corps is a major source of commissioned officers for all of the Military Services. In FY 1968, an estimated 266,000 students will participate in this program, including about 53,000 in the third and fourth year classes. About 23,600 will be commissioned as Second Lieutenants or Ensigns. There are now 477 ROTC units located at 329 institutions throughout the United States. However, in FY 1968, we proposed to add 15 more Army units with an initial expected freshman enrollment of about 5,000.

Under provisions of the ROTC Vitalization Act of 1964 (P.L. 88-647), the Army and the Air Force were authorized to create scholarship programs similar to that which the Navy has had for many years. While each of the three Services will eventually award up to 5,500 scholarships a year, only the Navy is close to that level now. The other two Services, which are still building up their programs, will each award about 3,030 scholarships in FY 1968, compared with 2,000 in the current fiscal year. These scholarships provide for tuition, lab fees, books, and a monthly subsistence allowance of $50 for four years and carry an obligation of four years active military service. In contrast, the non-scholarship program provides no contribution toward tuition or books but includes $50 a month for the last two years of school in return for two to four years of obligated service. The ROTC Vitalization Act also authorized a new two-year course and institutions may employ it, the traditional four-year course, or both. Some 3,300 Army, 400 Navy, and 800 Air Force candidates attended the six-week summer camp last year preparatory to entering the two-year course in the fall.

An estimated 189,000 students are expected to participate in the Army Senior ROTC during FY 1968. Production of commissioned officers will increase from about 11,500 this year to 18,000, reflecting the heightened interest in ROTC following the Vietnam build-up.

The Navy's regular (scholarship) ROTC program will have close to 5,500 participants in FY 1968, about 100 more than in the current fiscal year. The FY 1968 contract (non-scholarship) program will have about 4,000 students enrolled, slightly higher than in FY 1967. The regular and contract programs should produce about 900 and 500 officers respectively in FY 1968.

An estimated 68,000 students are expected to participate in the Air Force Senior ROTC program in FY 1968, and an estimated 5,200 officers will be produced -- about the same as in FY 1967.

The ROTC Vitalization Act of 1964 also provided for expansion of the Junior ROTC Program from 287 participating schools to 1,200 at a rate not to exceed 200 new schools a year. In FY 1967, 468 schools (416 Army, 30 Navy, 2 Marine Corps and 20 Air Force), are scheduled to have Junior ROTC units. In FY 1968, the program is expected to expand to 647 schools (515 Army, 60 Navy, 2 Marine Corps, and 70 Air Force). About 70 percent of the 130 high school National Defense Cadet Corps have transferred to the Junior ROTC Program. Except at the 48 Army full-time military schools, we intend to employ qualified military retirees to conduct the program in lieu of active duty personnel. And, as described last year, we are trying to use this program to interest terminal high school students in becoming career enlisted men by developing a separate course for them.

H. FINANCIAL SUMMARY

The Reserve and Guard Forces I have outlined will require total obligational authority of $2.8 billion for FY 1968. A comparison with previous years is shown below:

($ Billions, Fiscal Years)

	1962 Act.	1963 Act.	1964 Act.	1965 Act.	1966 Act.	1967 Est.	1968 Prop.
Total Obligational Authority	1.8	1.7	1.9	2.0	2.3	2.6	2.8

[redacted]

VI. RESEARCH AND DEVELOPMENT

Included in this major program are all the research and development efforts not directly identified with weapons or weapons systems approved for deployment. We have made a special effort again this year not only to cull out marginal projects in the research and development program, but also to defer to future years all projects whose postponement would not have a serious adverse effect on our future military capabilities. But even while we have eliminated, reduced and deferred projects in some areas of this program, we have had to add, increase and accelerate projects in other areas, to meet new needs growing out of the conflict in Southeast Asia and the military situation generally.

Last year I described Project PROVOST (Priority Research and Development Objectives for Vietnam Operations Support) which we had established to ensure that the R&D program related to limited war situations, which had been accelerated in prior years, would be wholly responsive to the more specific requirements of our forces in Southeast Asia. As a result of PROVOST, projects totaling about $370 million were identified as having significant potential for Vietnam operations and were singled out for priority funding in FY 1966. During the past year, the test of combat in Vietnam has revealed a number of areas where still more effort appears warranted. These newly identified requirements have been an important influence in the formulation of our FY 1968 request. However, most of this work should be started promptly and thus also concerns the current year's R&D program. While a portion of it has been financed by reprogramming or use of emergency funds, we have had to request an additional $135 million for research, development, test and evaluation in in the FY 1967 Supplemental.

Broadly speaking, the projects funded in the Supplemental can be grouped into three main categories. The first, comprising projects totaling $43 million, is concerned with improving the ability of our forces to fight at night and includes developments ranging from night vision aids for the individual soldier to sophisticated airborne reconnaissance sensors. The second category, totaling $60 million, is concerned with reducing our aircraft losses, and includes such projects as improved anti-radar missiles, better electronic countermeasure equipment and laser-aided target ranging systems. The third category, totaling $32 million, is concerned with the development of improved counter-infiltration systems such as detection devices and area denial munitions. As described later, the proposed FY 1968 program provides for additional effort in all of these areas.

[redacted]

Many of the developments undertaken in connection with the Southeast Asia conflict, of course, have a much broader application and a more permanent value than to the immediate requirements of that theater alone. It is interesting to note, however, that many of these new requirements have grown out of the development of new tactics in which existing weapons and equipment are put to new uses. This experience again underscores the close interrelationship between tactics and weapons, and the importance of advancing both simultaneously.

Of even greater significance over the longer run is the relationship of weapons development to strategy. All too often, progress in research and development is measured in terms of the number of large new weapons systems started. However, this view reflects a gross oversimplification of the true role of Defense research and development. The capabilities we seek in our weapon systems must be related to our overall military strategy. Where entirely new systems are required, they must be developed. But where improvements to existing systems will fully serve the purpose, there is nothing to be gained by developing entirely new systems.

Indeed, it is very often difficult to determine at what point an improvement to an existing system produces an entirely new system. This is particularly true with respect to aircraft and missiles. The MINUTEMAN III, about which I spoke earlier, is as far advanced over the MINUTEMAN I as the B-52 is over the B-17. However, it is not the missile alone that is important today; the missile is simply the vehicle that delivers the payload. Rather, it is in the payload that the major advances of strategic significance are being made. [redacted] The fact that it will be installed in existing SSBNs instead of entirely new submarines is completely irrelevant and in no way detracts from its strategic importance, both as a highly survivable system and one which has a very good chance of penetrating an ABM defense system.

With regard to aircraft, it is not the airframe-engine combination alone which determines the effectiveness of an air weapon system, but rather this combination plus the equipment it is designed to carry. This is particularly true in the case of ECM, ASW, and reconnaissance aircraft, all of which depend for their effectiveness upon complex electronic equipment. I have already discussed a number of such aircraft which will be re-equipped with more effective electronics gear, and throughout my discussion of the R&D program, I will be touching on other electronics developments which are designed to improve the effectiveness of existing types of aircraft, missiles, and ships.

Before I turn to the specifics of the FY 1968 Research and Development program, there are two general areas which might usefully be discussed as entities rather than in terms of the separate projects which they comprise. These are nuclear testing and test detection, and the space development projects.

A. NUCLEAR TESTING AND TEST DETECTION

As you know, the Defense Department, in cooperation with the Atomic Energy Commission (AEC), is maintaining four specific safeguards with relation to the Test Ban Treaty. For the Defense Department's portion of this program, we have budgeted a total of $255 million for FY 1968, compared with $224 million in FY 1967 and about $238 million in FY 1966, as shown on Table 17.

In support of the first safeguard -- the underground test program -- we have included $49 million in the FY 1968 Budget and we may have to add (from the DoD Emergency Fund) perhaps $5 million to the $33 million provided in the FY 1967 program. The weapons development test portion of this program is the responsibility of AEC, while Defense has primary responsibility for the weapons effects tests. During the next 18 to 24 months, we will have to conduct a relatively large number of "effects" tests [redacted] Most of [redacted] are designed to provide data on the survivability of our "Assured Destruction" forces. Others are related to the study of satellite vulnerability, survivability of tactical forces, advanced concepts [redacted] and passive defense.

In support of the second safeguard -- maintenance of modern nuclear laboratory facilities and programs in theoretical and exploratory nuclear technology -- our FY 1968 Budget includes $63 million as compared with the $53 million in FY 1967. This program includes research into the effects of nuclear detonations, development of laboratory simulation techniques and equipment to supplement nuclear test data, and computational programs to extend the useful range of nuclear test data [redacted] The program is very productive and continues to attract highly qualified scientists.

The FY 1968 Budget includes about $27 million in support of the third safeguard -- the maintenance of a standby atmospheric test capability; about the same as FY 1967. These funds will provide for maintenance of the operational and scientific facilities at Johnston Atoll, development of improved instrumentation techniques and procurement of prototype equipment, and support of Joint Task Force 8 which is charged with maintaining the "readiness-to-test" capability. The annual overseas readiness exercise, which was conducted in September 1966, showed that we do have the capability to resume atmospheric testing promptly. As I reported last year, we are ready to resume atmospheric effects testing on six months' notice and operational system testing on two to three months' notice.

In support of the fourth safeguard -- the monitoring of Sino-Soviet nuclear activities -- we have included a total of $116 million in the FY 1968 Budget, compared with $111 million in FY 1967. We conduct two principal programs to support this safeguard -- the Advanced Research Project Agency's VELA program and the Air Force's Atomic Energy Detection Systems (AEDS).

The VELA program is directed to the development and demonstration of advanced surveillance systems to detect, identify, locate, and verify nuclear detonations underground, underwater, in the atmosphere, and in space. The FY 1968 Budget includes $50 million for VELA activities. We are continuing our efforts to develop techniques to detect nuclear tests in space and in the atmosphere using satellite instrumentation. In my previous reports, I mentioned that three pairs of VELA satellites (for a total of six) had been placed in high altitude circular orbits in October 1963, July 1964, and July 1965. One of the oldest of these satellites is inoperative and another has power supply problems that require it to be operated on a reduced duty cycle; the others are still performing their mission. [redacted] experiments with these satellite-borne sensors are now being performed to determine the feasibility of using this approach for detecting surface and low altitude nuclear tests.

[redacted]

The VELA underground test detection program is also progressing very well. The 525-detector Large Aperture Seismic Array (LASA) in Montana has met its design objectives. Investigations are now centered on developing techniques unique to LASA which may be useful in the location and identification of seismic events (as opposed to merely establishing the occurence of such events)[redacted] In addition to basic seismological research, the VELA underground program has continued to conduct a series of underwater detonations (employing surplus conventional explosives) near the Kurile Islands to test the use of ocean bottom seismometers for pinpointing earthquakes in that area.

Work is also underway to investigate techniques which could possibly be used by other nations to evade detection of underground nuclear tests. Decoupling of seismic energy by detonation in underground cavities is one evasion concept currently under investigation. The STERLING event, a 350-ton detonation in an underground cavity, was executed on December 3, 1966 to verify theoretical calculations of cavity decoupling. The device was detonated in the cavity produced in the Tatum Salt Dome, near Hattiesburg, Mississippi, by the tamped 5 KT SALMON nuclear detonation in October 1964. Seismic measurements from STERLING are being compared with those recorded from SALMON to determine the decoupling effects of the cavity. There has been experimental verification of the decoupling theory and our early interpretation of the data indicates that the decoupling factor was above 200 for one cycle per second and lower frequencies and decreased to about 100 at ten cycles per second[redacted]

The present Air Force Atomic Energy Detection System (AEDS), designed to detect and identify nuclear detonations, now represents a facilities investment of about $85 million. As noted in previous years, we initiated in FY 1964 a $100 million six-year program to increase the number of stations and modernize equipment. About $58 million was provided in the FY 1964-67 budgets for this effort and $16 million is included in the FY 1968 request. An additional $46 million will be needed in FY 1968 for the RDT&E and operating costs of the system.

B. SPACE DEVELOPMENT PROJECTS

While the various elements of the Defense Department's space effort are spread, on a functional basis, throughout the program and budget structures, I believe this effort can be more meaningfully discussed as a separate entity. [redacted]

The Defense Department's program is, of course, wholly integrated into the larger National Space Program, expenditures for which now total over $7 billion a year. The Defense portion is designed to maximize the utilization of space technologies and environments for military purposes, e.g., to apply space technologies and capabilities to our strategic and tactical weapons systems to increase their effectiveness, to exploit the new potentials in information systems made possible by satellite-based communication and sensors, and to explore the usefulness of manned space systems for military purposes. [redacted]

In addition, the Defense program complements the efforts of NASA and other government agencies in areas where the Defense Department has already achieved a high degree of technical expertise. What the Defense program should not do, and what we carefully seek to avoid, is duplicate the work already being done by NASA or other agencies engaged in the National Space Program. I established from the outset the firm requirement that our space efforts must mesh with those of NASA in all vital areas and that, together, they must constitute a single fully integrated national program. The free and full exchange of information between the Defense Department and the other participants in the National Space Program is the best way to maximize the advance of space technology, speed its useful application and prevent wasteful duplication. Both formal and informal channels are employed for this purpose. Not only do I meet and correspond directly with Mr. Webb, but members of my staff at all echelons are in continuous contact with their counterparts in NASA.

[redacted]

In addition, there are more formally organized bodies that meet periodically to assist in achieving a single integrated national space program. During the past year, the Aeronautics and Astronautics Coordination Board met five times and examined such questions as reusable launch vehicle technology, large liquid fuel engine technology, and possible requirements for new satellite navigation systems. The Board also reviews the proposed construction programs of the respective agencies in order to eliminate unwarranted duplications. The Manned Space Flight Policy Committee, created early last year, examines major policy issues in the Manned Space Flight program.

DoD provides direct support to NASA in a great many ways. Indeed, there are over 400 separately identifiable activities of this type, including range and host base support by the Air Force, major construction by the Army, and flight recovery by the Navy and Air Force. The total value of DoD support to NASA is about $500 million per year, of which about 80 percent is reimbursed by NASA. We are currently engaged in discussions with NASA concerning the remaining unreimbursed costs.

To assist NASA further, we have made available about 225 experienced military officers, in addition to the astronauts. The APOLLO program, in particular, is well supported by officers experienced in the development of large military boosters.

Thus, the Defense Department's program will continue to provide, together with the programs of other agencies of the Government, a broad base of technology and experience to permit the timely development and exploitation of space systems and capabilities which may be needed in the future. We can be sure that new discoveries and developments growing out of our space efforts will eventually open up entirely new applications and capabilities which cannot now be clearly foreseen. At the same time we pursue those efforts whose military applications are evident, we must also insure against an uncertain future by continuing to create a foundation of space technology, knowledge, and experience which is sufficiently broad to provide for future applications as they materialize and are identified.

In total, about $1,998 million of our FY 1968 Budget request is for the space program, $328 million more than in FY 1967.

1. Spacecraft Mission Projects

By far the largest project in this category is the Manned Orbiting Laboratory (MOL), for which we are requesting $431 million in FY 1968. Last year I described the preliminary steps we planned to take in advancing the project; briefly recapitulated they were:

[redacted]

(a) Definition by the Air Force of an experimental program, in cooperation with NASA.

(b) Air Force-conducted studies of the desired configuration of the MOL system, viz., a GEMINI B vehicle, a laboratory section, and a TITAN III C booster. (Utilization of NASA's APOLLO system was also considered.)

(c) Utilization of TITAN III R&D flights to test proposed GEMINI B and laboratory components.

(d) Initiation of program definition design studies with the $150 million provided in the FY 1966 Budget, to be followed in FY 1967 by more detailed designs, system integration, and the preparation of specifications, firm cost proposals, and hardware development contracts.

The baseline configuration of the MOL has now been selected; it consists of the GEMINI B, a laboratory vehicle, and the TITAN III M (which has seven instead of five segments). In November 1966, a highly successful test of a TITAN III C R&D vehicle was accomplished. A refurbished GEMINI space capsule, modified by the incorporation of a hatch in the heat shield (which is required in MOL as a means of astronaut access from the GEMINI B to the laboratory section), was carried aloft and then ejected by the TITAN III C. Test data confirmed the ability of the shield to withstand reentry conditions and meet MOL requirements. In addition, the TITAN III C demonstrated its structural integrity and control capability in the launch of a long payload structure, placing three other satellites into orbit.

Site preparation at the Western Test Range and the design of the launch complex were completed in 1966, and invitations for bids on construction have been issued. Mock-up assemblies of the laboratory and mission module have been completed by their respective prime contractors, in order to assure systems integration, and the procurement of developmental hardware has begun.

Twelve aerospace research pilots have been selected from the Air Force, Navy, and Marine Corps and assigned to the MOL Program. In addition to training for "on-orbit" duties, each astronaut is assigned to special areas of systems engineering and test operations as a member of the MOL development team.

Although the MOL has primarily defense-oriented objectives, we will continue to work closely with NASA to ensure that it remains a fully coordinated and integrated element of the National Space Program. We will, of course, continue to use NASA's manned spaceflight efforts for experiments of interest to Defense. Conversely, the Air Force, which is managing the MOL program, will attempt to accommodate NASA's experiments wherever they will not seriously interfere with the attainment of military objectives.

During the contract definition stage, a relatively low level of expenditures was maintained to ensure properly paced and balanced progress as well as contractor capability and readiness. Now, however, MOL is moving into the engineering development stage -- contracts have been negotiated, subcontractors selected, and the engineering build-up is accelerating. In FY 1967, $237 million has been programmed for MOL, including the additional $50 million appropriated specifically for this purpose by the Congress last year and $28 million provided by reprogramming other available funds. As mentioned earlier, $431 million is requested for FY 1968. Major design work will be completed, test versions will be produced, and the fabrication of flight hardware will be started in FY 1968. Successful completion of these tasks should make possible a first manned flight late in calendar year 1969.

The GEMINI (Manned Space Flight) Program has been completed. Thirteen Defense-sponsored experiments were accomplished in the areas of communications, photography, navigation, and radiometry, and the data and experience gained will be utilized in support of the MOL program.

A total of $83 million is requested in FY 1968 to continue work on Defense Satellite Communications programs and to procure, operate, and maintain satellite communications equipment. The present status of Government programs in this field of interest to Defense is as follows:

The NASA-developed SYNCOM II and SYNCOM III, orbiting radio repeaters, moved from the development to the operational stage in July 1966 and, in conjunction with Defense surface terminals, are now providing regular communications services for our forces in Southeast Asia and the Western Pacific. These satellite circuits have proved quite effective and, in some instances, have been the only means of communications available.

In June 1966, a TITAN III C R&D booster performed in near-perfect fashion to place seven IDCSP (Initial Defense Communications Satellite Project) satellite repeaters into equatorial, near-synchronous (18,200 n.mi.) orbit. The eighth satellite in this launch was an experimental device designed to explore the feasibility of using the earth's gravitational forces to stabilize a satellite in such a high orbit. This launch is noteworthy because of its complexity and injection sequence and because of the number of satellites simultaneously placed in orbit. Unfortunately, in the second attempt last August, the launch vehicle had to be destroyed when a portion of the protective fairing broke away, rendering it aerodynamically unstable.

The seven IDCSP satellites are performing in excellent fashion and are currently being used for world-wide system testing, with terminals in the United States, Germany, Africa, Hawaii, Vietnam and the Philippines. Initial difficulties experienced with the overseas terminals, resulting from their hurried deployment to Southeast Asia, are being overcome as we gain more field experience. Eight more satellites were successfully placed in orbit on January 18, 1967, and are undergoing initial communications tests. An attempt to launch another four satellites will be made in May to complete the initial space system. Our calculations now indicate that we will need to begin to replenish this system with new satellites in 1968.

I noted last year that studies were underway to determine the characteristics of an advanced system. These studies have been completed and are now being reviewed in light of a Memorandum of Understanding with the United Kingdom, completed in September 1966. Under the terms of the Memorandum, we have agreed to augment our initial system, at U.K. expense, so as to provide the U.K. an operational synchronous satellite communications capability in 1968. We are examining several alternative ways of achieving the operational system. [redacted]

Another important facet of work being done in the field of satellite communications is the application of this new technology to certain important communication needs of the tactical combat forces. In contrast to the Defense Satellite Communications System, which is primarily designed to meet the "long haul" requirements of the Unified and Specified Commanders and the Services, the Tactical Satellite Communications (TACSATCOM) program is designed to meet the needs of the land, sea, and air forces in the field. This program requires very small, lightweight, and less costly tactical equipment in networks characterized by great flexibility and minimum control. We have already initiated development and fabrication of an experimental tactical communications satellite to be launched by a TITAN III C R&D booster in mid-1968. Specially designed surface terminals will be installed in tactical surface vehicles, operational aircraft, and combat surface ships and submarines in order to accomplish adequate technical and operational testing in simulated and real tactical environments. The $26 million requested in FY 1968 for the TACSATCOM portion of our overall satellite communication program will complete the development and fabrication of both the experimental spacecraft/repeater and the associated surface terminals and will permit operational and technical testing to start in the second half of 1968. A limited initial operational capability to respond to certain emergency situations could be available by the end of 1968. The future growth of the system will depend on the results of the 1967-68 experimental program.

Of the $83 million requested for Satellite Communications programs in FY 1968, about $17 million is for the development, procurement and operation of Army ground terminals; $13 million is for Navy shipboard terminals; and $49 million is for Air Force space subsystems, airborne terminals, launch vehicles, and the costs of procuring and launching new satellites. In addition, $3 million is for the Defense Communications Agency for overall systems engineering and management direction.

[redacted]

I have already discussed the next item, "Nuclear Test Detection (VELA)", in connection with the Test Ban Treaty safeguards. The FY 1968 Budget includes about $8 million for this program.

We are requesting $18 million for [redacted], the Navy's satellite navigational system [redacted]. This system permits ships to determine their precise location promptly. It is presently being used by POLARIS submarines, aircraft carriers, and the range ships. The present ground-based portion of the system consists of a master station and three tracking stations. About $17 million of the FY 1968 request is for the procurement of new satellites and launch vehicles to replace inoperative or dying satellites, and for operating and maintenance costs. A contract for the commercial production of the satellites has already been let. (The present satellites were fabricated in Navy laboratories.) The remaining funds will support further development work to improve the system's reliability and life expectancy, as well as the preparation of an almanac to predict the orbital paths of the system's satellites over a six to twelve month period. Presently, the master ground station has to inject orbital data into the satellite's memory bank every twelve hours for rebroadcast; the almanac would permit simplification of the electronic memory circuit, one of the most complex parts of the satellite. Potential applications of this navigational satellite system to tactical ground and air operations, and designs for tactical satellite navigation receivers are also now being studied by the Navy.

[redacted]

Research and development funding for the other anti-satellite system, [redacted], has been completed. [redacted] for FY 1968 will provide for the normal operating costs of the system.

[redacted] for space "Geodesy" will support programs by each of the Services as well as the Department of Defense's participation in the National Geodetic Satellite Program. While the aim of each of these efforts is the same -- to provide more detailed information about the earth's size, shape, mass, etc. to facilitate more precise mapping, charting, and geodesy -- each Service is currently using a different method to obtain these data. The Navy uses doppler observations, the Air Force stellar cameras, and the Army the SECOR (Sequential Collation of Range) satellite system. For example, in November 1965, the launch of NASA's GEOS A satellite carried into orbit an Army SECOR transponder, an Air Force optical beacon, and a Navy doppler beacon as well as various NASA sensors. Three Army SECOR satellites were also put into orbit in 1966 and a "follow-on" satellite, the GEOS B, is scheduled for launch this spring. Portable ground stations are employed to fix a satellite's orbit precisely and receive the data it provides. While each Service's system requires its own specialized sensors and receiving equipment, the data they generate are complementary, not redundant.

2. Vehicle, Engine and Component Developments

The TITAN III family of space boosters has begun to enter the operational inventory. The first TITAN III B (AGENA configuration) was launched last July and production is now proceeding [redacted] The TITAN III C has been in the flight test phase since June 1965 and is being used to launch the Initial Defense Communications Satellite, VELA, Tactical Communications Satellite, and multiple engineering payloads. [redacted]

The [redacted] requested for "AGENA D" will continue work being initiated this year to increase the [redacted] capability of the standard AGENA D for the heavier satellite payloads now projected [redacted] This program involves modifying the engine to operate on storable propellant, developing a small secondary propulsion module operating off the engine's main tanks, and making the necessary changes in the vehicle's overall configuration to accommodate these modifications.

The [redacted] requested for "Spacecraft Technology and Advanced Reentry Tests (START)" will complete the present phase of this program. Two efforts are involved. Project PRIME is a feasibility flight demonstration of a small maneuverable lifting body (SV-5) [redacted] The fourth and last PRIME flight is scheduled for this summer. Project PILOT is concerned with investigating the characteristics of the SV-5 vehicle in the low supersonic, transonic and subsonic regimes, a preliminary step to the possible future development of a reusable space vehicle capable of maneuvering reentry and landing at a preplanned location.

The $6 million requested for "Advanced Space Guidance" will support an on-going program of studies, experiments, and equipment development in such areas as long-term accuracy and reliability of inertial guidance components, horizon sensors and star and landmark trackers, and on-board determination of astronomical data for autonomous navigation. The FY 1968 program includes procurement of an inertial reference unit (which will serve as an instrumentation standard for the sensors) and other navigation components, such as low level accelerometers and landmark trackers, which will then be flight tested.

The "Large Solid Propellant Motor" project was undertaken to create the technology base required for the development of missile or launch vehicle engines up to 156 inches in diameter. Funds already provided will be sufficient to complete the remaining tasks, i.e., demonstrations of a low cost nozzle, an advanced thrust vector control system, and a self-eject launch concept.

The next item, "Advanced Liquid Rocket Technology", [redacted] comprises three projects: (1) advanced storable liquid rocket technology; (2) high performance, cryogenic liquid rocket technology; and (3) maneuverable space rocket technology. The first is oriented to the development of an advanced ICBM propulsion system of modular construction [redacted] The second project, the Defense portion of a NASA-DoD national development program, is designed to provide the technology for an engine [redacted] Such an engine would have many applications including high energy upper stages, reusable spacecraft propulsion and, when used in clusters, a versatile launch vehicle. The third project is concerned with developing the technology for a hydrogen-flourine, high acceleration rocket engine capable of continuous throttling for maneuverable space propulsion. [redacted]

3. Other Defense Activities Supporting the Space Program

The Ground Support category shown on Table 18 is that portion of the costs of the missile ranges, test instrumentation, and satellite detection and tracking systems which is charged to space activities. The largest item in this category is the $132 million for the Eastern Test Range.

"SPACETRACK (Air Force)" and "SPASUR (Navy)" are ground-based satellite detection tracking and identification systems and include the field elements of the NORAD Space Detection and Tracking System (SPADATS). SPACETRACK is a world-wide network of radars and optical devices which detects, tracks, and computes the orbits of spacecraft. SPASUR is a warning network which sounds an alarm when a satellite is detected; the precise location of the object is then determined by triangulation. The FY 1968 request includes $34 million for support of SPACETRACK and $5 million more for SPASUR, for a total of $39 million.

The $57 million requested for the "Satellite Control Facility" is for operation, maintenance, and modification of the military space vehicle support network which provides satellite tracking, command, data handling, and recovery as required by the major Defense space programs. The FY 1968 funding will also provide the necessary equipment for the activation of a permanent tracking station on Guam and an expanded control center now being constructed in California.

The last two categories on the table, "Supporting Research and Development" and "General Support", constitute the overhead of the military space program and consist of prorated portions of the costs of a wide range of space-related activities.

I would now like to turn to the details of the Research and Development program proposed for FY 1968. As you know, our research and development effort is organized in five sequential steps: Research, Exploratory Development, Advanced Development, Engineering Development, and Operational Systems Development. The first four constitute the Research and Development Program; the last, which pertains to systems approved for production and deployment is spread throughout the other major programs.

C. RESEARCH

Last year I discussed in considerable detail the problems involved in organizing and managing a Research program consisting of literally thousands of individual tasks and projects, most of which require relatively small amounts of money for their support. I pointed out that because of the large number and relatively small dollar value of these projects, we had to manage the program from my office on a "level of effort" basis, with the objective of advancing our knowledge in a balanced manner across the entire spectrum of science and technology pertinent to the Defense effort. To facilitate the management of the program and to insure that it is always responsive to changes in our fields of interest, I noted that we had organized the overall effort primarily in terms of disciplines, i.e., materials, general physics, chemistry, oceanography, etc., and that the effort in each discipline was allocated among the components of the Department on the basis of their primary fields of interest and competency. I believe we can all agree that our military strength a decade or more hence will depend importantly on how well we do now in expanding our fund of basic knowledge in the fields of the physical, chemical, biological, medical, and social sciences. It is from this realm of ideas, theory, and basic measurements that the new devices and inventions needed for the development of future weapons will eventually emerge. But we must continue to seek out waste, overfunding, and duplication (not only in Defense but between Defense and other agencies) in this effort; and here I believe we are making some progress.

Shown on Table 19 is the Research program proposed for FY 1968, compared with prior years. You will notice that there is a sharp reduction in the amount of funds allocated to Materials Research and to a lesser extent for In-House Laboratory Independent Research. In both cases, the amounts of unobligated and unexpended funds exceed the levels dictated by prudent management. Accordingly, the amount of new funds requested for FY 1968 has been reduced below the actual program levels which will be about the same as in FY 1967.

The reduction shown for Nuclear Physics in FY 1968, however, does reflect an actual decrease in our program in high energy physics. We believe this reduction is possible and desirable at this time, because of the large increases in this same area planned by other agencies (notably the Atomic Energy Commission). We have been working closely with the National Science Foundation and the AEC on this matter in order to avoid unnecessary interruption in university research as we reduce our support and they increase theirs.

The increase shown for oceanography is needed to begin to equip the nation's oceanographic research centers with a fleet of modern vessels. As each of these new ships nears completion, approximately $1 million is required for purchase of the special instruments and measuring gear required and for the ship operating costs, both of which are financed in the R&D budget.

The increase in Nuclear Weapons Effects Research is required because of the growing number of nuclear environmental problems with which our equipment must be able to cope. [redacted]

Included in the FY 1968 request for research is $27 million for the Defense Department's share of the national program for developing "New Centers of Excellence in Science and Technology". This program, previously referred to as the "University Program" and now called THEMIS, is in addition to our regular contract/grant arrangements with institutions of higher learning and is not a substitute for them. Rather, the new program is designed to create, eventually, about 100 new departmental centers of superior scientific and engineering competence at universities which are, at present, poorly supported. Patterned after the Joint Services Electronics Program, from which significant technical advances like the laser evolved, this new effort holds great promise of yielding a similar "pay-off" in the future.

We have initiated Project THEMIS this year at a level of $18 million, and have supplied interested colleges and universities with detailed information on our requirements. Already several hundred institutions have indicated that they are interested in participating. At the start, we will concentrate on setting up approximately fifty of these departmental centers, rather than attempt to spread the available resources over a larger number of smaller contract grants. Past experience indicates that there is a "critical size" or "level" of support which must be reached before significant results can be expected; this level appears to be on the order of $200,000 per year. Additional centers will be started in FY 1968.

D. EXPLORATORY DEVELOPMENT

Exploratory development is directed toward the expansion of technological knowledge and its exploitation in the form of materials, components, and devices which it is hoped will have some useful application to new military weapons and equipment. Here the emphasis is on invention and on exploring the feasibility of various approaches to the solution of specific problems, up to the point of demonstrating feasibility with a "bread board" device and even, in some cases, prototype components and subsystems. Along with Research, Exploratory Development forms the technological pool from which future equipment will be designed.

The more than 800 individual exploratory development projects represent about 15 percent of the cost of the entire RDT&E program, with the average project requiring about $1.3 million annually. About 40 percent of exploratory development work is conducted by our "in-house" laboratories, 50 percent is contracted to industry, and the remaining 10 percent is performed by educational and non-profit institutions. A recent study of the origin of weapon system performance improvements has shown that almost all have resulted from Defense supported technological advances and very little from other sources.

As shown on Table 20, we are requesting a total of $988 million for Exploratory Development in FY 1968, $65 million less than the revised estimate for FY 1967.

1. Army

For the Army's Exploratory Development program, $216 million is requested for FY 1968, somewhat less than the level planned for FY 1967. [redacted]

In the areas of electronics and communications, the development effort includes: small rugged field operated digital data processing equipment; communications equipment having increased traffic handling and improved anti-jamming capabilities; devices for rapid, positive, and automatic recognition and identification among friendly surface units and between them and their supporting air units; new sensors for airborne and ground surveillance and target acquisition of enemy units on the battlefield; [redacted] communication sets, and variable time fuzes; night vision devices; improved solid state, thermionic and frequency control components common to a variety of equipments; etc. Efforts in the ordnance category include work on weapons systems for Army helicopters, the improvement of missile components, and development of conventional ammunition, weapons, and explosives.

In the materials category, the Army is concerned with the development of new metals, ceramics, plastics, and composite materials which can improve its firepower, mobility, armor, and communications, with particular emphasis on high strength, lightweight materials for use in the field. For example, aircrewmen in Vietnam have been provided with an armored vest made from a composite ceramic material which resists penetration by small arms projectiles. Although these vests are still too heavy to be used by ground troops, they have proved valuable for vehicle drivers, convoy guards, and other personnel whose jobs do not require a high degree of mobility.

2. Navy

The Navy's Exploratory Development effort in FY 1968 will require $272 million, compared with $283 million now estimated for FY 1967. Approximately one-third of the Navy's program is devoted to improving the design of ships, aircraft, and other "sea based" warfare systems, including: higher performance, lower cost nuclear propulsion systems for surface ships and submarines; sea based countermeasures to help protect ships against mines, torpedoes, air-to-surface missiles, and nuclear attack; and better shipboard radar and sonar equipment to improve target acquisition, surveillance, and navigation. A large number of projects are directed toward developing new or improved materials, equipment, and designs for ships; in the past, these efforts have produced the "captured air bubble" craft, hydrofoil craft, and ship hulls for penetrating heavy ice formations.

Another large share of the Navy's program is concerned with electronics and communications, in particular with improving the performance and reliability of complex sea-based electronic systems which are subject to extreme variations in temperature, humidity, and shock. New surveillance, navigation and communications equipment for Navy aircraft is also of major interest.

A third major area, "Ordnance", comprises a large number of projects in such areas as anti-submarine warfare, mine warfare, air- and shipboard-launched ordnance as well as component work in propulsion, fuzes, explosives, pyrotechnics, ballistics, and infrared and laser devices.

3. Air Force

Previously, the Air Force had budgeted separately for the supporting laboratory expenses associated with the exploratory development program. As part of an overall restructuring of its exploratory development program, these expenses have been prorated to the over two hundred individual projects which the laboratories support. The other Services have been prorating their laboratory costs for a number of years.

A portion of the Air Force's Exploratory Development program, for which $285 million is requested in FY 1968, will again be devoted to space investigations and space-related projects. Each of the categories shown on the table, except for ordnance, includes some space-related projects. For example, a large share of the funds shown for "Chemical Technology" will be devoted to the development of propellants and propulsion systems for missiles and rockets, and hence for space boosters. "Aeronautics" includes projects which cover the entire speed/altitude regime from V/STOL flight to space and reentry technology. These projects are directed toward developing the technology and understanding for extending Air Force operations into new operational environments such as hypersonic flight, for improving the capabilities of present aircraft, and for reducing the cost of future aircraft developments.

As a part of the reorganization of the Air Force's exploratory development program, a "Bioastronautics" category was created, embracing the Air Force's effort in the life sciences, aviation medicine, and machine-environmental systems support for aircraft and space activities. The funds shown on the table will support the activities of the seven Aerospace Medical Division laboratories, as well as development of the life support systems for the Manned Orbiting Laboratory.

The closely related areas of communications, electronics, and avionics account for about one-third of the Air Force's program, while only a relatively small effort is conducted in the area of conventional ordnance. With respect to "materials", the Air Force is exploring new composites having enhanced radiation, blast, and X-ray resistance; metals with improved strength and stiffness; and sealant and elastic materials formed from the new polymers. For example, a new, high temperature, fire resistant hydraulic fluid currently being investigated may reduce the fire hazard associated with aircraft hydraulic systems ruptured in combat.

4. Advanced Research Projects Agency (ARPA)

ARPA operates as a small research and development management team, supervising its Service-conducted programs by overall financial control and technical direction. A total of $215 million is included in the FY 1968 Budget for ARPA's projects in Exploratory Development, compared with $231 million in FY 1967 and $225 million in FY 1966.

a. Project DEFENDER

The DEFENDER program is the principal exploratory development effort designed specifically to provide the missile and reentry technology associated with strategic defensive and offensive systems, and to develop concepts for advanced defensive systems against ballistic missile attacks. In FY 1968, about 40 percent of the $118 million requested for this project will be devoted to missile reentry and midcourse phenomenology [redacted]

An important series of studies and tests, called the Pacific Range Electromagnetic Signature Studies (Project PRESS) will be continued in FY 1968, but with some [redacted] changes in emphasis. [redacted] the future [redacted] increasing emphasis on the development of offensive systems. [redacted]

[redacted]

The FY 1968 Budget includes $0.7 million for the last increment of a $17 million "ALTAIR" radar that will be used for Project PRESS experiments, extending the capability of the PRESS system to the [redacted] This radar, [redacted], is designed to provide some of the data necessary for the development of [redacted] penetration aids for MINUTEMAN and POSEIDON and for investigating discrimination criteria [redacted] As previously mentioned, Project DEFENDER has been an important complement to the NIKE-X development.

Another DEFENDER program, HiBEX (High-G-Boost Experiment), has completed its exploratory phase and this technology will be taken over by the Army for further advanced development work. HiBEX provided significant data on high acceleration technology, which contributed to the development of the SPRINT missile. The successor projects to HiBEX, called PRESTAGE and UPSTAGE, will explore technology for high acceleration, maneuverable interceptor missiles [redacted]

Work is also being done on Over-the- Horizon radars and on the development of an inexpensive array radar (HAPDAR) which would have the capability of being hardened and applied to Hard Point Defense systems. [redacted]

b. Project VELA

Project VELA has already been discussed in connection with the Test Ban safeguards program. For FY 1968, $50 million is requested, slightly more than in the current fiscal year.

c. Project AGILE

For FY 1968, $27 million is requested for Project AGILE, about the same as FY 1967. This is our basic research and development effort oriented to the special problems of remote area conflict with particular reference to the requirements of insurgency warfare. Rather than concentrating on "quick fix" solutions to equipment problems or the immediate operational needs of the present conflict in Southeast Asia, Project AGILE is principally directed to exploring, in depth, the environments in which this type of warfare occurs, the motivating attitudes of the people involved, and the interrelated elements of the conflict itself. Thus, much of AGILE's resources are necessarily devoted to relatively long-range studies of human behavior and motivation, environmental conditions, and other factors which we hope will help us to understand how to fight and win this kind of war.

[redacted]

AGILE's operations can be divided into four major types of activity. The first, "Counterinsurgency Analysis and Requirements", covers studies of such factors as the climate, soil, hydrology, vegetation, microbiological life, transportation, distribution system, etc., of current or likely conflict areas. Also included are investigations of the behavior patterns of both insurgents and friendly populations under actual conflict conditions. The second category, "Advanced Technology", covers the development of "hardware" specially designed for remote area conflicts [redacted] The third category, "Counterinsurgency-Oriented Behavioral Research", attempts to provide through first-hand investigation a better insight into foreign cultures and their relationship to specific counterinsurgency problems. Examples of such studies include "Viet Cong Motivation and Morale", "Rural Pacification in Vietnam", and "Isolating the Guerrilla". AGILE's fourth area of effort, "Counterinsurgency Systems", is concerned with developing systematic approaches to unconventional warfare situations by integrating solutions to a variety of individual insurgency problems into a single coherent program. Such an approach was used in developing the Rural Security Systems Program which is now being tested in Thailand.

E. ADVANCED DEVELOPMENT

This category includes projects which have advanced to a point where the development of experimental hardware for technical or operational demonstration is required prior to the determination of whether the item should be designed or engineered for eventual Service use. In contrast to engineering development where design specifications are employed, advanced development permits the use of performance specifications which allow the engineer greater latitude in meeting operational needs, thereby encouraging innovation. A total of $1250 million is requested for advanced development in FY 1968 compared with $922 million in FY 1967 and $807 million in FY 1966. The sharp increase in FY 1968 reflects the growth of a few major projects, most notably MOL.

1. V/STOL Developments

The first two items listed on the table for Army "Advanced Development" are related to the Defense Department's total V/STOL effort in which all three Military Departments are participants. For a number of years, the Department has been developing a variety of vertical and short take-off and landing (V/STOL) aircraft. This program has focused on the construction of prototype aircraft suitable for operational testing by all three Services. The present status of this program is recapitulated below:

a. The XC-142A, a tilt-wing turboprop transport with a cruise speed of 250 knots, a combat radius of 200 n.mi., and a 4-ton payload, has been undergoing technical and operational evaluation by a tri-Service test group with some participation by NASA and the FAA. A total of five XC-142As were purchased, two subsequently crashed (one in October 1965 and the other in January 1966) but one complete aircraft was salvaged from the two crashes. A third aircraft was damaged recently in a runway accident, unrelated to its V/STOL features. The $3 million requested for "Tri-Service V/STOL" in FY 1968 (under Air Force Advanced Developments) should complete funding of the test program. These aircraft are approaching their maximum safe life of 300 flight hours and costly life extension modifications would not be warranted. Although the XC-142A has not been as successful as we had hoped, it has provided much valuable data for the design of an improved version if that should prove desirable, and the Air Force is currently considering such an aircraft for future use.

b. The X-22, a Navy monitored tri-Service V/STOL R&D project, is a twin tandem, tilting-duct, fan-powered flight vehicle, which closely simulates the characteristics of conventional aircraft and was designed to provide technical data on stability and control criteria for V/STOL aircraft generally. One of the two aircraft built crashed in August 1966. The $2 million in the FY 1967 Budget will be sufficient to complete the presently scheduled Department of Defense test program for the X-22. The remaining aircraft may then be turned over to NASA for further testing.

c. The XV-6A (P-1127) is a British designed, lightweight V/STOL strike-reconnaissance aircraft, first flown in October 1960. A total of nine test aircraft were constructed under a joint program with the United Kingdom and Germany. The tripartite evaluation of the aircraft was terminated in 1965, although the U.S. continued to conduct operational tests of its six aircraft until July 1966. Two of these aircraft have been turned over to NASA while the other four will be held by the Air Force pending evaluation of further testing proposals.

d. Two XV-4As, an augmented jet lift aircraft, were tested by the Army until May 1965. One aircraft was lost during the testing period and the other , which was turned over to the Air Force, will be modified with direct lift and diverted thrust engines and designated the XV-4B. It is to be utilized in the Air Force's VTOL integrated flight control program.

e. The second of two XV-5As, an experimental fan-in-wing aircraft, crashed last September while being operationally evaluated as a rescue aircraft. (The first crashed in April 1965.) All of the remaining assets associated with the program have now been transferred to NASA.

f. Another V/STOL effort just getting underway (listed on the table under Air Force Advanced Developments "V/STOL Aircraft Technology") is the joint development of a strike fighter aircraft with the Federal Republic of Germany. The $3 million provided in FY 1967 should complete the financing of the configuration (i.e., contract) definition phase. At present, this effort is directed to V/STOL technology rather than full scale engineering development. Each nation will make its own decision concerning production. Since a decision on prototype development cannot be made until we have thoroughly reviewed the configuration definition results (now scheduled for completion in October 1967), no additional funds have been requested for FY 1968, although they would be needed if the program were continued.

g. The Army's "New Surveillance Aircraft" project is now a continuing long-range study effort concerned with the determination of desirable characteristics of a reconnaissance and surveillance aircraft for the mid-1970s.

[redacted]

In summary, we are now coming to the close of the current phase of our V/STOL development effort. The present generation of prototype aircraft have all begun to reach their safe limits or have been destroyed by accidents. The tests we have conducted have yielded a wealth of new information on the design, capabilities, and problems of V/STOL aircraft, but have not adequately identified a military mission in which a current V/STOL aircraft could be expected to out-perform other available aircraft types. For this reason, our overall effort on V/STOL development will decline in FY 1968, although the Services will continue to re-examine the results of these programs and how these may be applied to future aircraft needs. In any event, it appears that a great deal of research and experimental work, particularly on propulsion systems, remains to be done before we will be ready to undertake full scale engineering development of a V/STOL aircraft. NASA, of course, will continue its R&D effort in the V/STOL area.

2. Army

I have already discussed the first two items on the Army's list of advanced developments. No additional funding is needed for the third item, "Heavy Lift Helicopter". This is the CH-54 "flying crane" which is now in operational use in Vietnam.

Some $12 million is requested for the "Research Helicopter" in FY 1968, a sizable increase over previous years. The Army has completed a study of three different system configurations designed to improve the speed of future helicopters, including "stopped-rotor", "stowed-rotor", and "tilt-rotor" versions. The stopped-rotor version was eliminated from further consideration because its flight range was greatly reduced by prolonged hovering. The FY 1968 funds will be used to build wind tunnels and dynamic scale models of the stowed- and tilt-rotor versions. The program is oriented primarily to the development of technology which will yield an efficient aircraft that will both hover and have a flight speed of about 400 knots.

The $3 million requested for "Aircraft Suppressive Fire Systems" is for work on improved helicopter-borne weapons for our forces in Vietnam, including evaluation of various fire control systems, guns, missiles, and rockets. About half the funds will be used for feasibility demonstrations of presently available missiles and rockets, and most of the balance on advanced fire control systems and optical sighting devices.

The next item, $4 million for "Automatic Data System/Army in the Field", covers the development of electronic data processing (EDP) equipment needed to help maintain and analyze data for the field commander regarding the current tactical status of his own and enemy units and

[redacted]

of his various tactical plans and alternatives. At present, the compilation of such data requires many hours of manual labor. The EDP equipment should also prove to be useful for performing certain fire control functions and for maintaining personnel and logistics data. Contracts for initial equipment have been awarded and the Army plans to begin field experiments with the Seventh Army in Europe during FY 1968.

The SAM-D, for which $35 million is requested in FY 1968, is an advanced surface-to-air missile system previously mentioned in connection with both the Strategic and General Purpose Forces. It is designed to provide all-weather defense against the medium and high altitude aircraft threat to both the Army in the field and the continental United States. In addition, it should be able to provide some defense capability against very low altitude aircraft and tactical ballistic missiles. SAM-D is now in the contract definition phase which will be completed this spring. We will then have to decide whether to proceed directly with development of an integrated system suitable for direct operational deployment, to limit development to a prototype system for feasibility demonstration, or to return to concept formulation. The second option would provide additional time to incorporate still more advanced technology and lead to demonstration tests in calendar year 1969. The first option would lead to full service tests in FY 1970. The funds requested will support any option. The major remaining task is to integrate into a working model a number of components, the feasibility of which has already been verified on an individual basis. The SAM-D program is closely related to the Navy's Advanced Surface-to-Air Missile System program and the development of the respective subsystems and components is being fully coordinated by the two Services.

The $6 million for "DoD Satellite Communication, Ground" covers the Army's portion of the Defense Satellite Communications programs, which were discussed earlier.

The $20 million requested for "NIKE-X Advanced Developments" will finance development of those advanced components whose lead times would not permit their incorporation in an early deployment of the system. This work fills the gap between the engineering development effort and the development of completely new hardware for possible use later.

The $5 million requested for "Anti-tank Weapons" will provide for the evaluation of new anti-tank missile concepts, hopefully leading to selection of a system to replace SHILLELAGH and TOW during the mid-1970s. Present efforts are directed toward identifying those system characteristics which together seem to offer the best chance of achieving an effective low cost anti-tank weapon. Two types of systems are now

[redacted]

The [redacted] requested for the "Lightweight Howitzer" will support the development of a [redacted] 155mm self-propelled weapon, [redacted] Development of the system is being coordinated within NATO, with the U.S., France, Germany, and Canada all participating in designing the ammunition. This will permit the ammunition of several countries to be used interchangeably. When this howitzer becomes available for production, probably in FY 1971 or 1972, it will replace the towed 155mm howitzer and the 175mm gun.

The "Limited War Laboratory", for which $7 million is requested in FY 1968, is the Army's quick reaction research and development facility for counterinsurgency operations. It was expanded in FY 1966 specifically to meet the needs of the Vietnam conflict and has produced many useful devices.

The "Therapeutic Developments" program was initiated in calendar year 1965 in response to the drug-resistant falciparum malaria which was causing such a serious problem for our forces in Southeast Asia. The $11 million requested will continue the development and testing of new anti-malarial drugs. Over 60,000 different chemical compounds have already been studied, and six with particular promise have been chosen for continued test and examination. Other approaches to the problem are also being investigated, including studies of mosquito control and vaccines for immunization.

The next item, $12 million for "Power System Converters", consists of four major categories of projects directed toward the development of engines, transmissions, final drives, and related components for combat and tactical vehicles. These categories are: power conversion for track and wheel vehicles; multi-fuel, variable compression engines; spark ignition engines; and rotary combined cycle power systems. One of the items in the program, a 1500 horsepower gas turbine engine and its hydrostatic transmission, is a follow-on project for the Main Battle Tank program.

[redacted]

The next item, $16 million for "Night Vision", reflects the increasing importance of night operations in modern warfare, particularly in a conflict like the present one in Southeast Asia. Including those projects in exploratory and engineering development, about $33 million is provided in the Army's FY 1968 request for the Night Vision program, compared with about $20 million in FY 1967. Among the many types of equipment now under development are starlight scopes, small portable radars, and special goggles.

The last item on the Army's list, $13 million for "Airborne Surveillance and Target Acquisition" is also in large part, concerned with the problems of night operations. Experience in Southeast Asia has shown that many potential targets operating under the cover of darkness escape detection by current Army reconnaissance aircraft. One of the major efforts in this program is aimed at providing a better night reconnaissance capability through the use of low light television techniques, improved radars, etc.

3. Navy

The first item on the Navy's list, "V/STOL Development", represents the Navy's current participation in the tri-Service V/STOL program previously described.

The next item, "Airborne Electronic Warfare Equipment", for which $15 million is requested, is a multi-project effort aimed at developing active (jamming) and passive (signal interception) electronic warfare equipment required by the Navy. A new project, to be added in FY 1968, will begin the evaluation of drone aircraft operating electronic countermeasures equipment against simulated hostile radars. Other projects include warning devices to alert the pilot of approaching interceptor aircraft or surface-to-air missiles, a flare decoy to confuse heat seeking weapons, and devices to jam electronic guidance, and fuzing systems.

The "Advanced Surface-to-Air Missile System (ASMS)" is the new automated integrated air defense system being developed as a possible replacement for the TERRIER-TARTAR-TALOS (3-T) systems. Although we have greatly improved the performance of the 3-T systems, it does not seem economically possible to extend their effectiveness much beyond the mid-1970s. The ASMS system, therefore, will be developed to counter the anticipated aircraft and missile threats of the late 1970s. In particular, the ASMS will have to be highly reliable, capable of handling multiple targets, and have a very fast reaction time. While the ASMS would be a central component of any future Fleet escort construction program, such as the proposed modular construction DXGs

[redacted]

discussed earlier under Navy General Purpose Forces, it will also be designed as a replacement system for current 3-T ships. As mentioned previously, we are seeking in this development to maximize the use of the technology, components, and subsystems developed for the Army's SAM-D system. As a result, the ASMS program must lag behind the SAM-D development by about one year. With the completion of SAM-D contract definition in this fiscal year, we will be able to decide which elements should be used on both systems. This will allow us to initiate ASMS contract definition by late FY 1968. As shown on the table, we are requesting $15 million for work in the ASMS program next year.

The $6 million requested for the "Advanced Point Defense Surface Missile System (Advanced PDSMS)" program will support the development of a replacement for the Basic Point Defense System (modified SPARROW III) now being deployed. Designed to meet the more sophisticated aircraft or missile threats of the later 1970s, this advanced system will have a greater range and a faster reaction time than the current system, and will possess all-weather and counter-countermeasure capabilities. This development is being closely coordinated with the Army's Advanced Forward Area Air Defense System (AFAADS) program to maximize the common use of technology and components. The funds requested will support contract definition of the Advanced PDSMS in FY 1968.

The $2 million requested for "Advanced ARM Technology" will support preliminary development work on anti-radiation missiles for the post-1975 period.

The $3 million requested for the "Landing Force Support Weapon (LFSW)" will complete feasibility testing of the Army LANCE missile adapted to a seaborne role for support of amphibious assault operations. This modified system promises substantial cost savings over the deployment and production of a completely new system.

The "Augmented Thrust Propulsion" program, for which $5 million is requested, seeks to advance propulsion technologies for both strategic and tactical missiles in order to increase payload and/or range.

Grouped under "Astronautics" are several Navy programs, which I described earlier, relating to satellite communications and the potential use of navigation satellites by the tactical forces. We are requesting a total of $6 million for these programs in FY 1968.

The next eleven items under Navy Advanced Developments are concerned with anti-submarine warfare and the Deep Submergence program. The FY 1968 Budget includes a total of $356 million for ASW RDT&E, $126 million in Advanced Developments.

[redacted]

The first item, "Advanced Undersea Surveillance", includes three ASW surveillance projects [redacted]

The next two items both involve the development of new sonars. The first, [redacted] the "Advanced Submarine Sonar" program, consists of three efforts: a new submarine sonar [redacted] investigations in submarine acoustic communications; and the testing of a sonar for deep-diving [redacted] auxiliary submarines. The "Advanced Surface Sonar" program [redacted] provides for the development of a [redacted] passive/active sonar to detect, localize, classify, and track submarines (PADLOC). [redacted] The PADLOC concept has already proven successful in its passive mode, which is now being incorporated into the SQS-23 sonar; its application to the SQS-26 [redacted] Development of the active portion of PADLOC will also continue.

[redacted]

[redacted]

The $5 million requested for the "Sub-Launched Anti-Ship Torpedo" will provide for the design of a [redacted] torpedo with mid-course guidance, terminal homing, and a high resistance to countermeasures. The feasibility of modifying the MK-48 for this mission is also being studied. Concept formulation should be completed in FY 1968 and, depending on the results, contract definition may be started in FY 1969.

The next item, $42 million for the "Deep Submergence Program", is one of the more important efforts in terms of its potential impact on future Navy programs. This program consists of three separate but closely interrelated projects: the Deep Submergence System Project (DSSP) - [redacted] Deep Research Vehicles (DRV) - [redacted] and Deep Ocean Technology (DOT) - [redacted]

The Deep Submergence System Project, which encompasses five efforts, is concerned with the improvement of man's ability to live, work, and conduct salvage and rescue operations at great depths beneath the ocean. The goal of the "Man-in-the-Sea" effort is to develop the technology which would permit divers to live and work at depths of 600 feet (and, later, at 1,000 feet) for a month or more at a time. The SEALAB series of experiments in underwater habitation are a part of this effort, and SEALAB III is scheduled for mid-1967. The "Submarine Location, Personnel Escape and Rescue" effort, for which we have already contracted, provides for the development of a personnel rescue vehicle capable of being airlifted rapidly to any part of the world. We presently plan to build six of these self-propelled and highly maneuverable rescue vehicles, [redacted] To offset the Navy's present [redacted] capability for underwater search operations -- such as were required when the THRESHER was lost and in the operations off Palomares, Spain -- a removable "search suit" for these rescue vehicles will also be developed. [redacted]

[redacted] The other two elements are: "Large Object Salvage" which is concerned with the development of improved manual salvage equipment for operations at 600-foot depths; and "Extended Salvage Depth Capability" which is concerned with the development of vehicles and equipage for salvage operations [redacted]

The concurrent development of the personnel-rescue, search, and salvage vehicles and their related equipment should ensure compatibility of systems as well as lower overall development costs. [redacted]

The Deep Research Vehicle (DRV) program provides for the leasing of commercially developed diving vehicles in order to determine their performance characteristics, and for oceanographic research work in support of the Navy Oceanographic Office.

Deep Ocean Technology (DOT) -- [redacted] -- is aimed at expanding our undersea technology so that we will be able to utilize the deep ocean environment advantageously in accomplishing naval missions. [redacted]

The next three items on the table were the principal components of the former SEA HAWK/ASW ESCORT project, which was terminated as a full-scale systems development project two years ago. No further funding is requested for the "Combined Gas Turbine Propulsion" program, pending further study of the results achieved to date.

The "Active PLANAR Array Sonar", [redacted] is concerned with the development of an experimental integrated ship [redacted] This sonar would be "conformal" -- i.e., built into the hull of the ship -- and would have a much greater range than the current systems by virtue of its larger radiating and receiving aperture.

The "ASW/Ship Integrated Combat System", for which $7 million is requested in FY 1968, consists of two efforts: ASW Command and Control, and ASW Integrated Combat System (ICS). The former is concerned with the test and evaluation of a basic ASW ship command and control module assembled from "off the shelf" (i.e., presently available) components. This system is now being installed on a CVS and two DEs for sea tests in FY 1968. The latter involves the advanced development of an integrated combat system for ASW ships to provide coordinated control of the collection, processing, evaluation, and exchange of tactical data required for effective weapons delivery. In FY 1968, work on this project will include shipboard testing of multiple sonars operated concurrently to determine how to utilize multiple operation techniques most effectively.

The next item, $13 million for "Reactor Propulsion Plants", will consist of three concurrent efforts in FY 1968: the development of a "natural circulation" power plant, a small combatant ship reactor, and a more powerful reactor for use in aircraft carriers. The objective of the first is to develop a submarine propulsion system which would be quieter, safer, and more reliable than those now available. The objective of the second is to develop a small but highly efficient nuclear power plant for destroyer-size vessels; FY 1968 will be the first year of contractual effort under this project. The third, the carrier propulsion plant, is now well along in development and will be used in the FY 1967, FY 1969 and FY 1971 CVA(N)s.

The "Advanced Surface Craft" consists of advanced development projects for three different types of surface ships, for which a total of $10 million is requested in FY 1968. The first effort, "Surface Effect Craft" (e.g., air cushion vehicles and captured air bubble ships), is to acquire the technology and design capability needed to build large high-speed "surface effects" ships. The Navy undertook this program on a cooperative basis with the Department of Commerce late in FY 1966. In the second effort, "Hydrofoil Craft", we have built a 110-ton, 45-knot patrol craft (PCH) and have a 300-ton, 50-knot hydrofoil auxiliary ship (AGEH) over 90 percent complete. The funds requested will provide for continued testing of the operational reliability of these two craft and for evaluating their applicability to various specific naval missions. The third effort, "Landing Craft", is concerned with the development and test of high speed amphibious and assault landing craft concepts. The preliminary work was started in FY 1966 as part of the exploratory development program. Eventually, several experimental craft will be built and tested.

[redacted]

[redacted]

4. Air Force

The first five items on the Air Force list of advanced developments are all part of the V/STOL technology program which was discussed earlier.

Last year, we programmed $3 million for FY 1967 to support preliminary work on a new "V/STOL Assault Transport". We have reconsidered the requirement for this type of aircraft and decided that it is premature to settle now on a specific design. Therefore, the project has been renamed "Light Intra-theater Transport" and will be concerned with the development of a new aircraft to replace eventually the CV-2 (CARIBOU) and similar small transports. The $2 million requested in FY 1968 will be used for preliminary study of possible designs including V/STOL aircraft.

The FY 1967 funds shown for "V/STOL Aircraft Technology" will, as previously described, support contract definition of a new V/STOL fighter aircraft, a project jointly financed with the Federal Republic of Germany.

No further funding is required for the next item, "Lightweight Turbojet", which was principally concerned with demonstrating light turbine engines for V/STOL aircraft.

The $3 million requested for "Tri-Service V/STOL" development will continue operational testing of the XC-142A aircraft, as I noted earlier.

The next item, $20 million for "V/STOL Engine Development", will provide for the continued work on two engines, a direct-lift engine and a lift/cruise engine which can vector the thrust either for lift at take-off and landing or for forward propulsion. About one-third of the amount is needed for the direct-lift engine, which is a joint U.S./U.K. program begun last year. The other part will support a contractor engine demonstration program for the lift/cruise engine which would be used in advanced tactical fighter aircraft now being considered by both the Navy and the Air Force. Total development cost of this latter engine is estimated at $100 million, that of the direct-lift engine at about $40 million.

The next two items, "Overland Radar" and "AWACS", were mentioned previously in connection with their potential application to future continental defense against bomber attack. Airborne systems resulting from this work could also be used in the tactical roles to provide extended range low altitude surveillance, better command and control, and improved communications for tactical aircraft in close support, air defense, and interdiction missions. The $10 million provided for the "Overland Radar" program in FY 1968 will support continued flight testing of radar techniques for detecting and tracking airborne targets over land in the presence of severe ground clutter and provide for development of components for still more advanced radars for future generation air early warning systems. No additional funding is requested for AWACS in FY 1968 inasmuch as the radar evaluation is not yet far enough along to warrant going forward with contract definition during FY 1968. However, funds will be available to support continued concept formulation of the "AWACS" system and contract definition if progress on the program indicates this as the logical next step.

The next item, $9 million for "Advanced Avionics", is concerned with improving the night and bad weather attack capabilities of tactical aircraft. Work will be conducted on visual sensors (e.g., low light intensification television (LLITV), infrared, and laser), weapons delivery subsystems, navigation equipment (doppler, inertial, loran), and an integrated radome-radar for reconnaissance fighters. This program has already produced a number of new devices or techniques including a laser ranging device for better conventional weapons delivery and LLITV equipment for nighttime target acquisition.

The $6 million for "Penetration Aids for Tactical Fighters" will support continued work on devices and techniques for existing tactical aircraft to enable them to operate successfully in hostile radar-controlled gun and surface-to-air missile environments. The importance of such penetration aids has been underscored by our experience in Southeast Asia. Among the projects included in this program is the development of equipment to simulate the interplay of enemy radars and defensive weapons and of jamming and evasive tactics in order to assist in developing the right "mix" of penetration aids and techniques.

The $10 million requested for "Tactical Air-to-Ground Missile (MAVERICK)" would support contract definition and intiation of engineering development in FY 1968 of a TV-guided air-to-surface missile for use against small hard targets.

For "Conventional Weapons" development, $5 million is requested in FY 1968. These funds will finance a number of projects designed to demonstrate the technical feasibility of advanced conventional munitions and air delivery systems, including area denial weapons, stand-off cluster munitions, various carriage and release mechanisms, fuzing technology, etc.

The $8 million requested for "Flight Vehicle Subsystems" in FY 1968 will support advanced development effort in two areas vital to future aircraft design. The first project consists of collecting and analyzing air turbulence data with the objective of improving the design of aircraft structures and control equipment. The second project is concerned with demonstrating the ability of current flight control technology to reduce the effects of wind gusts, aircraft maneuvers, etc., particularly in low-level flight, in order to increase structural life and crew efficiency.

The $8 million for "Advanced ASM Technology" will support a program designed to provide a technical foundation for new and improved tactical air-to-surface missile guidance systems. The largest single project involves a new approach to the all-weather guidance problem which employs a ground-mapping radar in conjunction with a command-guided missile.

The $3 million requested for the "X-15 Research Aircraft" program will complete in FY 1968 all of the Defense Department sponsored experiments now planned. Subsequently, NASA will assume full responsibility for funding the X-15 test program.

The next item, "AMSA" will require $26 million in FY 1968. (The $11.8 million added by the Congress for FY 1967 will be applied to the FY 1968 program). In FY 1968, we plan to carry on development, at a cost of $17 million, of an engine that could be used in this and other advanced aircraft. Another $2 million will be required for system integration of the avionics and $7 million will be needed to allow the airframe contractors to accommodate their designs to the engine development.

The $8 million requested for "Advanced Filaments and Composites" will support further work in developing new high strength, lightweight materials for use in aerospace structural and propulsion systems. Specific hardware development efforts incorporating such composite materials have been undertaken in the areas of aircraft structures, helicopter rotor blades, reentry vehicles, and gas turbine engines. In FY 1968, we plan to concentrate further in two of these areas, i.e., aircraft structures and rotor blades, with the goal of actually fabricating and demonstrating flight-worthy components.

The next item, $10 million for "Advanced ICBM Technology", has now been reoriented from a "general" technology effort to the specific support of projects most likely to aid in the selection of subsystems for the possible new ICBM discussed earlier. [redacted]

No additional funding in FY 1968 is requested for the next item, "Stellar Inertial Guidance". The PACE II, a highly precise inertial navigator developed with prior year funds, is now in its evaluation phase which is expected to extend into FY 1968. After review of these test results, future follow-on efforts will be determined.

The remaining items on the Air Force list of advanced development are all space projects which I discussed earlier.

F. ENGINEERING DEVELOPMENT

This category includes those projects being engineered for Service use, but which have not yet been approved for production and deployment.

1. Army

"NIKE-ZEUS Testing" was phased out in FY 1965 as the program was reoriented to NIKE-X.

A total of $422 million has been included in the FY 1968 Budget to continue development of the NIKE-X on a high priority basis, as discussed in Section II of this statement.

One of the Army's major R&D program objectives is to have a number of ground force weapons systems in various stages of development at all times. The next item on the table, "Firepower Other Than Missiles", for which $49 million is requested, constitutes the bulk of the Army's effort in this area and is divided into three main categories: "Individual and Supporting Weapons"; "Field Artillery Weapons, Munitions and Equipment"; and "Nuclear Munitions".

The largest project in the first category is the Medium Anti-tank Weapon (MAAW), a shoulder-fired 14.5-lb. missile (28 lbs. including launcher) with a shaped charge warhead. The MAAW missile is automatically guided to its target by an infrared sighting device linked with the missile by a wire. It is expected to have an effective range out to 1,000 meters against both stationary and moving targets, compared with less than 450 meters for the 90mm recoilless rifle which it will ultimately replace, Other projects in the Individual and Supporting Weapons Category include a series of new ordnance signaling devices which are being engineered in response to Southeast Asia requirements and a new Vehicle Rapid Fire Weapon System, to replace the cal. 50 machine gun and the interim HS-820 20mm cannon.

The "Field Artillery Weapons, Munitions, and Equipment" category encompasses the development of sophisticated conventional munitions and the resolution of ammunition problems associated with Southeast Asia.

The "Nuclear Munitions" category covers the development of Army supplied components for nuclear projectiles and atomic demolition munitions. Present efforts are being directed toward an advanced firing device for demolition munitions, and fuzes and cases for an improved 155mm artillery round.

The "Aircraft Suppressive Fire Support System" project, for which $14 million is requested in FY 1968, is concerned with the development and adaptation of weapon subsystems for Army aircraft. Previous efforts under this project are responsible for the current generation of armed helicopters which are proving so valuable in Southeast Asia operations. Several efforts are now underway. A 20mm gun system is being considered for the AH-1G (Huey COBRA). A stabilized sight is being developed for the helicopter-borne version of the TOW missile system, which is now tentatively scheduled for production in FY 1969. Tests of the XM-140 30mm automatic gun should be completed in FY 1968 and this new area fire weapon should then be ready for production in FY 1969. Work will continue on new ammunition improvements for this gun, including an airburst fuze and a boosted round. (Both the TOW and the XM-140 will be employed on the AH-56A, the Advanced Aerial Fire Support System.)

"Other Airmobility Projects", for which $6 million is requested, include work on aircraft engines, lightweight aircraft armor, and aerial delivery equipment.

The next item, $9 million for "Surface Mobility", comprises three efforts: "Wheeled Vehicles", "Tracked Special Vehicles" and "Marine Craft". The major project in the first category will be the initiation of engineer-development for the new 1-1/4 ton XM-705 truck as an ultimate replacement for the current M-37 truck in rear areas. The major project in the second category will be a new armored reconnaissance vehicle capable of operations in adverse terrain and the "Mechanized Infantry Combat Vehicle-70", a replacement for the current personnel carrier. The third category includes work on shallow draft boats, a beach discharge lighter, etc.

The $14 million for "Combat Surveillance and Target Acquisition" provides for a number of projects. The largest is the TACFIRE system in which automatic data processing and display techniques will be used to improve the accuracy, response time, and overall effectiveness of field artillery firepower. Contract definition will begin this year, with initiation of engineering development scheduled to take place next fall. Other projects include: improved sensors for the detection and location of enemy personnel, vehicles, and weapons on the battlefield; airborne sensors for visual target location; a forward-looking infrared set for helicopters; image interpretation and photo processing equipment, etc.

The $21 million for "Communications and Electronics" provides for a broad based program to improve the Army's communication, avionics, and electronic warfare equipment. For example, in the area of strategic communications a high speed optical page reader system is being developed to increase rate and accuracy of message handling. In the area of tactical communications, a new single sideband radio for the LOH-6A helicopter will be completed in FY 1968. Other efforts include the MARK XII IFF (Identification Friend or Foe) system designed for use with the HAWK missile and aircraft; an electronic jammer to degrade the VT fuzes of enemy artillery rounds; an airborne jammer to thwart radar-controlled anti-aircraft weapons.

2. Navy

The first item on the Navy's list of engineering developments is $54 million for the "Medium Range Air-to-Surface Missile (CONDOR)". This missile, with its large [redacted] warhead, will provide a badly needed standoff delivery capability for Navy tactical aircraft. While our present BULLPUP and SHRIKE missiles do provide some standoff capability against anti-aircraft guns, they are not very useful in engaging the longer range enemy surface-to-air missile systems such as the SA-2. Even the more recently developed WALLEYE missile, will not be able to provide this capability in full. The CONDOR has been designed to be launched at distances between [redacted] from the target (depending on the altitude), and the aircraft pilot can monitor and control the missile throughout its entire flight without having to come within effective range of SA-2s. Contract definition has been completed and engineering development has been started. Initial deployment is scheduled for FY 1970 in the A-6As, and we are studying the feasibility of adapting the missile to the A-7A.

The $8 million for the "Advanced Sparrow" will substantially complete this development. The missile is designed to operate in an electronic countermeasures environment and will have an improved minimum range capability for close-in air-to-air engagements. It will also have greater range and an improved low altitude anti-clutter capability, carry a heavier warhead, produce greater thrust from its boost-sustained motor, and have better maneuverability and reliability. Many of these improvements are made possible by the microminiaturization of the missile's complex electronics equipment. The first test models are expected to be available by late calendar year 1967, with initial Fleet delivery scheduled by end FY 1969.

The next item, "Three-T Systems Improvements", consists of the engineering work necessary to support the updating of the three-T missiles (TARTAR, TERRIER, TALOS) through the development of replacement components designed to increase the performance of these systems. The $7 million requested for FY 1968 will support development of improved components for the TALOS system's radar.

The $8 million requested for "Unguided/Conventional Air Launched Weapons" will support engineering development of a number of munitions projects: SNAKEYE II, a second generation retarded bomb, DENEYE, an area denial munition; BRITEYE, an aircraft flare dispenser designed to achieve [redacted] candlepower for five minutes; FIREYE, an improved fire bomb using new napalm mixes and improved igniters; a hypervelocity tactical aerial rocket; and an improved 20mm general purpose projectile.

The next item for which we are requesting funds in FY 1968, $3 million for "Multi-Mission Tactical Fighter (VFAX)", is for concept formulation of an advanced fighter aircraft. As currently conceived, the VFAX would have an improved close-in air-to-air combat capability, as well as an air-to-ground capability. Since both the Navy and the Air Force may require such a fighter, we are examining the feasibility of a joint development program. Both Services would use a power plant employing the lift/cruise engine technology.

The next five items on the list are all related to undersea warfare (USW), and total $76 million for FY 1968.

The largest single dollar item in FY 1968 will be "ASW Aircraft Development (VSX)", for which $25 million is requested. The VSX is the potential replacement for the current CVS-based S-2s, and would be designed to meet the expected quiet nuclear submarine threat of the mid-1970s. Such an aircraft would require advanced sensors, an integrated avionics system, and other sophisticated equipment to locate and destroy enemy targets. The design objectives of the VSX aircraft, which would employ the previously mentioned A-NEW data handling systems together with such new sensors as the periscope detection radar, include large increases in size, range, and payload over the S-2. Most important, it would greatly increase the area which a single CVS could cover. However, as I indicated in my discussion of the ASW forces, we are not prepared to recommend full scale development of such an aircraft until the whole mix of ASW forces and missions, and particularly the role of land-based aircraft, has been carefully restudied. The funding level proposed will support continued concept formulation, and development of long lead time components of this system in FY 1968. Tentatively, $9 million is programmed for work on avionics integration, $10 million for engineering development, and $6 million for work on the airframe.

The next item, the "MK-48 Torpedo", is [redacted] Designed for use by both submarines and surface ships, the command-guided MK-48 [redacted] and to provide a significant improvement in overall "kill" capability compared with present torpedoes. The MK-48 is already under contract and test quantities may be available as early as late FY 1968. The $14 million requested for FY 1968 will continue work on the MK-27 -- a torpedo-like target device designed to simulate deep-diving submarines -- which will be used to evaluate the MK-48.

The $3 million requested for the "Directional JEZEBEL" will complete the development funding of a sonobuoy capable of providing the bearing of a target directly to ASW aircraft. Present non-directional passive sonobuoys can only detect the presence of enemy submarines, not their range or bearing, and to locate a target, the readings of several pairs of current JEZEBEL buoys must be carefully correlated -- allowing the detected submarine time to escape.

The present "Submarine Sonar Developments" program ($15 million in FY 1968) is oriented to the development of improved sonars for installation in existing submarines whose sonars were originally developed in the early 1950s and to the development of a completely new sonar for the SSBNs and Skipjack-class SSNs. An interim improvement program for SSB(N)s and SSNs will include passive sonars with twice the present ranging capabilities and towed-array sonars. The FY 1968 program will include the study of adaptive beam-forming techniques to help establish the technology needed for the new submarine sonar. Work on a mine avoidance sonar is also included.

The "Other Undersea Warfare Projects" for which $19 million is requested, include, for example, a shipboard periscope detection radar capable of detecting intermittently exposed targets (e.g., periscopes, snorkels, or ECM masts) under adverse sea conditions. This radar should be ready for shipboard tests by FY 1968; its development is being closely coordinated with the airborne periscope detection radar work mentioned earlier. Other projects include the development of antenna systems integrated into the submarine's superstructure and underwater swimmer weapons and equipment to defend against swimmer attacks.

The EA-6B, which was formerly shown in the Operational Systems Development category, is now included under Engineering Development. This is the new electronic warfare aircraft being developed from the A-6 attack aircraft. We will require $29 million in FY 1968 to continue work on this important project.

The "Carrier Based Airborne Tactical Control System (CBATCS)" is designed to provide a major performance improvement over the present system now carried by the E-2A. Operations in Southeast Asia have proven the efficacy of airborne control of both strike and air defense missions in areas beyond the range of the carrier's effective direction. In addition, these operations have also identified some important potential improvements in the E-2A's current systems, particularly the avionics. This program is principally concerned with developing an improved avionics package for installation in the E-2 airframe, which will then be called the E-2B. Initiation of this project was discussed in connection with the Navy's aircraft procurement program. Development of the new avionics package is being started this year with $12 million of reprogrammed funds, and $29 million more will be needed in FY 1968. The total development cost of the system is estimated at about $74 million.

We are requesting $7 million in FY 1968 for "TRIM" (an acronym for "Trail/Road Interdiction Multi-sensor"), a program comprising the development of three different self-contained airborne attack systems for night interdiction of logistic traffic on roads, trails, and waterways, particularly for use in Southeast Asia. The systems will be tested in the P-2, the A-6A, and jointly with the Air Force in the S-2 to demonstrate their feasibility for use by different types of aircraft over a wide range of operational environments. These TRIM systems will attempt to combine the capabilities of present equipment (ECM, JEZEBEL, etc.) with new "state-of-the-art" electro/optical sensors and navigation systems in order to permit rapid conversion of detection into attack.

The $14 million requested for the last item, "Marine Corps Developments", will support a number of projects on electronic systems, weapons, and vehicles for the Marine Corps. Included in this program are the Marine Corps' portions of joint-service research projects such as the medium and heavy assault anti-tank weapons (MAAW and TOW), which were mentioned earlier in connection with the Army's R&D program. Another project is the development of a new landing force assault amphibian vehicle, with equally good heavy surf capabilities but better land performance than present vehicles. In the area of electronics, the overall objective is more reliable and lighter-weight equipment, e.g., a new lightweight battlefield mortar locator being developed jointly with the Army. Other projects include an automated system for integrating air support activities into the Marine Corps tactical data system; improved nuclear, biological, and chemical hazard detection equipment; and a semi-automatic electronic switching facility for use by tactical units in Southeast Asia-type environments -- all of which are being developed jointly with one or more other Services.

3. Air Force

Many of the Air Force's engineering developments have already been discussed in connection with other programs.

The XB-70 test program has been continued following the accident last June, using the one remaining aircraft. This program, which has been jointly funded by NASA, is designed to accumulate experimental data relevant to possible future supersonic aircraft developments, both military and civilian. We believe that all of the truly important objectives of this test program can be accomplished with presently available funds and no further financing is requested for FY 1968.

Development funding for the next item, the "J-58 Engine", was completed in the FY 1967 Budget.

The $20 million shown for the next item, "Interceptor/Fire Control System/Missile", will support redesign and engineering work on the AWG-9 Fire Control System and the AIM-47 Folding Fin Missile, provide funds for the reconfiguration of the YF-12 test aircraft for use as a test bed for these systems, and continue studies on the possible use of the F-111 or F-12 airframes as a basis for the next generation of interceptor aircraft. (The fire control system and missile system work would be applicable to either.)

The next item, "F-4 Improvements", reflects the cost of developing the internal 20mm nose gun for the F-4E. This gun is currently undergoing testing and no additional funds are requested for FY 1968.

The $33 million requested for "MARK II Avionics" will substantially complete the funding of this follow-on to the F-111A's current avionics suit. Planned to be installed in the aircraft of the third F-111A operational wing in late FY 1969, this system will provide an improved air-to-ground capability with better navigation and radar resolution features as well as greater air-to-air effectiveness, higher reliability, and easier maintenance. A modified version of the MARK II will be incorporated in the FB-111.

The next item, $4 million for the "Advanced Tactical Fighter (FX)", will support continued concept formulation studies on a new air superiority aircraft for possible introduction into the force in the mid-1970s. As previously mentioned, these studies will help us determine the feasibility of a single aircraft development to satisfy the requirements of both the Navy and the Air Force.

The next item, $126 million for "Advanced Ballistic Missile Reentry Systems", comprises a wide variety of efforts to provide new reentry vehicle technology for our strategic missiles and to improve our defense penetration techniques. About half of the amount requested is required for the overall support of the program, i.e., boosters for the numerous flight tests involved and general range support. The remainder provides for specific technology programs including the development of advanced area and terminal penetration aids, and the development of reentry vehicle maneuvering techniques.

The $8 million requested for "NIKE Targets" will provide launch site support at Vandenberg AFB for ABM targets launched into the Kwajalein area, and for certain Air Force modification development work on the target vehicles.

The $9 million requested for the next item, "Advanced ICBM", would, as mentioned in the discussion of our Strategic Forces, permit initiation of contract definition for a new strategic missile system in FY 1968, if that proves to be desirable. A special study group has been assembled specifically to examine the technological feasibility of various proposed systems.

The $3 million requested for the "Adverse Weather Aerial Delivery System" will further develop components designed to give airlift aircraft the capability to navigate to, and air drop personnel and materiel at, specific locations in bad weather or at night without external ground based assistance. Experience in Southeast Asia has demonstrated the need for such a capability. The major current development effort consists of a new self-contained navigation system for the C-130, which will be integrated with the present avionics system. We hope to achieve an initial operating capability in calendar year 1969.

The remaining engineering development items on the Air Force list have all been discussed in connection with the Department's space-related projects.

G. MANAGEMENT AND SUPPORT

1. Army

As shown on Table 20, $90 million is requested for the support of the White Sands Missile Range. Test programs are conducted at this range for all the Services and NASA. Among the specific projects are the Air Force's Advanced Ballistic Reentry System (ABRES), the Navy's new Anti-Radiation Missile (based on the STANDARD SAM missile), the Army's LANCE, as well as NASA's AEROBEE project. A major effort at this facility is the range instrumentation program, now in its third year, which will refine the data collected on the range, improve the data reduction capability, and augment the range communication system.

We are also requesting $44 million for the Kwajalein Test Site, operated by the Army. We now have an improved capability at this site to recover reentry vehicles that impact in the lagoon. Increased support will be given to the Army's NIKE-X and the Advanced Research Project Agency's DEFENDER program at Kwajalein.

The $229 million requested for General Support covers the costs of all Army R&D installations and activities other than White Sands and Kwajalein. This support includes the procurement of general purpose equipment for research laboratories, test facilities, and proving grounds, the cost of civilian and military salaries, and the construction of new facilities, not chargeable to specific programs.

2. Navy

The Pacific Missile Range, for which $68 million is requested in FY 1968, is responsible for range scheduling, communications, weather and meteorological services, and data reduction in support of assigned missile and space launch operations in the Pacific. In addition to the headquarters at Point Mugu, California, facilities are maintained at Barking Sands and Kaneohe in the Hawaiian area to provide communications and range instrumentation. Among the test programs supported by the Pacific Missile Range are those for TERRIER, TARTAR, and TALOS, the new STANDARD ship-to-air missile, and the PHOENIX air-to-air missile.

The Atlantic Undersea Test Evaluation Center (AUTEC), located in a deep-sea canyon off the Bahamas, will consist of three separate test ranges for weapons, sonars, and acoustic systems. The weapons range became operational October 1966; the acoustic and sonar ranges are scheduled for completion during FY 1967 and FY 1970 respectively. For AUTEC, $18 million is requested in FY 1968.

General Support for other Navy R&D laboratories and test facilities not chargeable to specific programs will require $310 million in FY 1968.

3. Air Force

For the Eastern Test Range, $219 million is requested in FY 1968, approximately $13 million less than for the current fiscal year. Some additional costs for the operation of the Eastern Test Range are reimbursed by NASA. This range consists of a complex of instrumented networks including fixed and mobile land-based stations and airborne and shipborne instrumentation extending from Cape Kennedy southeastward through the Mid- and South-Atlantic area, South America, and Africa to the Indian Ocean. The Eastern Test Range supports such Defense programs as MINUTEMAN, POLARIS, POSEIDON, and the Defense Satellite Communications Program, together with such NASA programs as APOLLO and MARINER. Future test activities will involve greater accuracies, larger payloads, and more complex reentry vehicles as well as more sophisticated missions. To meet these more demanding requirements, the funds included in the FY 1968 request will provide a capability for collecting improved trajectory evaluation data as well as a capability to receive telemetered data on new frequencies. The program will also provide for the operation of eight specially instrumented C-135 aircraft to support the activities associated with the APOLLO programs.

About $89 million is requested for FY 1968 to support the Air Force Western Test Range which consists of a complex of range instrumentation networks supporting Air Force, Navy, and NASA launches from Vandenberg Air Force Base, Point Arguello and Point Mugu. The program also provides for the operation of five APOLLO support ships.

General Support, including "Development Support", will require $657 million in FY 1968. This item carries the major support of the Air Force Systems Command and its nation-wide complex of research, development, and test installations, the construction of additional research and development facilities, and other support programs. It includes about $85 million for the cost of services provided under contract by organizations such as RAND, Aerospace Corporation, and the Lincoln Laboratory.

H. EMERGENCY FUND

For the Department of Defense Emergency Fund, we are requesting the appropriation of $125 million and transfer authority of $150 million, the same as the amounts provided for FY 1967.

I. FINANCIAL SUMMARY

The Research and Development Program, including the development of systems approved for deployment, will require about $8.0 billion in New Obligational Authority for FY 1968. A comparison with prior years is shown below.

(billions of dollars)

	1962 Act.	1963 Act.	1964 Act.	1965 Act.	1966 Act.	1967 Est.	1968 Proposed
R&D-except systems approved for deployment	4.4	5.2	5.4	5.1	5.3	5.4	5.8
R&D-systems approved for deployment	2.5	2.5	2.3	1.9	2.2	2.3	2.4
Total R&D	6.9	7.7	7.7	7.0	7.5	7.7	8.2
Less:Support from other appropriations	- .6	- .6	- .6	- .5	- .6	- .5	- .7
Total RDT&E (TOA)	6.3	7.1	7.1	6.5	6.9	7.2	7.5
Less:Financing Adjustments	- .9	- .1	- .1	-	.2	-	- .2
Total RDT&E (NOA)	5.4	7.0	7.0	6.5	6.7	7.2	7.3

VII - OTHER MAJOR PROGRAMS

In last year's reorganization of the Five-Year Defense Program structure, we established four new major programs which, for purposes of this presentation, have been grouped together in this section.

A. SPECIALIZED ACTIVITIES

Specialized Activities comprise those elements of the Defense Program which are directly related to the missions of the combat forces in the Strategic, General Purpose and Airlift/Sealift Forces Programs, but which for purposes of management are more logically handled within the context of homogeneous functional groupings of similar or complementary activities. [redacted]

[redacted]

2. National Military Command System

The National Military Command System (NMCS) is the primary subsystem of the World-Wide Military Command and Control System. It was established specifically to provide the means by which the National Command Authorities can apply the resources of the Military Establishment and, through the Joint Chiefs of Staff, exercise strategic and broad operational direction of the Armed Forces under conditions of cold, limited and general war. Related subsytems of the world-wide system -- i.e., the headquarters of unified and specified commands, Service headquarters, component commands, DASA, DIA and DCA with their supporting communications, etc., -- are included elsewhere either as parts of other Specialized Activities or as integral elements of other programs, such as the Post-Attack Command and Control System in the Strategic Forces Program.

The NMCS comprises the National Military Command Center (NMCC) at the Pentagon, the Alternate National Military Command Center (ANMCC), the National Emergency Command Post Afloat (NECPA), the National Emergency Airborne Command Post (NEACP), and the various communications networks linking these command facilities, the unified and specified commands and Service headquarters.

As part of our continuing effort to improve the NMCS, we have expanded the automatic data processing capability at the NMCC to handle the increased workload related to Southeast Asia operations and to provide support for the newly created Strategic Mobility staff in the Office of the Joint

[redacted]

Chiefs of Staff. The FY 1968 Budget request provides funds for the further improvement of the data processing system, the information displays, and the related facilities and equipment. These changes are designed to improve the capability of the NMCC to maintain under all conditions up-to-date information on the operations being conducted by the unified and specified commanders, as well as timely data on the disposition of friendly forces and the enemy order of battle, world-wide.

With respect to the NECPA, in addition to the orginal tropospheric scatter communications station at Lewes, Del., a second station has been built at Otis AFB in Massachusetts to increase the range at which the NECPA ships can operate while providing a high volume voice communication capability using automatic switched networks ashore. A third station at Lola, N. C. will be added during FY 1968, further extending the operating range of the NECPA ships. Moreover, an automatic data processing system for command and control will be installed in the USS Northampton, the second NECPA ship to be so equipped.

[redacted]

3. Communications

The communications category includes both the Defense Communications System (DCS) and certain non-DCS communications operated by the military departments. The DCS elements include the world-wide, long-haul, owned and leased, point-to-point wire, cable and radio communications facilities. Its two principal elements are the Automatic Voice Network (AUTOVON) and the Automatic Digital Network (AUTODIN), but it also includes other systems such as the Automatic Secure Voice Communications Network (AUTOSEVOCOM), the Defense Special Security Communications System (DSSCS), the Integrated Wideband Communications System (IWCS) and, when it becomes operational, the Initial Defense Communications Satellite System (IDCSS). The non-DCS elements include: (1) the tactical portions of those communications systems operated by the Military Departments which serve the subordinate commanders of unified commands, or which are self-contained within tactical organizations; (2) self-contained local communications facilities such as those serving an individual Army base; (3) land, ship and airborne terminal facilities; and (4) ship-to-ship, air-to-air and ground-air-ground systems. [redacted]

[redacted]

[redacted]

[redacted]

The AUTOVON System was established in April 1964 by combining existing Army and Air Force voice networks into what was essentially a direct dial telephone system served by nine switching centers. In order to meet the growing requirement for automatic voice communications, we are expanding this system to 35 automatic switching centers by the end of FY 1967 [redacted] We are also continuing to expand and improve the Automatic Digital Network (AUTODIN) and by the end of FY 1967, we should have 8 switching centers operating in the continental United States. By FY 1969 AUTODIN will be extended world-wide with the installation of 12 switching centers in Europe and in the Pacific, including three in Southeast Asia.

During FY 1967, we installed an interim secure voice system (TALK QUICK) to satisfy urgent requirements for this type of capability in the Pacific and Southeast Asia. Eventually this system will be incorporated into the DCS Automatic Secure Voice Communications Network (AUTOSEVOCOM) now scheduled for world-wide installation [redacted]

In order to support the rapid troop build-up and expanded military operations in Southeast Asia, we have also been improving our communications within that area by modifying and extending the Integrated Wideband Communications System (IWCS). This program provides high quality circuits with alternate routing between points in South Vietnam and Thailand.

I have already discussed the Defense Department's communications satellite programs in the preceding section. When completed, the system will provide us with "one hop" relay communications over extremely long distances, together with great flexibility in extending and allocating service. It is anticipated that it will also provide more reliable communications because of its expected lower vulnerability to both physical and electronic interference by the enemy.

[redacted]

[redacted]

4. Other Specialized Activities

The "Specialized Activities" program also includes certain classified projects, the overseas administration and grant aid portions of the Military Assistance Program, and such other mission-related activities as weather service, oceanography, aero-space rescue and recovery, etc. Because of the sensitivity of the classified programs, and because the Military Assistance Program is not included in the legislation being considered at this time, only the last category of activities will be discussed here.

a. Weather Service

The Air Force and Naval Weather Services collect, analyze, predict and disseminate, globally, meteorological and geophysical information for the support of military operations, NASA's space program (including manned-space vehicle reentries and recoveries), R&D missile test firings, and they conduct hurricane and typhoon tracking and forecasting, and collect nuclear debris air samples for the AEC in connection with the test ban treaty safeguards.

By exploiting recent advances in communications and data processing technology, the military weather services have considerably increased their ability to cope with the growing volume of environmental data and expanding requirements for timely and comprehensive service. Such recent advances include: (1) the almost complete computerization of weather data collection, analysis, prediction and dissemination, so that forecasts are delivered to users on a "real time" basis, in many instances literally untouched by human hands; (2) the implementation of the Automated Weather Network, a high-speed weather communications system for transmitting weather observation data from overseas theaters to weather control centers in the United States where they are computer-processed into forecasts and returned to users over the same network; and (3) use of larger numbers of fixed and mobile television stations capable of receiving data directly from weather satellites as they pass overhead. The Air Force's global Solar Observing and Forecasting Network (SOFNET), which began full-time operation in late 1965, provides important data for our Over-the-Horizon radars and for the prediction of satellite orbits. World-wide optical and radio observations of the sun are collected and analyzed at the SOFNET center in Cheyenne Mountain, Colorado, from which solar forecasts are issued to over forty users. SOFNET data is also provided to NASA for their space environment computations.

b. Oceanography

This category comprises the activities of the Navy's Oceanographic Office, Defense support of the National Oceanographic Data Center and their related research aircraft and survey ships. The President's

Science Advisory Committee in its report, Effective Use of the Sea, pointed out that increased Federal participation in oceanographic activities is required for national security. The Navy, of course, has long been conducting oceanographic surveys in support of its operational requirements (as opposed to oceanographic research which is funded in the Research and Development program). This includes the collection of data for the Fleet's surface ship, submarine and ASW operations, its sonar installations, its amphibious warfare planning, etc. During the coming fiscal year, the Navy will significantly expand its oceanographic effort. For example, in the "broad ocean survey" program the range of data collected will be greatly increased. More VAMP (Visibility, Acoustics, Magnetics and Pressure) surveys, which provide data for our mining and mine-countermeasure forces, will be conducted. For our ASW, SOSUS and Deep Submergence programs, a greater effort will be undertaken to gather the kind of environmental data which these programs need.

At end FY 1966, nine oceanographic research and survey ships (three manned by the Navy crews and six operated by MSTS) and two environmental prediction research aircraft were employed in the program. Seven of these are converted World War II ships but the other two are new oceanographic survey ships (AGSs) which entered the force during FY 1966. In FY 1967 two more new ships -- oceanographic research vessels (AGORs) -- will be commissioned, increasing the force to eleven ships and making possible an expansion of the program. The AGS funded in FY 1967 should enter service in FY 1969 and by end FY 1972 the force should consist of fourteen ships, nine of which were commissioned since FY 1966. No new ships are being requested in FY 1968 for this "operational" program, although two oceanographic research ships are included in the budget for the Research and Development program with which this survey effort is closely integrated.

c. Air Rescue and Recovery

The air rescue and recovery program comprises the U.S. Air Force Aerospace Rescue and Recovery Service (ARRS), certain specialized forces of the Navy, and certain assigned forces of the Army and Marine Corps. Essentially, each Service provides facilities and forces for sea-air rescue support of its own operations and, with the exception of the Air Force, rescue helicopters and fixed-wing aircraft are assigned to this mission as needed from available forces. Helicopter rescue detachments are maintained by the Navy on each carrier and cruiser, and a special helicopter utility squadron with a specific search and rescue mission is now operating in the Gulf of Tonkin. ARRS also supports NASA's manned spaceflight recovery operations in alternate recovery zones with aircraft and para-rescuemen; should a spacecraft splashdown occur beyond visual range of Navy recovery ships, the ARRS aircraft locate the spacecraft and drop the para-rescuemen who attach the flotation collar and render first aid if needed.

The Air Force Aerospace Rescue and Recovery Service operates and maintains 14 air rescue squadrons consisting of about 160 aircraft, and has over 100 additional aircraft at various air bases performing local rescue operations. To provide increased air crew recovery capability in Southeast Asia, FY 1966 funds were reprogrammed to procure eight HH-53s for ARRS (which we expect to receive by the end of FY 1968) and four more are included in the FY 1967 supplemental request; 18 HH-3Es are included in the FY 1967 program, and another four HH-53s will be procured with FY 1968 funds.

The Air Force now has two rescue squadrons (one helicopter and one fixed-wing) based in Vietnam, with a total of about seventy aircraft. By last October, ARRS had rescued over 200 aircrewmen from hostile areas in Southeast Asia and over 200 other combat personnel as well. Total rescue of downed crewmen from hostile territory by all four Services is well over the 600 mark, and the success of these missions has contributed greatly to the morale of our combat aircrews. The ARRS also participates in the evacuation of wounded combat personnel.

d. Traffic Control, Approach and Landing System

The Traffic Control Approach and Landing System (TRACALS) element encompasses those "common system" air traffic control facilities not provided by the Federal Aviation Agency (FAA). The facilities involved are located world-wide and consist of control towers, radar approach control centers, instrument landing systems, air-ground communications and associated ancillary facilities. With the provisions of the Federal Aviation Act (P.L.85-726) as guidelines, current Air Force efforts are directed towards the evolutionary development of the existing air traffic control system and includes: participation in FAA's R&D efforts; applied research to improve equipment and facility parameters; and the provision of the required facilities for Air Force installations.

There are two prominent current programs. The first, the A.I.M.S. Program, is concerned with the addition of the Air Traffic Control Radar Beacon System, which provides positive identification and location of aircraft, to all air traffic control radar facilities. The second is concerned with the replacement of current VHF and UHF air-ground-air communications systems in order to meet the more stringent requirement of 50 kilocycle spacing between channels in accordance with our agreements with other members of the International Civil Aviation Organization.

[redacted]

e. Nuclear Weapons Operations

This element covers the activities of the Defense Atomic Support Agency (DASA) which provides: specialized staff assistance to the Secretary of Defense and the Joint Chiefs of Staff; operational, logistical and training support for the Military Services; liaison with the AEC on weapons development and the planning and conduct of weapons effects tests; and management for the national atomic weapons stockpile. The nuclear weapons effects tests, themselves, as well as nuclear weapons research, are included in the Research and Development program and were discussed earlier. DASA's construction program for FY 1968 includes further shoreline protection work at Johnston Island.

B. LOGISTIC SUPPORT

Logistic support comprises a wide variety of activities which cannot be readily allocated to other major programs or program elements. Included under this heading are the costs of: (1) moving passengers and freight (except for first destination transportation) by commercial carriers, the Military Sea Transportation Service, the Military Airlift Command and contract airlift; (2) purchasing, storing, and inspecting materiel; (3) those parts of the industrial preparedness program (e.g., the provision of new industrial facilities and the maintenance of reserve facilities and equipment) not identified with elements of other major programs; and (4) the major overhaul and rebuild activities for items which are returned to a common stock and cannot, therefore, be related directly to specific military forces or weapons systems.

The management of our logistic support activities is covered in the discussion of the Cost Reduction Program.

C. PERSONNEL SUPPORT

The Personnel Support Program comprises the training, medical and other activities associated with personnel, except for those portions of such activities which are integral elements of another program. For example, the costs of basic pilot training are included in this program while the costs of advanced flight training, designed to qualify a pilot for a specific tactical aircraft, are reflected in the appropriate mission-oriented program.

1. Training

The Defense Department's training establishment constitutes a vast and varied system, including at least 83 major military installations, designed to meet not only peacetime needs for militarily trained manpower, but also to provide the potential for rapidly expanding this

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force in periods of mobilization. Our total capital investment in these facilities exceeds $4.8 billion and annual operating costs run over $1.5 billion. On the average, nearly one-fifth of the active force is assigned to these centers at all times, either as part of the permanent training staff or as trainees. As shown on the table, training costs in the FY 1966-68 period directly reflect the rapid build-up in the size of the military establishment.

a. Recruit Training

Recruit Training (i.e., "basic" or "boot camp" training) is given every new enlisted serviceman to facilitate the transition from civilian life, to inculcate necessary standards of conduct and discipline, to provide initial weapons training, to ensure adequate physical conditioning and to foster motivation and Service esprit. In total, recruit training loads are expected to decline slightly in FY 1968, following the rapid rise in FY 1966-67. We now estimate that about 920,000 men will enter the basic training next year compared to about 995,000 now estimated for FY 1967. The Army will train about 577,000; the Navy, 141,000; the Marine Corps, 96,000; and the Air Force, 106,000 in FY 1968.

Since the initiation of the build-up, the Army has expanded its recruit training capacity by more than 100 percent and now can produce over 13,500 basically trained soldiers each week. To facilitate this expansion, new training centers have been opened at Fort Benning, Fort Bragg, Fort Campbell, and Fort Lewis.

As you know, in order to meet the needs of the active force for basically trained personnel during the recent build-up, the Army was temporarily forced to limit the number of men it could accept from the Reserve Enlistment Program (REP) for active duty training. As a result, a rather large backlog of REP personnel awaiting training was created, reaching a peak of 135,000 men in May 1966. However, by the end of December 1966 the backlog was reduced to 120,000 and by the end of June 1967, it should reach a normal level of less than 20,000.

In order to speed the active force build-up we also used some of the divisions in the Strategic Army Force (STRAF) to give basic training. The peak STRAF training load was reached in March 1966 when 36,000 recruits were assigned to these units. Since then, the number has been gradually reduced and in April, we plan to phase STRAF forces out of the basic training role completely.

The FY 1968 request includes funds for two major expansions of basic training facilities. The Air Force plans to add 5,400 additional barracks spaces at its Lackland Military Training Center in Texas and about $17 million will be needed for this purpose in FY 1968. Construction of

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a third Navy Recruit Training Center on the site of the former Orlando AFB in Florida (which was previously transferred to the Navy for use as a training devices center in 1964) was initially funded in the FY 1967 Budget and $21 million more is requested in FY 1968. Training at Orlando is planned to commence early in FY 1969. With these expansions, the Air Force and Navy will have the physical capacity required to handle all foreseeable enlisted training loads. The Army already has the physical facilities to meet all present requirements, and significantly larger training loads could be supported if necessary by opening some or all of the seven inactive basic training centers which have been retained for a full scale mobilization.

b. Technical Training

The Military Services train enlisted personnel for about 1500 separately identifiable occupational specialties. While some of these occupations can be learned on the job, most require full time classroom instruction which averages about two months duration. (In the case of a few highly technical occupations, formal training may last as long as a year.) Additional technical training is usually necessary later in the serviceman's career to help him develop new skills, to cross-train him to facilitate sharing of arduous duty, or to update him in his specialty.

Since the majority of recruits do not reenlist, entry level technical training is a very expensive activity. Over the years a number of actions have been taken to help induce highly skilled technically trained personnel to choose a military career. Our two principal tools in this regard are proficiency pay and the variable reenlistment bonus. Indications are that proficiency pay has increased first term reenlistment rates, and while it is still too early to make firm judgments about the effectiveness of the variable reenlistment bonus, the data does show that we are achieving higher retention rates in those specialties for which the higher multiples are authorized (three and four times the regular amount). In FY 1968, about 237,000 men are scheduled to receive proficiency pay, about the same number as in the current fiscal year. The variable reenlistment bonus should be awarded to about 115,000 men in FY 1968 compared with 76,000 this fiscal year.

c. Professional Training

Professional training encompasses primarily postgraduate level education in military and civilian schools, including medical training.

Among the military schools are the several Service command and staff colleges, the Service war colleges and the joint Service colleges.

Each year, over 4,000 students, including foreign military officers and U. S. Government civilians, are educated at these institutions. A study conducted during the last year indicates that we may not be sending enough officers to these courses and that our future efforts should be directed toward clearly identifying and satisfying all of the requirements for graduates of these schools.

In order to meet the rising requirements for officers educated in the technical, scientific, engineering and managerial fields, the Services also provide selected officers with advanced academic education, either "in-house" or at civilian institutions. As a matter of policy the Services rely upon civilian institutions for this kind of education wherever feasible; however, both the Navy and the Air Force have their own, accredited, degree-granting, graduate level facilities which provide tailored programs not readily available from civilian institutions. In the Spring of 1966, about 4,500 officers were enrolled in academic educational programs lasting from a few months to three or four years. Of this total, approximately 2,800 were receiving their instructions at civilian colleges and universities, while the remainder were enrolled in either the Naval Postgraduate School or the Air Force Institute of Technology. In total, the Services have identified specific requirements for some 17,000 officers educated beyond the baccalaureate level.

d. Flight Training

Flight training is the most expensive type of instruction given by the Defense Department, in large part because of the very heavy investments required in trainer aircraft and facilities. Three factors have now combined to compound our flight training problem: (1) the large numbers of World War II-trained pilots who are now coming to the close of their flying careers; (2) the rotation requirements of the Vietnam conflict; and (3) the rapidly increasing size of the Army's aviation program. To meet these increased pilot requirements, the FY 1968 Budget includes funds to increase the number of pilots being trained by the Services to an annual rate of approximately 13,500. Actual pilot production will not reach the higher authorized levels in FY 1968, however, since it takes up to 18 months to train a pilot. While we have always paid particular attention to the effective operation of our flight training programs, because of their cost implications, the burgeoning requirement for new pilots has underscored the need for thoroughly reviewing them again. I have, therefore, asked the Services to re-examine their respective programs, including the relationship between rotational policies and retention rates, the efficient utilization of trainer aircraft, the value of mission-oriented basic flight training in lieu of the current standardized course given all student pilots, etc.

In the Air Force, the planned annual output of pilots has been increased to 3,492 compared with 2,956 in FY 1967 (including jet pilots trained for the Military Assistance Program). To help handle this increased training load, a ninth undergraduate pilot training operation will be opened at Randolph AFB.

The new planned Navy annual pilot production rate is about 2,525 pilots (including 100 for the Military Assistance Program and U.S. Coast Guard), compared with about 2,200 previously in FY 1967. Of the 2,425 earmarked for the Navy and Marine Corps, about 945 will be trained for jet aircraft, 830 for propeller aircraft, and 650 for helicopters.

The Army's planned pilot production has been increased to 7,500 pilots per year (including 180 for the Military Assistance Program), compared with about 3,700 in the original FY 1967 Budget. About 90 percent of the new Army pilots will be trained for helicopters, up from about 50 percent in FY 1966. The Army will commission about 75 percent of its new pilots as warrant officers since their positions do not involve command responsibilities. To help handle the larger training loads in FY 1968, Hunter AFB in Georgia (which was scheduled to close in July 1967) has been assigned to the Army and the present flight training program at Fort Wolters will be expanded.

To support the larger flight training programs, the revised FY 1967 Budget and FY 1968 Budget request provide 582 trainer aircraft for the Army, 269 for the Navy, and 458 for the Air Force.

e. Service Academies

As you know, we have been increasing the level of enrollment at the Military Academy over the past few years toward an ultimate goal of over 4,000. In FY 1968, enrollment will average about 3,300 cadets. To help accommodate the larger student body, the FY 1968 Budget includes funds for a new 66-classroom academic building at West Point and for personnel facilities and utilities.

Enrollment at the Naval Academy (currently the largest of the three Service academies) in FY 1968 will remain constant at about 4,100. Construction funds, totalling $3 million, are requested for the modernization of an academic building at Annapolis, and for additional personnel facilities.

The Air Force Academy, which has also been gradually building up the size of its student body to an ultimate level of 4,000, will reach a total of 3,100 cadets in FY 1968. In addition, a Cadet Pilot Indoctrination Program, designed to encourage all physically qualified cadets to consider flight training upon graduation, will be instituted. Currently, cadets must wait until after graduation before beginning their undergraduate flight training. Under this program, cadets can gain flying experience prior to graduation, thereby providing a better basis upon which to judge their aptitude for further pilot training. This program is similar to the Flight Instruction Program now available to Air Force ROTC cadets at several civilian colleges and universities. About $5 million is included in the FY 1968 Budget for construction of medical, training and other facilities at the Air Force Academy in FY 1968.

2. Medical Services

Medical Services include those costs for medical and dental services not directly associated with military units in our other major programs, the costs of medical care for military dependents at non-military facilities, the costs of providing veterinary services, and the cost of operating various health service activities such as the Armed Forces Institute of Pathology. The military departments now operate more than 250 hospitals and 450 dispensaries, representing a capital investment of more than a billion dollars and employing about 170,000 military and civilian personnel. In the current fiscal year, the annual operating costs of these facilities and related medical services will exceed the billion dollar level.

Last year, I mentioned that in order to ensure their efficient operation, the Department was studying (with the assistance of private consultants) the management of Defense hospitals and outpatient clinics in the continental United States. To this end, a Hospital Management Evaluation Committee was established within the Department of Defense, including the three departmental Surgeons General. This committee has now completed its initial study, and the military departments are now in the process of developing joint solutions to specific problems in the fields of medical manpower management, health data management, physical examinations and medical facilities planning. In addition, the committee's initial effort identified several other areas of health services management which should be studied and this is now being done.

Three interrelated medical legislative proposals were presented for consideration by the Congress last year -- an expanded civilian outpatient program for active duty dependents, a new civilian health care program for retired members and their dependents, and a financial assistance program for active duty members with mentally retarded or physically handicapped dependents. These three proposals were later combined into a single bill (H.R. 14088) which was unanimously passed by both Houses of the Congress and signed into law by the President last September.

Known as the Military Medical Benefits Amendments Act of 1966, it has been widely acclaimed as the most important military medical legislation in the past ten years.

During the past year the Army, Navy and Air Force medical services in Vietnam have continued to improve their outstanding life-saving record. For example, of all those members of our armed forces wounded since January of 1961, 98.4 percent have survived. In Vietnam over 75 percent of those wounded and 90 percent of those who are injured or become ill are being returned to duty from local medical facilities. Progress has also been made in the fight against malaria. In spite of the increased number of troops exposed, the highest monthly malaria contraction rate reached during 1966 was 3.2 per 1,000 in June, 1966 compared with the rate of 5.6 experienced in November, 1965.

The FY 1968 construction program for medical facilities totals $161 million -- the largest ever. It includes 27 new hospitals or additions to existing hospitals, together with a large number of other medical facilities.

The rising cost of medical services in FY 1967 and FY 1968, shown on Table 21, reflects the expansion of our active forces, the related increase in the number of dependents eligible for military-sponsored medical care, higher unit costs (both within our own facilities and in the civilian facilities used by many dependents), and the costs of the new Military Medical Benefits Legislation of 1966.

3. Retirement

This element covers the pay, as authorized and prescribed by law, of military personnel on the retired lists and provides for payments to survivors pursuant to the Retired Serviceman's Family Protection Plan.

In FY 1968, the average number of retired military personnel is expected to rise to about 621,000, an increase of about 58,500 over the current year. As shown on the following table, a continuation of this trend should see the average number of annuitants on the retired rolls reaching 904,000 and the annual funded cost almost $2.8 billion by FY 1973. The unfunded "Past Service" liability should reach about $86.2 billion by end FY 1973.

Fiscal Year	Average No. of Retirees (Thousands)	Average Cost ($)	Total Cost ($Millions)	Unfunded "Past Service" Liability* ($Millions)
1961	275.9	2,856	788	45,105
1962	313.4	2,858	896	47,337
1963	358.8	2,828	1,015	48,868
1964	410.9	2,948	1,211	56,071
1965	462.5	2,996	1,386	59,450
1966	508.6	3,131	1,592	66,585
1967	562.5	3,224	1,814	71,370
1968	621.7	3,248	2,020	74,092
1969	684.0	3,252	2,224	76,701
1970	737.0	3,255	2,399	79,224
1971	790.0	3,258	2,574	81,657
1972	847.0	3,261	2,762	83,984
1973	904.0	3,264	2,951	86,200

In addition to the $2,020 million included in the FY 1968 Budget, we are requesting an additional $34.0 million for FY 1967 to finance two increases. The first stems from the higher pay rates for those personnel retiring subsequent to 1 July 1966, the effective date of the FY 1967 military pay legislation (P.L. 89-501). The second results from the provision in the FY 1966 military pay legislation (P.L. 89-132) which requires that individuals on the retired rolls receive an annuity increase equal to the percentage rise in the Consumer Price Index whenever the index rises three points and remains at or above such a level for three months. During July-September 1966 the index rose 3.7 percent above the previous level and annuities were raised accordingly.

4. Other Personnel Support

Included in this category are the costs of recruiting and examining new servicemen; permanent changes of station for military personnel (including the shipment of household goods); military family housing debt payments; transient patients and prisoners; etc. Higher costs here reflect the recent increases in compensation rates, the larger number of military personnel on active duty and the higher tempo of activity related to the conflict in Southeast Asia.

D. Administration

This program reflects the costs of: (1) departmental headquarters, including those of the Office of the Secretary of Defense, the Joint Chiefs of Staff, and the Services; (2) certain major field headquarters not otherwise accounted for, such as the Military District of Washington;

* End Fiscal Year

(3) a variety of specialized field activities such as the Naval Observatory; (4) construction support activities, such as planning and design; and (5) other support activities. including the appropriations for "Contingencies, Defense" and "Claims, Defense", the Defense Contract Audit Agency and interdepartmental activities.

Year-to-year changes in the overall cost of this aggregation of essentially unrelated activities and functions are generally related to the changes in the size and tempo of the Defense effort. Because of their sheer number, and the fact that they will be reviewed in detail by other witnesses before the appropriate Congressional Committees. I will discuss just two of them now.

1. Contingencies

For many years Congress has provided the Secretary of Defense $15 million per annum for emergencies and extraordinary expenses arising in connection with national security and such other purposes as he deems proper. Use of these funds is authorized by the Secretary and accounted for solely on his certificate that the expenditures were necessary for confidential military purposes; the Congress is kept currently informed as to their status. During the FY 1962-66 period, utilization of this fund ranged from $14.4 million in FY 1963 to $556,000 in FY 1966 averaging about $9.1 million annually. This is the only reserve available to the Secretary for unplanned programs requiring discreet and immediate action. Since experience has shown that a reserve of this amount is about right, we are again requesting $15 million for "Contingencies" in FY 1968.

2. Claims

This appropriation account provides for the payment of all non-contractual claims against the Department of Defense. A total of $34 million will be required for this purpose in FY 1967 including $9 million requested in the Supplemental to meet the increase in claims essentially related to the higher troop strengths and movements. For FY 1968, we are requesting $30 million to provide for increased claims which we must expect with the augmented force levels projected through that year. As you know, the Department of Defense has been authorized under the various statutes to settle certain small claims in order to expedite their payment, but it appears that an annual appropriation for a definite amount has not satisfactorily accomplished the purpose in the past and may not in FY 1967. We are, therefore, again requesting the Congress to appropriate the amount requested on an annual indefinite basis so that we may pay all valid claims promptly.

VIII. PERSONNEL MATTERS

A. PERSONNEL STRENGTHS

Both military and civilian personnel strengths will be higher at end FY 1967 than originally projected a year ago. In FY 1968, strength levels are again scheduled to rise, although at a much slower pace than during the preceding two years.

1. Civilian Personnel Strengths

The numbers of direct hire civilian employees now estimated for end fiscal years 1966-68 are shown in the table below. The currently planned end FY 1967 strength is 123,200 higher than originally projected a year ago and 112,900 higher than the actual strength at end FY 1966 (which itself was 17,000 higher than projected a year ago). This Budget request would provide for an additional 23,500 civilians by end FY 1968.

	End FY 1966 (Actual)	End FY 1967 (Estimated)	End FY 1968 (Planned)
Army	371,121	426,164	431,474
Navy	356,744	398,608	410,787
Air Force	306,911	319,462	325,796
Defense Agencies	68,923	72,361	72,057
Total DoD	1,103,699	1,216,595	1,240,114

While most of the 112,900 man increase in FY 1967 stems from Vietnam-related requirements, about 30,000 is accounted for by our program to convert, wherever feasible, from military to civilian staffing. Announced in the fall of 1965, the first phase of this program called for replaceing some 75,000 military personnel with 60,000 civilians during calendar year 1966. Some 30,000 were converted by June 1966 and we now estimate that the remaining 30,000 will be converted by this coming April. In FY 1968, we propose to implement a second phase of the program, substituting about 34,000 civilian positions for 39,900 military positions. (The difference in the number of positions is made possible by the elimination of training and support spaces associated with the use of military personnel.) Thus, if it were not for this civilian substitution program, which of course is itself an economy measure, the level of civilian staffing would decline in FY 1968 by approximately 10,000 personnel. Indeed, in order to hold down civilian employment levels, we have anticipated another increase in employee productivity in FY 1968 and reduced our computed requirement by about 18,500 personnel spaces.

2. Military Personnel Strengths

The numbers of active duty military personnel now estimated for end fiscal years 1966-68 are shown in the table below. The currently planned end FY 1967 strength is 293,700 higher than originally projected a year ago and 295,300 higher than the actual strengths at end FY 1966 (which itself was 106,000 higher than those projected a year ago). The Budget request would provide for a further increase of 77,500 in FY 1968.

	End FY 1966 (Actual)	End FY 1967 (Estimated)	End FY 1968 (Planned)
Army	1,199,046	1,454,200	1,520,000
Navy	744,469	753,394	762,288
Marine Corps	261,687	280,624	294,914
Air Force	886,350	898,600	887,100
Total DoD	3,091,552	3,386,818	3,464,302

By the end of FY 1968, we will have added about 810,000 military personnel to the strength existing on June 30, 1965. In addition, the requirement for another 114,900 military personnel has been avoided by civilian substitution.

B. VIETNAM RELATED PERSONNEL MATTERS

We have made a particular effort during the Vietnam build-up to avoid unnecessary turbulence in our military personnel programs and to establish personnel policies which will spread the risks and burdens of combat as equitably as possible.

1. Rotation Policy

In order to limit any individual's exposure to the hazards of combat, we have established a standard tour of twelve months for most military personnel serving in the war zone. In the case of land-based aircraft crews whose missions take them over North Vietnam, a shorter tour policy is followed, based on the number of sorties actually flown, which at the recent activity rates has been averaging about six or seven months. Crews flying missions in South Vietnam, where the hazards are less severe, serve a twelve month tour. Navy personnel afloat or assigned to construction battalions are rotated with their ship or unit: 7th Fleet ships are deployed, on the average, for a seven month period during which they rotate in and out of the combat area, depending on specific operational requirements; naval construction battalions rotate on a six to eight month schedule. In order to avoid repetitive tours in Vietnam, 50,000 additional positions have been authorized for the Army and 3,000 for the Marine Corps, specifically to sustain an adequate rotation base.

The general policy for all Services is that no individual, except those who volunteer, will be reassigned to a second tour in Vietnam until all others available in the same specialty and grade have served an initial tour. In order to expand the rotational base for pilots we have greatly increased our flying training programs, as I described earlier in this statement.

2. Assignment Policies

As in past conflicts, several special assignment policies are being applied for our deployments to Southeast Asia. Since November 1965, no 17 year-olds have been allowed to serve in South Vietnam. Also, since August 1966, two members of the same family have not had to serve in Vietnam simultaneously against their wishes.

Since 1951, we have excepted sole surviving sons from combat duty provided the surviving son or a parent so requests. (However, a parent's request may be waived by the serviceman.) On July 1, 1966, the military departments were authorized to grant a hardship discharge to those members who became sole surviving sons after being inducted or enlisted. For purposes of this policy, a sole surviving son must belong to a family in which the father, or one or more sons or daughters, has either been killed, died, been captured, reported missing-in-action, or become permanently 100 percent physically disabled as a result of military service.

Last year, Public Law 89-735 authorized us to grant a special 30-day leave to any serviceman (exclusive of travel time and not chargeable against his leave account) for voluntarily extending his tour of duty in Vietnam by six or more months. For the period November 2, 1966, through December 15, 1966, 4,318 servicemen have taken advantage of this option.

3. Involuntary Extensions

During FY 1966, the initial period of the Vietnam build-up, it was necessary to retain (extend) involuntarily certain Regular Navy and Marine Corps enlisted personnel on active duty under authority of 10 USC 5538. Initially, all enlistments were extended for four months, but during the later stages the period of extensions was gradually reduced and finally eliminated altogether. In total, approximately 78,000 Navy and 30,000 Marine Corps personnel were affected by these extensions. No enlistment contracts are being involuntarily extended by any of the Military Services today.

However, regular officers of Army, Navy, and Marine Corps are subject to selective retention. Between September 1965 and the end of October 1966, about 1,900 Army officers were involuntarily retained.

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In the Navy, about 1,300 Regular officer resignations and retirements had also been denied or deferred on a selective basis, as of the end of November 1966. In the Marine Corps, all Regular officers were initially extended by not approving resignations and requests for voluntary retirement. Since the policy forestalled requests for retirement or release, it is impossible to tell how many Marine Corps officers were affected, although 350 is a reasonable estimate for FY 1966. As with the other Services, exceptions were made in case of mandatory retirement or separation and for hardship or humanitarian reasons; and since October 1, 1966, the Marine Corps, like the Army and Navy, has been retaining officers only on a selective basis. In the Air Force, approval of resignations, releases, or voluntary retirements is being withheld only in the cases of those officers having an unexpired service commitment.

Prior to January 1967, the Army had followed the policy of selective retention of reserve component officers who had applied and been accepted for active duty on a "voluntary indefinite" status. This policy has now been discontinued.

4. Promotion Policy

The rapid expansion of our military forces has required some acceleration of promotions in order to staff the expanded grade structure. Thus, more personnel in the top six enlisted grades (E4-E9) were authorized, based on the Services' capability to attain these strengths from personnel resources now available, without a serious decrease in experience levels of each grade. In order to minimize any promotion stagnation in the career force when the forces are reduced at the end of the present conflict, and to enhance retention of qualified personnel, the largest portion of the increase was authorized in the first term grades of E4-E5.

For officers, especially those in the junior grades, the average number of years of service at the time of promotion has been reduced. This is particularly true for junior officers in the Army and Marine Corps who are now being promoted to captain after 2-1/2 to 3 years of active service, compared with 4 to 5 years in the past.

C. MANPOWER PROCUREMENT

In order to provide the one million new entrants required by the Military Services during the current fiscal year, we have had to continue to rely on the Selective Service System despite impressive gains in voluntary enlistments. However, the projected draft calls for the remainder of FY 1967 and for FY 1968 show a sharp decline from an average monthly induction rate of nearly 41,000 in the August-November 1966 period to an

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estimated 17,000 during the last half of FY 1967, and to about 24,000 estimated for FY 1968. Since draft calls are a residual source of manpower, any changes in the number of voluntary enlistments and reenlistments from the rates now projected may cause future draft calls to vary from these estimates. Of the 340,000 inductions in FY 1966, the Army took 317,000, the Navy 3,000 and the Marine Corps about 20,000. However, only the Army plans to use the draft in FY 1967 and 1968.

The number of first enlistments totaled 533,000 in FY 1966, an increase of nearly 80 percent over FY 1965 and the largest annual total since FY 1951. The trend of first enlistments rose throughout the year with 23 percent more in the second half than in the first. However, during the first half of FY 1967 there has been a slight decline, partially reflecting the lower recruitment needs of the Navy, Marine Corps and Air Force as their personnel build-ups near completion.

We have been concerned that our standards of acceptance for military service were higher than necessary and, as such, had become both discriminatory and wasteful. To help remedy this situation, we twice revised these standards, in November 1965 and again in April 1966. These initial revisions resulted in the enlistment and induction of 50,000 men between November 1965 and September 1966 who would not have qualified under earlier standards. These men have performed well in their initial assignments, with all but a very small percentage not completing their recruit training. Last October we initiated a further revision under which we would accept, by September 1968, 40,000 men who would have otherwise been disqualified from military service for mental or physical reasons. Between October 1967 and September 1968 we propose to take an additional 100,000 men in this category by a further reduction in standards. Hence, the cumulative effect of these revisions will be to admit for service, each year, a total of 150,000 men who were disqualified for military service under former standards.

Both volunteers and inductees under this program will participate in the same basic training program taken by other non-prior Service personnel. Any special assistance needed will be provided as part of the regular basic training cycle. Once a man has successfully completed basic training, he will be given skill training in a military occupation for which there is an established requirement, again using regular training facilities and courses. We are convinced that by using the best of modern educational technology these men can be trained in useful and needed military occupational specialities.

As you know, the draft authority under the Universal Military Training and Service Act, including the authority to make special calls for physicians, dentists, and allied medical specialists, is now scheduled to expire on June 30, 1967. The National Advisory Commission on Selective Service, appointed by President Johnson, has been studying this subject intensively for several months. After the President has had an opportunity to study the Commission's recommendations he will propose specific draft legislation to the Congress.

With respect to commissioned personnel, the Officer Candidate Training Programs have been the principal source of additional officers needed for the expansion of the forces. In the Army, for example, about 3,300 new officers graduated from OCS during FY 1966; some 19,800 officers are expected from this source in FY 1967 and an additional 16,300 in FY 1968. In the Air Force and Marine Corps, the Officer Training Schools were also the primary source of new officers, since these schools can be expanded much more rapidly than the four-year ROTC and Academy programs.

D. MILITARY COMPENSATION

Under the Pay Act of 1965, the Department of Defense is required to conduct, at least once every four years, a comprehensive review of the principles and concepts of military compensation, with the first review to be initiated not later than January 1, 1967. Work on the first quadrennial review was actually initiated during calendar year 1966, and we have now formed a permanent staff of specialists to study ways of improving the structure of military compensation, including supplementary benefits and associated career incentives.

As the first step, data have been gathered on the current and career earnings of individuals in those occupations which represent the principal civilian alternatives for both enlisted and officer personnel. A full evaluation of this information, now in process, is expected to provide the data base for a systematic comparison of the earnings of military and civilian personnel. We will then be able to determine the adjustments required to keep the compensation of our career military personnel competitive with that offered in the civilian sector of the economy.

Possible revisions in the military retirement system are also being studied, with the objective of making it a more meaningful part of current military compensation. We would like to see retired pay become a more effective incentive for those making their first reenlistment decisions, as well as for those whom we desire to retain in service beyond the point of retirement eligibility. We expect to report our initial findings from these studies to the President during the coming year.

IX. DEPARTMENT OF DEFENSE COST REDUCTION PROGRAM

Five years ago, in my appearance before this Committee in support of the first Five Year Defense Program, I said:

> "I am thoroughly in agreement with your insistent request for a sharp increase in the effectiveness with which we conduct our procurement business. I am equally sure, however, that a piecemeal approach, confined to nibbling around the edges of the problem, is not going to give us the improvements which will produce significant economies. What is required is a frontal assault on the procurement problem -- and indeed on the whole logistics problem.
>
> "This is a very large assignment: it is a bigger challenge than that posed to any other government agency or private corporation. And it has at least two prerequisites for success: a fresh approach and the best application of our management talents.
>
> "Accordingly, we have established a new comprehensive Logistics Management Program under which many of the basic problems of logistics which have troubled the Department for so long will be intensively studied."

I then went on to describe some of the areas which would be given special study: Requirements Planning; Simplification of Specifications, Standards, and Designs; Increased Competition in Defense Buying; Procurement Procedures and Practices; and Contract Performance.

You will recognize that these studies were the genesis of the Department of Defense Cost Reduction Program, which was formally established in July 1962 when I made my first progress report to President Kennedy. I estimated at the time that Defense logistics costs could be cut by about $3 billion per year within a period of five years. Shown on the chart on the next page are the results actually achieved through FY 1966.

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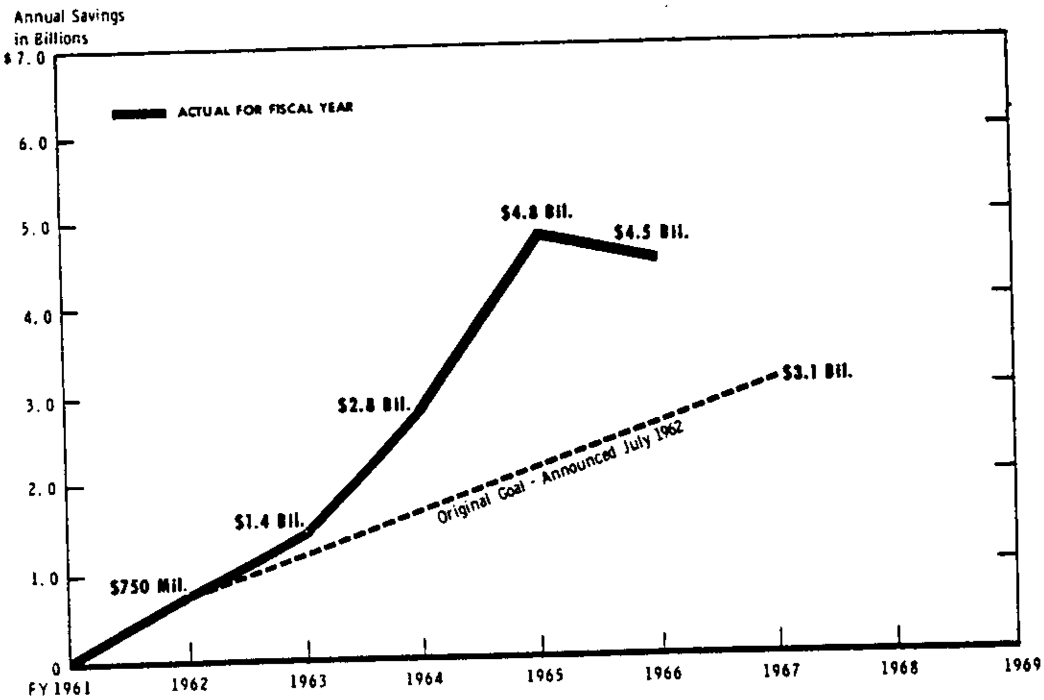
PROGRESS OF DoD COST REDUCTION PROGRAM



FY 1966 marked the completion of the Five Year Cost Reduction Program begun in 1962. Starting in FY 1967, new Cost Reduction Programs will be established on a year-to-year basis. Accordingly, this is an appropriate time to review the purposes and assess the contribution of the Program to the overall management of the defense effort.

Unlike private industry, which operates under the discipline of the profit and loss statement, there is no such built-in incentive for efficiency and economy in the operating environment of the Defense Department or, for that matter, the Government as a whole. Consequently, there is always a great premium, in managing a Government enterprise, on finding effective substitutes for the normal profit and loss stimulus inherent in private industry.

[redacted]

The major decisions concerning military forces and programs, although they are by far the most important in terms of costs and combat readiness, are relatively easy to handle from an organizational and management point of view. Only a relatively small number of people at the very top levels of the Defense Establishment are directly involved in these decisions, and in the past several years we have greatly improved the decision-making process. But the day-to-day execution of the Defense program involves literally tens of thousands of military and civilian personnel located throughout the United States and much of the Free World, and these are the people who have to make the countless individual management decisions at the operating levels.

How to motivate these people to do their job more efficiently, and how to determine whether they do so, has always been one of the most difficult and elusive problems facing the top management of the Defense Department. Because of the large number of personnel involved, and the even greater number of decisions, it is obviously impossible for the top management to supervise directly the performance at these lower levels. The solution, therefore, is to devise some method of mobilizing the capabilities of these managers, involving them more intimately in the entire management process, and motivating them to seek out and develop more efficient ways of doing their jobs -- and that is precisely what the Cost Reduction Program has been designed to do.

In this connection, we should bear in mind that the primary responsibility of the Defense Establishment is to be ready for combat. Therefore, it is to be expected that in making their day-to-day decisions, our logistics managers will always tend to err on the side of surpluses rather than shortages. Thus, without some offsetting incentive for economy we would always be confronted with a pervasive tendency to overstate requirements, to hoard supplies and manpower, to pyramid "safety stocks" at successive management echelons, to establish standards without regard to cost, and, in general, to stick with the "tried and true" rather than to risk innovation. Certainly, we want to be sure that we have all we need to maintain our combat readiness. But there is absolutely nothing to be gained, and indeed much to be lost, by acquiring more than we need. Even with the best of management, millions of dollars of equipment and supplies must be disposed of each year simply because of unavoidable obsolescence, and we don't want to add to that total.

In order to enlist the support of the entire logistics organization, the Program must provide for the direct participation of management at all levels in identifying areas where operations can be improved and economies effected, and in the setting of goals for each of these areas. In addition, the objectives, methods and procedures of the Program must be fully explained to and accepted by the people who actually have to achieve those goals. Finally, achievements must be adequately reported and validated to top management.

In connection with the last point, we have made a maximum effort to provide public recognition for outstanding achievement under this program. Both President Kennedy and President Johnson have personally participated in this phase of the program, as have I and all the principal officials of the Defense Department. We believe that appropriate rewards are a much more effective incentive for good work than threats of reprisal in the form of demotion or discharge. And, as a practical matter, in an organization as large as the Defense Department, firing people is no solution to the problem. We need so many that the chances are the new people we might hire would be no better on the average than those we might fire. This is a problem common to all large enterprises, public or private. There is simply a limit on the number of good managers available, and the competition for that limited supply is very keen. The solution is to make the best use of the talent available and provide maximum incentives for good performance; and public recognition of a job well done is one of the most important of these incentives.

With regard to validating the results of the Cost Reduction Program, I have, from its very inception, insisted on an independent audit. This is simply good business practice; no organization should be expected to audit its own performance. Originally, I invited the General Accounting Office to undertake this auditing task but, for understandable reasons, the Comptroller General thought it would be inappropriate. I therefore assigned the job to the Comptroller of the Defense Department, under whose direction some 200 man-years have been devoted annually to the review and verification of the quarterly savings reports submitted by the logistics managers.

Auditing a program of this sort is in itself something of an innovation. Most programs of this type in private industry are not formally and independently audited, and there are no generally accepted standards, as there are in the case of the usual financial audit. Consequently, we have had to develop our own audit standards and criteria through trial and error, and in the early stages of the program there were some cases of inconsistency. These difficulties have long since been overcome as our auditors have gained more experience with the program.

I would now like to summarize the accomplishments of the Cost Reduction Program over the five year period ending in June 1966, and then comment briefly on the new phase getting underway this year. A more detailed account of the savings by year is shown in Table 22 attached to this statement.

A. BUYING ONLY WHAT WE NEED

The logistics cycle starts with the calculation of requirements, and it is at this point that the future cost of the entire logistics system is largely determined. Once we buy more than we need, a whole sequence of unnecessary expenditures is set in motion -- inventories are acquired which are never used, more transportation is needed to move them, more storage space to house them, and more people to handle them. Finally, years later, large surpluses must be sold with a return to the Government of less than seven cents on the dollar.

1. Refining Requirements Calculations

In 1961, our inventories suffered from major imbalances in hundreds of key items. Some of these imbalances were attributable to planning problems among the Services. Some, understandably, stemmed from the inherent difficulty in predicting obsolescence and consumption rates. And some, of course, were caused by the all-too-human tendency to add "insurance" factors to forecasts of future demand, pipeline transit times, and the required levels of safety stocks.

Since 1961, we have overhauled the entire planning and decision-making system of the Defense Department, with the result that we now have one "official" long-range force structure and financial plan. This approach alone has done much to help achieve an internal balance among the many different elements of the military program and to ensure that supply requirements are directly related to real military needs.

In addition, thousands of reviews of end items, spare parts, and consumables, conducted at all levels of the logistics establishment, have helped to determine our real needs and reduce procurement of materiel which might later prove surplus. Post D-day production capacity has been substituted for expensive stockpiling wherever practicable. Wearout rates are being predicted more accurately through the use of automatic data processing equipment. Pipeline requirements have been reduced by using airlift to deliver high cost items. Demand is being forecast more accurately by the extensive use of high-speed communications systems and concentrated management effort on high-value items.

Finally, the widespread cost-consciousness induced by the importance accorded the Cost Reduction Program is proving an effective counter to the natural tendency of logistics managers to overestimate their needs.

The net result of these efforts to achieve realistic statements of requirements has been to produce savings of $5.7 billion over the five-year period.

2. Increased Use of Excess Inventories

Buying only what we need also means making maximum use of excess stocks already on hand. Inventory managers in all the Services are being required to maintain a continuous search of their stocks -- and those of other Services -- to try to find the same or a usable substitute for items about to be purchased.

Since the end of FY 1961, long supply stocks dropped from $13 billion to $10 billion. In large measure, this reduction is due to increased re-utilization of these assets by the Military Services. Over the years, we have progressively stepped up our efforts in this area. For example, an improved centralized automated screening system has been established by the Defense Supply Agency at Battle Creek, Michigan. This system enables our logistics managers to identify quickly those requirements which can be satisfied by excess stocks, in lieu of new procurement. The results of our efforts can be seen in the fact that where in 1961 only 7 percent of our excess and long supply inventories was re-utilized, in 1966 16 percent was put to productive use.

The year-by-year increase in re-utilization is shown in the following table:

	($ Millions)	
Fiscal Year	Value of Long Supply Stocks Returned to Productive Use	Increase Over FY 1961
1961	$ 956	$ -
1962	1,080	124
1963	1,120	164
1964	1,287	331
1965	1,451	495
1966	1,596	640

3. Eliminating Goldplating through Value Engineering

Having ensured that we are buying only the necessary quantities of supplies and equipment, we must also make certain that we do not specify standards of performance, reliability, or durability which are higher than those required by the military mission. Such frills ("goldplating") may simply be the product of overzealous designers. In other cases, the requirements for durability, heat resistance, etc., may be overspecified because actual performance data is lacking, and analogous data is not sought or properly used. In any event, such overspecification is very costly, and in some cases has added as much as 1,000 percent to the cost of a single item. With over 20,000 new items entering the inventory each month, there are great potential savings in identifying and eliminating goldplating through the systematic techniques known as value engineering.

A number of steps have been taken since 1961 to this end. For example, our contracts now contain clauses which encourage Defense contractors to practice value engineering by offering them a share in any resultant savings, including those in follow-on contracts. Our contracts also provide for shared savings where value engineering changes produce economies in collateral functions, e.g., maintenance and logistics support. Practicing what we preach, we have added 265 full-time value engineering specialists to the Defense Department staff, and formal classroom training in this function has been given to over 500 Defense personnel during FY 1966.

As a result of these actions, the number of value engineering changes proposed by contractors and approved by Defense has increased dramatically (from 288 in FY 1964 to 979 in FY 1966) and substantial improvements have been achieved in equipment reliability and ease of maintenance. Savings realized in FY 1966 were about $324 million, more than quadruple the amount realized four years ago.

4. Inventory Item Reduction

Because every different item in the supply system must be separately stored and accounted for, it is highly important that their number be held to the minimum. Needless proliferation of types, colors, sizes, finishes, etc., in the past has resulted in millions of dollars of unnecessary management and warehousing costs. Moreover, when the very same item is unknowingly given different stock numbers by different logistics agencies, not only are duplicate stocks bought, but management costs are multiplied.

Although the Defense Department has had a formal standardization program to identify and eliminate duplicative and unnecessary items since 1952, the number of items in the supply system increased from 3.4 million at the end of FY 1958 to over 4 million at the end of FY 1962.

Since that time, we have attacked the problem at several levels in an effort to reverse this trend, including:

- Extension of the standardization program to the research and development phase and, where feasible, standardizing parts and components within a single development project.

- Encouraging designers to use standard parts and components by improving data storage and retrieval systems so that the necessary drawings and specifications are readily available.

- Screening new items through an automated Item Entry Control System to prevent unnecessary additions to the inventory.

- Setting up special task forces to screen specific classes of items.

As a result of such actions, the average monthly rate at which items were eliminated from the supply system was over 13,000 items greater during the five-year period ending June 30, 1966 than the FY 1961 rate. Moreover, in FY 1965, we were able for the first time to purge the system of more items than entered it. If we had not taken these steps, there would be about 820,000 more items in the system today than there actually are. At an estimated management cost of $100 per year per item, we were saving $82 million annually by the end of FY 1966.

B. BUYING AT THE LOWEST SOUND PRICE

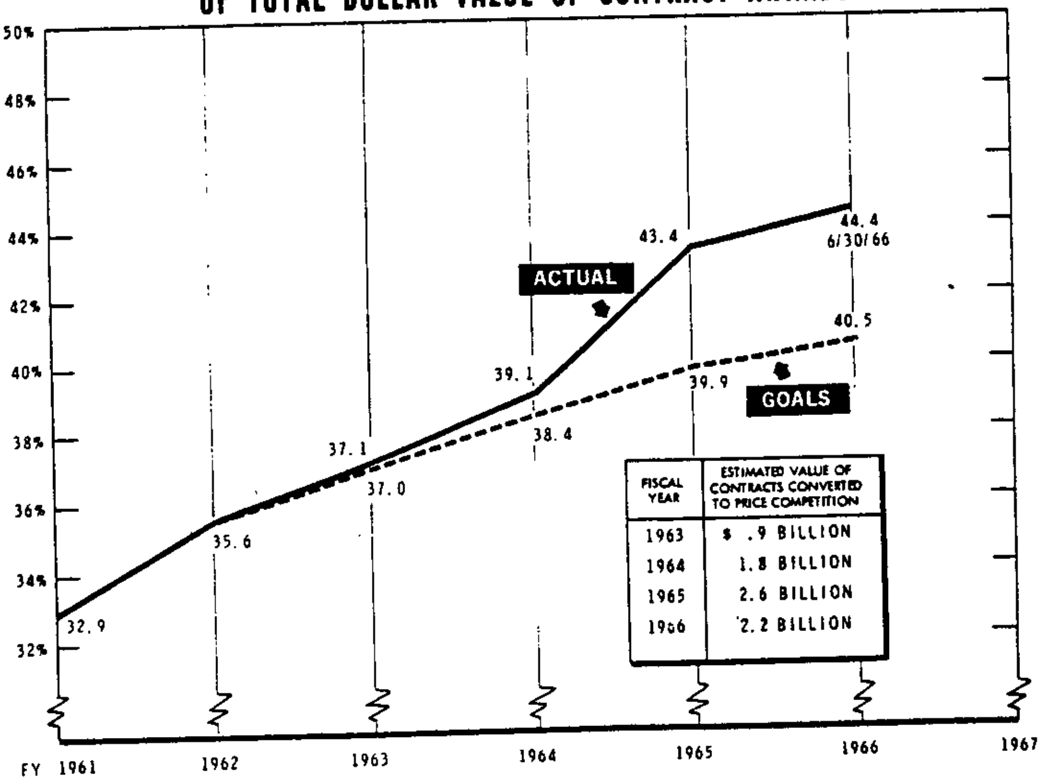
A searching review of Defense Department purchasing practices was begun in 1961 in order to find the best ways to cut costs in the millions of procurement actions which we take each year. Reports of the General Accounting Office and Congressional Committees for several preceding years were scrutinized in considerable detail during this review. The results of this study underscored what had been widely believed for some time, i.e, that very sizable savings would result from infusing more competition into our procurements and from decreasing the use of Cost-Plus-Fixed-Fee contracts. Five-year savings resulting from these two efforts alone have exceeded $3.1 billion.

1. Shift from Non-competitive to Competitive Procurement

Every dollar shifted from non-competitive to competitive procurement saves the Government and the taxpayer an average of 25 cents. A continuing sampling of our procurement records amply supports the conservatism of this estimate.

As shown on the following chart, 44.4 percent of our prime contracts were awarded on the basis of price competition during FY 1966 compared with 32.9 percent in FY 1961. It should be noted that this was achieved despite the pressures on the contracting process arising from the Southeast Asia conflict.

CONTRACTS AWARDED ON BASIS OF COMPETITION AS A PERCENT OF TOTAL DOLLAR VALUE OF CONTRACT AWARDS



Several actions have contributed to this accomplishment. Among these are:

- Increased use of "two-step" advertised bidding in those cases where the initial specifications are not sufficiently precise for one-step contracting. Under this procedure, bidders first submit unpriced proposals for technical evaluation; those qualifying then submit sealed-bid priced proposals, with the lowest bidder winning the contract. The value of purchases awarded through this technique increased from $85 million in FY 1962 to $926 million in FY 1966.

- "Breaking out" from complex end items individual high value parts and components for separate competitive procurement. In the area of replenishment spare parts alone, "breakout" procedures lifted the proportion of competitive purchases from 28 percent to 47 percent over a four year period.

- Planning procurements farther in advance and in greater detail so as to ensure the timely availability of the drawings and specifications needed for competitive bidding.

- Use of the total "package" approach to the procurement of major weapon systems, under which one contract is awarded, competitively, for the development, production, and "life cycle" support of the system.

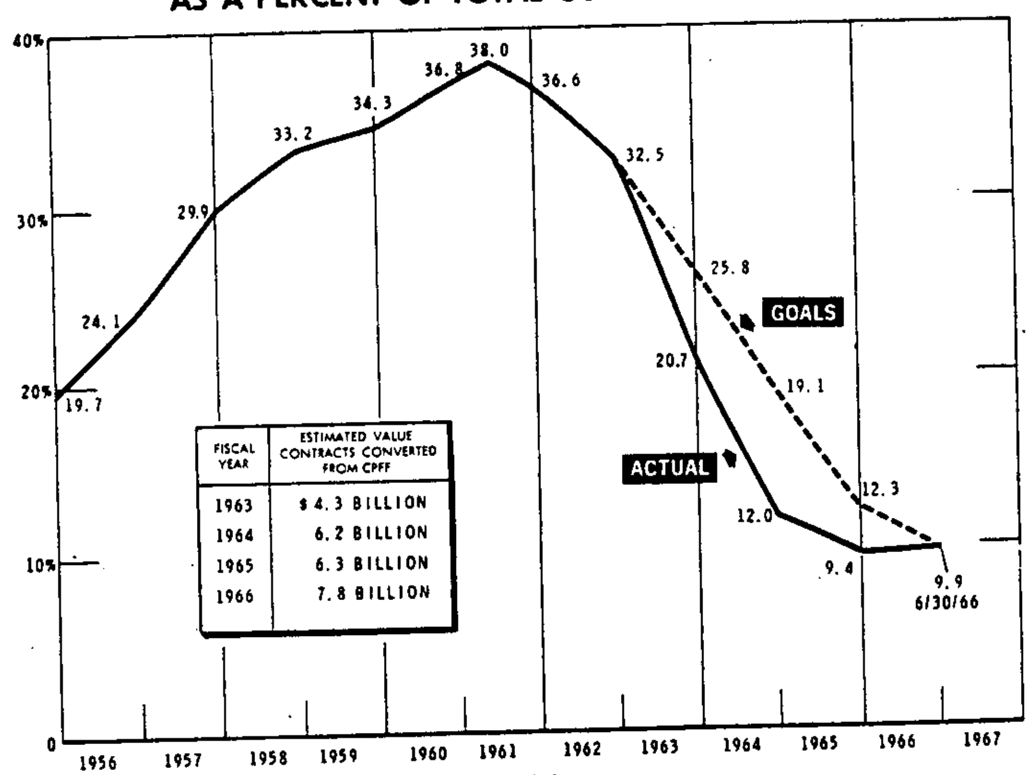
- Improving the management skills of our own procurement personnel through formal schooling, with some 32,000 students participating since FY 1961.

In total, savings from the rising rate of competition during the FY 1962-66 period exceeded $2 billion.

2. Shift from Cost-Plus-Fixed-Fee (CPFF) to Fixed-Price or Incentive Contracts.

CPFF contracts, while being the easiest to award, are the most difficult to administer and, more importantly, provide little or no incentive for the contractor to hold down costs or meet performance and delivery specifications. With the contractor assured that his costs will be reimbursed and guaranteed a set fee under this type of contracting, hugh cost overruns have been experienced. An average of ten cents on the dollar is a very conservative estimate of the savings achieved whenever these open-ended arrangements are converted to firmer forms of pricing, such as fixed-price and incentive contracts.

COST PLUS FIXED FEE CONTRACTS
AS A PERCENT OF TOTAL CONTRACT AWARDS



Between 1956 and the first nine months of 1961, the proportion of CPFF contracts awarded increased from 19.7 percent of the total to 38.0 percent. In my first annual report on the Cost Reduction Program to this Committee I stated that our goal -- a tough one -- was to reduce CPFF contracting from that 38 percent level to 12.3 percent; in FY 1966, the rate was down to 9.9 percent.

Several management improvements have contributed to this achievement:

- Procurement methods have been refined and incentive-type contracting used more widely in order to relate profits more accurately to the contractor's actual risk and performance.

- Improved management techniques for scheduling the many interrelated elements of major development contracts have helped us to keep planned costs and performance closer to target.

- The number of project management offices has been doubled to provide closer and better supervision of large weapon system projects.

- Intensive advance planning has been emphasized in order to achieve better project definition prior to contract award.

- A program for evaluating and recording contractors' past performance has been established to help in future source selections and in profit and fee negotiations.

In total, the shift from CPFF to more effective contractual arrangements has enabled the Defense Department to save $1.1 billion over the five-year period, i.e., 10 cents on each dollar shifted.

A valuable by-product of this shift to more firmly priced contracts has been the elimination of the large number of detailed reports and controls which are required for CPFF contracting. Although this, too, produces real savings, they are not reflected in the published results of the Cost Reduction Program.

3. Multi-Year Procurement

By consolidating two or more years' needs in one contract, we are able to attract more competition, eliminate the administrative costs of repeated purchases, avoid the recurrence of "start-up" costs, facilitate component standardization, and stimulate private industry investment

[redacted]

in the necessary tooling and facilities. Multi-year procurement was not considered a regular element of the Cost Reduction Program until FY 1965, although its use had been strongly encouraged since 1964. In FY 1966, nearly five times more multi-year contracts were awarded than two years earlier, with resultant estimated savings of $70 million.

4. The Contractor Program

When we buy for less, our contractors must obviously sell for less. To do so, and still make a profit, they must reduce their costs. The Defense Contractor Cost Reduction Program is the industry companion to our own internal Cost Reduction Program. Currently we have 75 parent corporations actively participating and reporting their cost reduction actions on their Defense business. Over half of the total of $33.5 billion awarded by the Defense Department in FY 1966 was received by these 75 participating companies and their subsidiaries.

During FY 1966, cost reductions of $996 million were reported by these contractors. (This contractor program is entirely separate from the Defense Department's Cost Reduction Program.) For FY 1965 (the first year such savings were formally recorded by the contractors), a total of $811 million was indicated. This total of over $1.8 billion in contractor cost reduction actions over the two year period constitutes an outstanding response by our contractors to the President's personal request that they join directly in minimizing the cost of national security.

Many of our cost reduction techniques are now being applied by defense contractors on their civilian work as well as on their military work. Indeed, we have discovered that they are being used by many firms not directly connected with the defense program. A 1966 Wall Street Journal survey reported that the stepped-up cost reduction efforts among Government contractors are spilling over into the civilian economy as well and that "non-defense competitors set up similar programs to avoid being undersold on the commercial market."

C. REDUCING OPERATING COSTS

Better management of the Defense Department's support facilities and more efficient operation of its logistics system saved nearly $4 billion over the five-year period ending June 30, 1966.

1. Terminating Unnecessary Operations

Because the Defense program is greatly influenced by changes in the international situation and in military technology, frequent and, at times, drastic shifts in requirements for weapons, manpower, and

[redacted]

facilities cannot be avoided. Even though our military strength is being steadily increased, certain military installations continue to become surplus to all foreseeable peacetime and wartime needs. These facilities must be closed if the Defense program is to be managed efficiently and waste eliminated.

Accordingly, in 1961 we initiated a detailed review of the nearly 13,000 major and minor Defense installations around the world. Over the years, this review has been conducted on a continuing basis and as surplus facilities were identified, they have been scheduled for closing, reduction in scope, or consolidation. Shown below are the results of the program (on a "when completed" basis) through January 20, 1967:

	Total Through 20 January 1967
.Number of Actions	917
.Real Estate Released (acres)	1,817,429
.Industrial Plants with Commercial Potential Made Avail. for Sale	66
.Job Positions Eliminated	206,631
.Annual Operating Savings	$1,500 million

It should be noted that none of these scheduled closings have been reversed, and only a very few have been temporarily postponed, for example, to accommodate the increased helicopter pilot training needs mentioned earlier. The land and facilities made available by this "base closure" program usually find other productive uses quickly. The table below summarizes the disposition of military property released from 1961 to the end of FY 1966:

New Use	Number of Locations Through June 30, 1966
Civic Airports	28
Schools and Universities	157
Parks, Recreation, Community Development	90
Private Industry for Production	56
Individuals & Small Companies	306
Federally Owned Reserve Lands	6
Other Federal Agencies	79
Total Acres Involved	862,788

Our own Office of Economic Adjustment has helped plan many of these successful conversions and is currently collaborating with local officials in some thirty communities. In this connection, an important facet of our base closure program is the early identification and announcement of those installations affected so as to give all concerned -- the employees, the communities, and state and federal agencies -- the maximum amount of time to plan for the adjustment process.

For our own employees affected by closings, we have established a broad program of assistance which includes the guarantee of a new job opportunity, a centralized job referral activity to match displaced employees with job vacancies, a preference system for the placement of such employees, retraining, severance pay, income protection, and Government payment of moving costs to a new Defense job. The Demonstration Cities and Metropolitan Development Act of 1966 authorized the establishment of a Homeowners Assistance Program to provide some relief to the military and civilian personnel of the Defense Department who, as a result of a base closing, have to sell their homes in a depressed market.

2. Consolidation and Standardization of Operations

A major objective of the Cost Reduction Program has been to reduce overhead by consolidating common support activities and by simplifying and standardizing procedures. Through FY 1966, management actions in this area yielded savings of $739 million.

The single most significant consolidation action of support services was the establishment in 1961 of the Defense Supply Agency -- a move long urged by Members of the Congress. Under the consolidation, DSA performs the same missions at a comparable workload level with 8300 fewer civilian and military personnel than were required prior to the transfer of these missions to the Agency. The soundness of this consolidation has been proven by the test of Vietnam. In FY 1966 DSA processed one-third more requisitions than in FY 1965, handled 55 percent more tons of supplies, and bought double the dollar volume of supplies procured in FY 1965 -- and it did this with a 20 percent improvement in productivity per manhour.

Other major achievements in this area include the consolidation of the Department's contract administration services (involving 150 field offices and 20,050 personnel) under DSA and the consolidation of contract audit activities (involving some 3,600 people) under the Defense Contract Audit Agency.

In the standardization area, we have integrated 81 transportation documents into one (MILSTAMP) and 16 different requisitioning documents into one (MILSTRIP). Administrative operations have been accelerated and streamlined by such actions as reducing administrative and technical report requirements, extending the use of automatic data processing equipment, and mechanizing mass paperwork operations.

3. Increasing Efficiency of Other Support Operations

Communication systems costs were reduced by $557 million through FY 1966 by such actions as:

- Expanding and increasing the effectiveness of the Defense Communications Agency
- Consolidating and integrating leased long line communications
- Obtaining reductions in tariff rates
- Seeking out and eliminating unneeded circuits and equipment.

Transportation and traffic management improvements netted savings of $174 million through FY 1966. Typical actions included:

- Limiting premium-type air transport for personnel and cargo
- Improving the system for household goods shipments
- Obtaining reductions in freight and passenger rates
- Reducing transportation costs of overseas mail.

Maintenance management has been improved, with resultant savings of $323 million, through such actions as:

- Eliminating repair and overhaul where replacement could be shown to be more economical over the longer run
- Shortening maintenance "down time" through improved procedures and techniques
- Lengthening the intervals between overhauls through better inspections and scheduling.

Additional savings totaling nearly $400 million over the five-year period were realized through such measures as:

- Substituting commercial-type vehicles for tactical vehicles wherever permitted by requirements of the military mission

- Achieving higher occupancy rates in military family housing units by better scheduling of moves and faster renovation of vacated quarters (with a consequent reduction in rental allowance payments)

- Reducing real property management costs by obtaining lower utilities rates, consolidating public works functions, and increasing productivity in maintenance services

- Adopting lower cost packaging, preserving, and packing techniques

- Intensively applying cost reduction principles to the management of the Military Assistance Program.

D. THE NEXT PHASE OF THE DEFENSE DEPARTMENT'S COST REDUCTION PROGRAM

The initial Five Year Program was a pioneer effort. Its scope, organization, goal-setting processes, measurement techniques, and audit procedures for validating savings distinguished it from previous economy programs.

Now that the goals of the Five Year Program have been accomplished, we plan to extend the program by establishing annual goals for savings attributable to new actions taken in each future year.

In terms of overall coverage and organization, the Program remains the same. The various reporting elements of the Department will continue to recommend their own goals with the Assistant Secretary of Defense (Installations and Logistics) managing the Program and the Defense Comptroller auditing it. Savings will be reported in the year in which the decision giving rise to the savings was taken. The annual report will reflect for each action savings realized in the current year and, separately, estimated savings (if any) to be realized in the two succeeding years. The base period for measuring progress will always be the year immediately preceding the year in which the savings action is taken.

During the current fiscal year, the Military Services and the Defense Supply Agency expect to take actions which will yield savings of $872 million in FY 1967 and a total of $1.5 billion over the FY 1967-69 period. The specific goals are as follows:

	($ millions) Savings from FY 1967 Actions to be realized in:		
	FY 1967	FY 1968-69	Total
Buying only what we need	$534	$262	$ 796
Buying at the lowest sound price	104	141	245
Reducing operating costs	224	222	446
Military Assistance Program	10	5	15
Total	$872	$630	$1502

It should be noted that the above figures exclude all savings from actions taken prior to FY 1967, even though substantial savings from such actions continue to be realized.

X. FINANCIAL SUMMARY

There are three changes in the coverage of the Defense program and budget this year which deserve some special mention. The first concerns the transfer in FY 1968 of the military assistance support costs of the Lao and Thai forces from the Military Assistance Program to the regular Defense budget. [redacted]

The Military Assistance Program was not designed to support forces actually engaged in combat operations, but only to equip the forces and provide stocks of combat consumables for the initial defense phase. As a result, unanticipated increases in [redacted] requirements, stemming from changes in the overall military situation in Southeast Asia, have had to be financed at the expense of other forces supported by the Military Assistance Program and with very short notice to the Governments involved. These abrupt changes in funding have greatly complicated both the management of the program and our relations with our other Allies.

Last year, similar considerations led us to propose the transfer of the support for the South Vietnamese forces from the Military Assistance Program to the regular Defense budget. This change, which was approved by the Congress, has greatly facilitated the effective management of both our logistics resources in South Vietnam and of the Military Assistance Program world-wide. We believe that the inclusion of the Lao and Thai requirements in the regular Defense budget will produce similarly favorable results. If the Congress approves this proposal, all unexpended balances of FY 1967 and prior year Military Assistance Programs for Laos and Thailand would be transferred to and merged with the accounts of the military departments as of July 1, 1967; and all additional funds [redacted] would be authorized for and appropriated directly to those accounts.

The second change involves the transfer of financing for two other functions from the Military Assistance Program to the regular Defense budget in FY 1968. These are the NATO Infrastructure Program, which provides for the construction of facilities needed by NATO forces (including U.S. forces) in Europe, and the International Military Headquarters Program, which supports the integrated command structures of

[redacted]

NATO, CENTO, and SEATO. These programs, which represent the United States' share of the total costs, are principally related to the support of our own forces and should properly be financed in the regular Defense budget. [redacted]

The third change reflects the realignment and clarification of the functional responsibilities of the Agency for International Development (AID) and the Department of Defense for the support of certain U.S. activities in Vietnam. The deployment of large U.S. forces to that country during the last year and a half had caused some blurring of the division of responsibility between our two agencies, and AID found itself saddled with some functions which were clearly the responsibility of our military forces. Accordingly, we undertook a joint study of our respective functions in Vietnam and agreed on those which should be specifically assigned to the Defense Department, effective as of July 1, 1966. These include the repair of enemy damage to railroads, the maintenance of highways of military importance, the operation of the Saigon port facilities, commodity assistance for the rehabilitation and development of Saigon and coastal ports essential to the logistic support of our military forces, etc. This realignment of functions will add a total of about $129 million to our FY 1967 Budget, and we are requesting $104 million for these purposes in FY 1968.

Taking account of the foregoing shifts in funding, the programs proposed for FY 1968, including Military Assistance, Military Construction, Military Family Housing, and Civil Defense, aggregate $76,429,407,000 in total obligational authority. A summary by major programs for fiscal years 1962 through 1968 is shown on Table 1.

Of the $76,429,407,000 in obligational authority required to finance the 1968 program:

. $1,186,407,000 would be obtained from prior year funds available for new programs, including balances brought forward and recoupments anticipated during the year.

. $274,000,000 would be obtained from anticipated reimbursements which would be available to finance new programs, leaving, therefore,

. $74,969,000,000 of new obligational authority to finance the FY 1968 programs; to which must be added $241,000,000 of additional cash for the DoD revolving funds and $60,000,000 for the Foreign Military Sales Fund -- making a total of $75,270,000,000 in new obligational authority.

Of the $75,270,000,000 requested, the following amounts will be presented separately:

$596,000,000 for Military Assistance
$2,123,000,000 for Military Construction
$787,000,000 for Military Family Housing
$27,000,000 for Homeowners Assistance, and
$111,000,000 for Civil Defense

Also included in the total amount requested is $42 million for two items of proposed legislation which are being separately transmitted: $24,000,000 to provide (1) quarters allowances to military personnel without dependents when they are on a leave or travel status between permanent duty stations and (2) dislocation allowances when they are transferred to a permanent station and are not assigned to Government quarters; and $18,000,000 to provide Federal employee status for the civilian technicians of the Army and Air Force National Guard. Provision for other possible items of proposed legislation is made within the Government-wide "Allowances for Contingencies".

Of the $71,584,000,000 of new obligational authority for military functions, $21,066,432,000 is requested to be authorized for appropriation under the provisions of Section 412(b) of Public Law 86-149, as amended: $13,785,800,000 for procurement of aircraft, missiles, naval vessels, and tracked combat vehicles; and $7,280,632,000 for research, development, test and evaluation. (Included in the RDT&E authorization request is $7,632,000 for projects to be financed by the Special Foreign Currency appropriation.)

In addition, we are requesting a total of $12,877,000,000 in Supplemental Appropriations for the balance of FY 1967. Of the $12,877,000,000:

- $12,275,870,000 is for the support of military operations in Southeast Asia (including $535,000,000 of additional cash for the DoD stock funds).

- $71,000,000 is to defray the costs of the Military Medical Benefits Amendments Act of 1966.

- $11,000,000 is to initiate the Homeowners Assistance Program which was authorized by the Demonstration Cities and Metropolitan Development Act of 1966.

- $340,130,000 is to meet the costs of the increases in military pay and allowances enacted by the Congress last year.

. $179,000,000 is to meet that part of the cost of increases in civilian compensation enacted by the Congress last year which cannot be absorbed.

Of the $12,275,870,000 in new obligational authority for Southeast Asia, $3,842,700,000 is requested to be authorized for appropriation under the provisions of Section 412(b) of Public Law 86-149, as amended; $3,707,700,000 for procurement of aircraft, missiles, naval vessels, and tracked combat vehicles; and $135,000,000 for research, development, test and evaluation.

The specific amounts for each Service and each category are shown in the Bill which this Committee will consider. Tables 23 and 29 compare the authorization amounts requested for FY 1968 and the amounts authorized and appropriated for FY 1967; Tables 24 - 28 and 30 - 35 provide the details supporting the authorization requested for FY 1968.

[redacted] SECRET

TABLE 1-FINANCIAL SUMMARY

(Billions of Dollars)

	1961	1962 Orig-inal	1962 Final	1963	1964	1965	1966	1967 Enacted or auth. a/	1967 SEA Suppl.	1967 Total	1968
Strategic Forces			11.2	10.5	9.3	7.1	6.8	6.7	.4	7.1	8.1
General Purpose Forces			18.0	17.9	18.0	19.1	29.5	26.8	7.5	34.3	34.4
Specialized Activities			3.0	3.7	3.9	4.2	4.7	4.7	.2	4.9	5.3
Airlift and Sealift Forces			1.1	1.1	1.2	1.4	1.7	1.1	.4	1.5	1.6
Reserve and Guard Forces			1.8	1.7	1.9	2.0	2.3	2.4	.2	2.6	2.8
Research and Development			4.4	5.2	5.4	5.1	5.3	5.3	.1	5.4	5.8
Logistics			3.8	3.7	3.8	4.0	5.3	5.0	1.3	6.3	6.0
Personnel Support			4.8	5.0	5.3	5.7	7.2	7.1	1.1	8.2	8.9
Administration			1.2	1.3	1.3	1.5	2.6	2.3	.7	3.0	3.1
Military Assistance Program			1.8	1.6	1.2	1.3	1.2	.9	-	.9	.6
Gross Total Oblig. Authority			51.1	51.7	51.5	51.4	66.6	62.4	11.8	74.2	76.6
Less Unfunded Retirement Pay			-.5	-.3	-.3	-.2	-.1	-.2	-.1	-.3	-.2
Net Total Oblig. Authority	46.1	44.9	50.6	51.3	51.2	51.2	66.5	62.2	11.7	74.0	76.4
Working Capital	-.4	-.2	-.4	-.4	-.3	-.2	-	-	.5	.5	.2
Other Financing Adjustments	-2.6	-1.0	-.8	.2	-	-.5	-2.9	-1.7	-	-1.7	-1.4
New Obligational Authority	43.1	43.7	49.4	51.1	50.9	50.5	63.5	60.5	12.3	72.8	75.3
Total Expenditures	44.7	44.7	48.2	50.0	51.2	47.4	55.4	58.9	9.1	68.0	73.1
Expenditures as % of GNP	8.8		8.9	8.7	8.4	7.3	7.8			8.9	9.0
TOA by Department and Agency											
Army			12.9	12.2	12.8	12.7	19.1	18.5	5.1	23.6	24.7
Civil Defense			.3	.1	.1	.1	.1	.1	-	.1	.1
Navy			15.1	15.1	14.9	15.3	20.0	18.5	3.5	22.0	22.4
Air Force			20.2	21.0	20.6	20.1	24.3	22.5	3.0	25.5	26.0
Defense Agencies			.3	.9	1.1	1.1	1.3	1.4	.1	1.5	2.0
Defense Family Housing b/			.5	.6	.7	.7	.7	.5	-	.5	.8
Military Assistance Program			1.8	1.6	1.2	1.3	1.2	.9	-	.9	.6
Gross Total Oblig. Authority c/			51.1	51.7	51.5	51.4	66.6	62.4	11.8	74.2	76.6
Memo: Increase in pay included above:											
Military				.1	1.1	1.6	2.4	3.4	-	3.4	3.6
Civilian				.2	.3	.6	.7	1.0	-	1.0	1.1
Increased Payments to Retired Personnel			.1	.2	.4	.6	.8	1.0	-	1.0	1.2
Total			.1	.5	1.8	2.8	4.0	5.4	-	5.4	5.9
Memo: Unfunded Military Retirement Past Service Liability	45.1	47.3	47.3	48.9	56.1	59.5	66.6	71.4	-	71.4	74.1

a/ Included is supplemental appropriation request for military and civilian pay increases authorized by P.L. 89-501 and P.L. 89-504; Medicare authorized by P.L. 89-614; and Homeowners Assistance program authorized by P.L. 89-754.
b/ In 1961 and 1962, funds for this activity were appropriated to the military departments.
c/ Excludes cost of nuclear warheads.

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TABLE 2 - STRATEGIC OFFENSIVE FORCES
(End of Fiscal Year)

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TABLE 3 - CONTINENTAL AIR AND MISSILE DEFENSE FORCES
(End of Fiscal Year)

[redacted]

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TABLE 4 - FINANCIAL SUMMARY OF CIVIL DEFENSE
(TOA*, in $ Millions)
(Fiscal Years)

	1962	1963	1964	1965	1966	1967	1968
Shelter Survey	58.4	9.3	7.1	10.6	17.7	18.4	18.0
Shelter Improvement	-	-	-	1.4	.5 b/	-	-
Shelter Development	.3	1.4	1.7	3.6	5.1	5.0	3.7 c/
Marking & Stocking	90.3	32.7	24.2	2.3	1.1	1.5	4.8
Shelter Use	-	-	-	4.5	2.7	2.3	3.8
Warning	6.8	4.1	1.8	2.7	.6	.8	.9
Command, Control & Communications	22.9 a/	3.1	6.5	8.4	11.6	3.9	2.8
Emergency Operations Support	16.8	10.1	6.7	6.0	6.6	6.5	9.7
Financial Assistance	18.9	27.5	23.7	25.6	23.9	27.0	30.0
Information Activities	3.9	3.4	2.0	1.4	1.7	2.3	2.5
Management	12.4	13.6	13.9	14.3	12.0	12.6	13.2
Research & Development	19.0	11.0	10.0	10.0	10.0	10.0	10.0
Training & Education	2.6	9.2	12.9	10.7	11.6	11.7	11.6
TOTALS**	252.3	125.4	110.5	101.5	105.1	102.1	111.0

SHELTER SPACES d/
(Millions, Cumulative)

	1963	1964	1965	1966	1967	1968
Identified	103.7	121.4	135.6	152.1	162.0	170.0
Marked e/	42.8	63.8	75.9	85.3	97.0	112.0
Stocked e/	9.7	23.8	33.8	41.3	49.0	56.0

a/ Includes $2.3 million carryover from OCDM for construction of a Regional Center; $13.4 million returned to Treasury--not used by GSA in Federal building construction.
b/ Includes Packaged Ventilation Kits.
c/ Includes Architect and Engineer advisory services on design techniques.
d/ Shelter spaces resulting from the currently approved program; FY 63-66 are actual, FY 67-68 are estimated.
e/ Only public shelters having 50 or more spaces are eligible for marking and stocking.

* Total Obligational Authority
** Totals may not add due to rounding.

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TABLE 5 - GENERAL PURPOSE FORCES - ARMY
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
DIVISION AND BRIGADE FORCES												
Active Divisions												
Airborne	2	2	2	2	2	2	2	2	1	1	1	1
Airmobile						1	1	1	2	2	2	2
Mechanized		2	5	4	4	4	4	4	4	4	4	4
Infantry	9	9	6	6	6	6a/	6a/	6a/	5	5	5	5
Armored	3	3	3	4	4	4	4	4	4	4	4	4
Total	14	16d/	16	16	16	17	17	17	16	16	16	16
Combat	11	14d/	16	16	16e/	17	17	17	16	16	16	16
Training b/	3	2										
Priority Reserve Divisions												
Armored	2	2	2	2	2	2	2	2	2	2	2	2
Infantry	4	4	4	4	4	6	6	5	5	5	5	5
Mechanized								1	1	1	1	1
Special Purpose c/	1c/	1c/	2c/	2c/	2c/							
Total	7	7	8	8	8	8	8	8	8	8	8	8
Active Brigades			1	1	1	3a/	4a/	4a/	1	1	1	1
Priority Reserve Brigades						3	3	3				
Division Force Equivalents												
Active	14	16	16-1/3	16-1/3	16-1/3	18	18-1/3	18-1/3	16-1/3	16-1/3	16-1/3	16-1/3
Priority Reserve	6	6	6	6	6	9h/	9h/	9h/	8	8	8	8
Total	20	22	22-1/3	22-1/3	22-1/3	27	27-1/3	27-1/3	24-1/3	24-1/3	24-1/3	24-1/3
MAJOR SUPPORTING FORCES												
Separate Support Brigades												
Active	2	1	3	6	6	6	6	6	7	7	7	7
Priority Reserve	3	3	11	11	11	11f/	11f/	13f/	16	16	16	16
Armored Cavalry Regiments												
Active	5	5	4	4	4	4	5a/	5a/	4	4	4	4
Priority Reserve	2	3	3	3	3	3	3	4	4	4	4	4
Special Forces Groups												
Active	3	4	6	7	7	7	7	7	7	7	7	7
Priority Reserve	11	11	7	7	7	4	4	4	4	4	4	4
Missile Commands (Act.)	4	3	2	2	2	1	1	1	1	1	1	1
COMBAT AND SUPPORT UNITS												
Maneuver Bn. g/												
Active	124	136	153	176	174	191a/	198a/	198a/	177	177	177	177
Priority Reserve	67	74	119	159	159	172	172	172	172	172	172	172
Armored Cavalry Squadrons												
Active	30	32	29	29	29	29a/	34a/	34a/	27	27	27	27
Priority Reserve	13	16	18	18	18	18	18	23	23	23	23	23
Artillery Battalions												
Active	102	106	120	115	115	124a/	147a/	150a/	115	115	115	115
Priority Reserve	81	90	95	106	106	118	118	131	131	131	131	131

a/ The following temporary forces are included:

	FY 66	FY 67	FY 68
Infantry Divisions	1	1	1
Independent Brigades	2	3	3
Armored Cavalry Regiments		1	1
Maneuver Battalions	17	21	21
Armored Cavalry Squadrons	1	6	6
Artillery Battalions	9	32	35

b/ These units were engaged primarily in the training of new personnel and as such did not have a combat assignment.
c/ These divisions are not included in the Division Force Equivalents figures; assigned to continental defense.
d/ Excludes two National Guard Divisions on active duty.
e/ Plus 15,000 men in units required to test air mobility concepts.
f/ Excludes three brigades temporarily organized as brigade forces and shown above as Priority Reserve Brigades.
g/ Includes battle groups for FY 61-63.
h/ Includes one division force equivalent not authorized equipment.

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TABLE 5 - GENERAL PURPOSE FORCES - ARMY
(End of Fiscal Year) Cont'd.

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Divisional Signal Bn.												
Active	14	16	16	16	16	17a/	17a/	17a/	16	16	16	16
Priority Reserve	7	7	8	8	8	8	8	8	8	8	8	8
Combat Area Signal Bn.												
Active	4	12	9	9	9	9	11a/	11a/	9	9	9	9
Priority Reserve	7	7	7	7	7	7	7	9	9	9	9	9
Engineer Combat Bn.												
Active	31	35	35	38	38	41a/	43a/	43a/	38	38	38	38
Priority Reserve	31	38	58	70	70	70	70	64	64	64	64	64
Engineer Construction Bn.												
Active	24	34	25	21	21	26a/	35a/	36a/	20	20	20	20
Priority Reserve	37	37	19	19	19	19	19	26	26	26	26	26
Aviation Units												
Active	67	72	83	92	110	160a/	192a/	217a/	167	167	167	167
Priority Reserve	26	27	32	38	40	51	51	71	71	71	71	71
Aircraft b/												
Helicopters (Act.)	1339	1488	1535	1766	2485	2856	3721	4316	3910	3910	3910	3910
Helicopters (Res.)	331	321	333	342	353	440	490	698	1674	1829	1829	1829
Fixed Wing (Act.)	977	1086	1097	1108	1050	1178	925	692	323	323	323	323
Fixed Wing (Res.)	722	632	663	662	606	502	475	392	182	27	27	27
Total	3369	3527	3628	3878	4494	4976	5611	6098	6089	6089	6089	6089
Missile Battalions												
REDSTONE (Act.)	3	3	3									
CORPORAL (Act.)	12	10	7									
SERGEANT (Act.)		3	6	7	7	7	7	7	7	7	7	7
PERSHING (Act.)		1	3	5	5	5	5	5	5	5	5	5
HONEST JOHN (Act.)	18½	15½	16½	20	20	20a/	20a/	20a/	14	13	13	13
HONEST JOHN (Pri. Res.)	4	4	8	8	8	8	8	8	8	8	8	8
LITTLE JOHN (Act.)	2	7	7	6	6	4	4	3				
LANCE (Act.)									5	6	6	6
Air Defense Systems												
Hercules Batteries												
Active	51	55	51	51	55	55	55	59	51	51	51	51
Priority Reserve	4	6	22	42	54	54	54	54	54	54	54	54
HAWK Batteries (Act.)	48	76	76	76	76	76	84a/	85a/	79	79	79	79
AJAX Batteries (Pri. Res.)	76	69	34									
Gun/CHAPPARRAL (Act.)								20	44	76	84	84
AWSP 40mm/50 cal. Bat.												
Active	2	2	2	2	2	14	22	20	17	2	2	2
Priority Reserve	76	110	c/	104	104	108	108	76	76	76	76	76

a/ The following temporary forces are included:

	FY 66	FY 67	FY 68
Divisional Signal Battalions	1	1	1
Combat Area Signal Battalions		2	2
Engineer Combat Battalions	3	5	5
Engineer Construction Battalions	5	14	15
Aviation Units	17	44	66
HONEST JOHN Battalion	1	1	1
HAWK Air Defense Batteries		12	12

b/ Only aircraft assigned to Program II and V units, less maintenance float, are reflected.
c/ Comparable data not available.

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TABLE 5 - ARMY PROCUREMENT
(TOA, $ Millions)

	1961 Qty	1961 Cost	1962 Qty	1962 Cost	1963 Qty	1963 Cost	1964 Qty	1964 Cost	1965 Qty	1965 Cost	1966 Qty	1966 Cost	1967 Qty	1967 Cost	1968 Qty	1968 Cost
UH-1B/D IROQUOIS	116	43	323	90	450	142	700	169	759	172	2,107	482	753	152	526	107
CH-47A/B CHINOOK	18	44	24	40	24	65	60	101	60	83	204	228	120	152	71	100
AH-1G COBRA											110	55	420	189	214	99
OH-6A CAYUSE								1	88	7	296	30	687	44	600	52
CH-54A											6	29	18	61	30	53
OH-13/23 SIOUX/RAVEN	150	7	76	5	287	15	325	17								
OV-1 MOHAWK/STOL	54	51	58	43	21	18	36	35			16	25	36	41	36	40
CV-2 CARIBOU	34	25	53	34	48	37										
U-21A Airplane Utility											46	13	81	31		
AH-56A Fire Sup. System																25
Trainers/Inst. Trainers							295	11	122	8	529	18	582	23	67	3
Mod. of In Service A/C						4		2		19		79		115		98
Spares and Repair Parts				32		21		82		46		255		245		97
All Other Items		10		9		1		101		50		73		119		95
Total Aircraft		161		253		303		519		355		1,287		1,202		769
PERSHING	2	61	43	147	120	147	134	107	45	44	60	39		7		91
LANCE													206	38	660	67
HONEST JOHN	1,561	35	1,156	27	98	12	544	12		1		2				
LITTLE JOHN	380	12	480	10	480	4	471	5		1						
SERGEANT	50	70	136	68	160	62	93	25		3		1				
SS-11/ENTAC	10,571	12	11,000	12	20,228	29	21,152	32	9,375	17						
TOW															5,550	57
SHILLELAGH									1,375		17,059	83	26,303	84	14,500	44
RED EYE					139	12			1,064	24	9,467	51	5,556	29	4,013	22
HAWK (All Types)	1,426	109	1,906	135	1,200	74	1,243	41		48		37		32		32
CHAPARRAL											1,300	27	2,640	66	1,440	20
NIKE-HERCULES	1,191	139	188	90	662	105	720	43		2						
NIKE-X														154		269
Spares and Repair Parts						11		11		14		50		34		38
All Other		20		3		4		112		63		58		117		129
Total Missiles a/		450		492		461		388		243		346		501		769
20mm Gun HS M139											1,060	13	1,250	15	2,270	24
20mm Gun, Air Defense SP(only)											59	9	215	31	192	23
Rifle, 5.56mm XM16E1											327,405	38			175,000	31
81mm Mortar											352	1	500	3	903	5
155mm SP Howitzer		1	217	39	150	22	360	28	360	37	454	43	420	42	27	3
M578 Lt. Recovery Vehicle			207	15	267	21	156	13	156	11	213	14	218	17	79	6
XM551 Gen. Sheridan Assault Veh.								1		30	139	59	560	90	600	87
M113 Personnel Carrier	1,600	51	3,030	75	3,000	70	1,329	39					1,045	27	1,952	54
Mortar Carriers SP			215	7	625	18	508	16	175	5	446	13	540	16	235	8
M577A-1 Command Post Carrier			270	10	650	18	1,225	36	175	6	385	12	200	7	254	8
XM548 Cargo Carrier									650	21	1,009	24	1,419	35	559	19
M-[illegible] Tank (Inc. Retrofit)													369	32		
M60 Tank Inc. Retrofit)	625	130	710	109	720	105	360	59	246	45	557	107	300	119	600	163
Armored Vehicle Bridge									54	6			30	4	30	4
Combat Engineer Vehicle									60	13	46	9	30	7	30	7
Spare Parts						22		25		8		97		35		23
All Other		150		317		179		127		34		92		109		88
Total Weapons and Combat Vehicles		332		572		455		344		216		531		509		554
Truck 1/4 ton	7,500	30	15,000	53	9,883	28	11,800	36	15,500	47	22,740	68	26,394	81	11,605	41
Truck 3/4 ton (all types) & 1 - 1/4 ton M715d/	7,100	30	4,750	20	10,000	43	4,000	17	4,000	6	13,455	59	7,000	30	9,000	37
Truck 1-1/4 ton M561 (6x6)													1,500	29		
Truck 2-1/2 ton	5,033	49	6,354	52	8,000	72	10,000	87	16,000	144	27,194	232	10,970	112	16,846	161
Truck 5 ton (all types)	2,250	27	6,599	78	4,027	53	4,500	55	4,558	59	9,213	126	7,897	129	3,600	65
Truck, tractor (10 ton)							500	15			477	18	1,784	57	525	15
Semi-trailer, Tank Fuel M131							140	2	800	9	1,495	17	2,352	30	1,262	16
Spare Parts						15		4		2		19		26		21
All Other Vehicles		35		77		78		98		76		93		159		127
Total Tactical and Support Vehicles		171		200		289		314		343		532		653		483
STARCOM				21		143		80		72		204		152		31
Commo Security Equipment						29		20		6		13		46		50
Intelligence Equipment						24		18		7		14		23		19
AN/GRC-106 radio							500	14			1,500	25	1,315	20	1,354	18
AN/PRC-25 radio			8,600	20	10,600	10	10,800	11	15,000	13	12,050	15	6,300	7	6,300	7
AN/VRC-12 radio	3,900	36	10,100	69	6,600	34	8,100	27	10,008	22	12,000	28	8,592	21	9,100	19
Counter Mortar Radars AN/MPQ													19	5	17	5
Night Vision Equipment										8		17		45		61
Field Wire (thous. of mi.)									75	4	158	11	234	15	205	13
Spare Parts										1		7		10		7
All Other Items		[illegible]		224		151		240		82		173		272		320
Total Commo & Electric		195		334		391		410		215		507		617		550
Cartridge, 5.56mm (all types)b/									63	4	356	29	665	51	691	54
Cartridge, 7.62mm (all types)b/	437	35	169	12	528	38	698	49	468	41	1024	89	786	64	1,236	103
Cartridge, 30 cal. (all types)b/											397	26	510	36	579	38
Cartridge, 20mm (all types)b/											6	20	5	18	7	24
Cartridge, 40mm (all types)c/	1	3	2	11	2	10	2	13	3	11	26	87	5	22	14	55
Cartridge, 81mm (all types)c/					97	4	677	16			4,791	112	2,016	82	9,832	230
Cartridge, 90mm (all types)c/			205	7	241	4	871	22	292	8	755	23	863	45	719	30
Cartridge, 105mm (all types)c/	76	6	1,682	142	443	37	697	39	730	39	3,086	117	10,962	332	14,952	437
Cartridge, 106mm (all types)c/									130	6	550	55	59	5	326	37
Cartridge, 4.2 in. (all types)c/									280	7	2,728	50	367	13	3,535	93
Cartridge, 152mm (all types)c/									59	14	95	15	192	29	304	37
Projectile, 155mm (all types)c/ e/			200	64	300	82	275	46	414	46	1,560	31	2,953	110	2,647	125
Rocket, 2.75" (all types)c/ e/							858	18	1,000	64	4,064	212			605	56
Rocket, [illegible]mm c/									30	1	300	12	120	4	651	24
All Other Items		233		146		130		139		100		395		550		882
Total Ammunition		279		302		305		342		341		1,304		1,301		2,225
OTHER SUPPORT EQUIPMENT		64		141		169		180		145		376		606		437
PRODUCTION BASE		75		142		94		72		75		206		272		95
TOTAL ARMY PROCUREMENT *		1,755		2,595		2,467		2,568		1,962		5,191		5,603		5,601

[redacted]

a/ Cost data includes ground support equipment.
b/ Quantity in Millions
c/ Quantity in Thousands
d/ Beginning in FY 19[illegible] the 1 1/4 ton M715 truck was procured to replace the 3/4 ton truck.
e/ Includes remanufacture
* May not add due to rounding.

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TABLE 7 - GENERAL PURPOSE FORCES - NAVY
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966a/	1967a/	1968a/	1969a/	1970a/	1971a/	1972a/
Attack Carriers												
ENTERPRISE		1	1	1	1	1	1	1	1	1	1	2
FORRESTAL	5	6	6	6	7	7	7	7	8	8	8	8
MIDWAY	3	3	3	3	3	2	2	2	3	2	2	2
HANCOCK/ESSEX	7	6	5	5	5	5	5	5	4	4	4	3
Total	15	16	15	15	16	15	15	15	16	15	15	15
Attack Carrier Air Wings												
Fighter A/C												
F-3/F-6	167	121	72	19								
F-4		77	108	161	188	240	240	228	240	228	144	72
F-8	177	159	196	171	146	120	120	120	96	72	72	48
F-111B										12	36	84
Total Fighter	344	357	376	351	334	360	360	348	336	312	252	204
Attack A/C												
A-1	215	197	183	145	109	108	84	60	24			
A-4	306	383	367	381	410	434	406	364	252	210	182	112
A-6				14	18	54	72	90	108	108	108	108
A-7							56	140	280	378	448	518
Total Attack	521	580	550	540	537	596	618	654	664	696	738	738
Heavy Attack A/C												
A/KA-3	92	93	84	76	43	45	52	40	40	40	40	
A-5		7	21	15								
Total Heavy Attack	92	100	105	91	43	45	52	40	40	40	40	—
Recon. A/C												
RA-3	14	20	19	19	19	18	18	18	16	16	15	
RA-5				10	21	48	48	44	34	42	50	50
RF-8	55	55	48	45	33	23	23	20	14	10	10	8
Total Recon.	69	75	67	74	73	89	89	82	64	68	75	58
ECM/AEW A/C												
EA-1F	29	33	29	30	24	30	30	26	25	9		
EA-3	14	17	18	18	18	18	18	18	18	18	18	9
EA-6B										9	18	36
EKA-3							6	18	18	18	18	
EC-121	6	6	6	7	7	6	7	7	6	6	6	6
A-1 (AEW)		1	3	5	2							
A-3 (Tanker)				4	2	2	2	2	2	2	2	2
E-1	55	71	70	46	40	32	20	20	20	20	12	8
E-2				10	18	32	40	40	40	40	48	48
Total ECM/AEW	104	128	126	120	111	120	123	131	129	122	122	109
Combat Readiness Training A/C												
Fighter	144	159	116	130	103	83	90	87	87	82	62	52
Attack	199	195	179	161	165	165	161	157	152	156	173	174
Recon	2	11	12	21	21	17	19	12	9	7	10	10
Other	157	129	135	129	123	125	120	133	127	131	130	120
Total Training	502	494	442	441	412	390	390	389	375	376	375	356
Total Attack Carrier A/C	1632	1734	1666	1617	1510	1600b/	1632	1644	1608	1614	1602	1465
ASW & Destroyer Forces												
ASW Carriers	9	10	9	9	9	8	8	8	6	6	6	6
SSN	13	16	16	19	21	22	32	44	49	54	60	65
SS	92	88	86	83	83	82	73	61	56	51	45	40
Sub Direct Support	27	27	26	24	24	24	25	25	25	25	25	25
DD	167	176	167	173	178	176	173	165	148	139	126	115
DE	20	47	21	22	22	24	29	31	43	60	73	83
DL	5	5	5	5	5	3	3	3	3	3	3	3
DDR	36	36	23	6	6	6	6	6	6	1		
DER	9	9	12	11	10	16	17	17	3	1		
A/C Support Ships	6	7	6	6	6	3	2					
Total	384	421	371	358	364	364	368	359	339	340	338	337

a/ Planned forces. (FY 1961-65 shows actual forces on 30 June.)
b/ Navy estimates 1528 aircraft were available for assignment to operational units, including an estimated 76 aircraft from Ready for Issue Pool, on 30 June.

[redacted]

[redacted]

TABLE 7 - GENERAL PURPOSE FORCES - NAVY (Cont'd)
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966a/	1967a/	1968a/	1969a/	1970a/	1971a/	1972a/
ASW Carrier Air Wings												
Helicopters												
SH-34	121	103	31	8								
SH-3		49	93	120	131	128	140b/	152b/	129b/	141b/	141b/	141b/
Fixed Wing												
S-2A/B/C/D/F	179	207	157	121	81	40						
S-2E			31	61	94	120	160	160	120	120	120	120
A-4						24	28	32	24	24	24	24
E-1/EA-1	37	48	36	57	37	36	35	35	27	27	27	27
Combat Readiness Training A/C												
ASW Fixed Wing	16	29	31	33	27	29	29	29	22	22	22	22
ASW Helicopter	27	18	23	18	21	24	24	24	18	18	18	18
Total ASW A/C	380	454	402	418	394	401c/	416	432	340	352	352	352
Patrol A/C Squadrons												
Landplanes												
P-2/S-2	247	443	231	218	181	168	120	120	84	48	36	36
[redacted]												
Seaplanes												
SP-5	72	76	61	47	38	36	24					
Combat Readiness Training												
Landplanes	29	26	39	40	34	34	36	38	38	38	38	38
Seaplanes	11	8	6	4	4	4	2					
Total Patrol A/C	[redacted]											
Multi-Purpose SAM Ships												
CGN		1	1	1	1	1	1	1	1	1	1	1
CAG/CG/CLG	8	8	10	10	11	11	10	10	10	11	11	10
DLGN			1	1	1	1	2	2	2	1	2	3
DLG	8	10	13	19	21	23	27	23	22	22	23	27
DDG	7	13	17	21	23	23	26	29	29	29	29	31
DEG						1	4	6	6	6	6	6
Total	23	32	42	52	57	60	70	71	70	70	72	78
Other Combatant Ships												
Small Patrol	4	2	4	8	13	9	23	26	33	33	33	33
Fire Support												
CA	4	4	3	2	2	2	2	2	2	2	2	2
LSMR/IFS						4	4	4	4	4	4	4
Total	8	6	7	10	15	15	29	32	39	39	39	39
Amphibious Assault Ships												
AGC	5	5	5	5	5	5	5	5	6	6	6	6
AKA	14	18	18	18	18	18	18	17	17	17	15	10
APA	21	25	25	25	24	23	21	15	13	11	10	8
LSD	26	27	27	27	27	27	27	27	27	28	28	23
LST	40	41	41	41	41	61e/	59	58	40	42	49	49
LPH	3	6	6	6	7	7	8	9	10	10	10	10
LPD			2	3	5	6	8	15	16	16	16	16
LHA												3
Other (APD, APSS & ARL)	2	9	9	9	9	9	9	9	9	9	9	9
Total	111	131	133	134	136	156	155	155	138	139	143	134

a/ Planned Forces. (FY 1961-65 show actual forces on 30 June.)
b/ Includes SH-3A/D ASW helicopters used aboard CVAs: 12 in FY 1967, 24 in FY 1968, 33 in FY 1969, and 45 in FY 1970-73.
c/ Navy estimates 414 aircraft were actually assigned to operational units.
d/ Navy estimates 358 aircraft were available for assignment to operational units, including an estimated 15 aircraft available from Ready for Issue Pool, on 30 June.
e/ Includes 28 LSTs activated for SEA in FY 1966, of which ten are transferred to the Military Sea Transport Service (and hence to the airlift/sealift program) in FY 1967, and one more in FY 1968.

[redacted]

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TABLE 7 - GENERAL PURPOSE FORCES - NAVY (Cont'd)
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966 a/	1967 a/	1968 a/	1969 a/	1970 a/	1971 a/	1972 a/
Mine Countermeasure Forces												
MSO (Current)	64	64	64	64	64	64	64	64	55	45	35	25
MSO (Rehab)									9	19	29	39
MSO (New)										6	15	16
MSC/MHC	17	18	18	18	18	18	18	18	18	12	3	2
MCS	2	2	2	2	2	2	3	3	3	3	4	4
Direct Support	3	3	3	3	3	3	3	3	3	3	3	3
Total	86	87	87	87	87	87	88	88	88	88	89	89
Logistic & Oper Support Ships												
Underway Replenishment	65	76	76	72	72	75	79	78	71	69	69	66
Fleet Support	89	87	103	104	104	103	106	108	95	94	94	94
Total	154	163	179	176	176	178	185	186	166	163	163	160
Fleet Tac Support A/C	64	68	68	69	68	81	81	79	75	75	75	69
Fleet Support A/C	279	318	321	303	302	346	281	297	284	287	294	299
Other Support A/C	113	102	119	83	110	111	109	111	108	105	105	105
Mission Support A/C	277	281	279	259	242	234	227	214	196	167	164	164
Total: Ships	781	856	834	832	851	875	910	907	856	854	859	852
Total: Aircraft	3,104	3,510	3,223	3,114	2,961	3,132 b/	3,090	3,115	2,940	2,920	2,909	2,771

a/ Planned forces. (FY 1961-65 show actual forces on 30 June.)
b/ Navy estimates 3063 aircraft were available for assignement to operational units, including an estimated 91 aircraft available from Ready for Issue Pool, on 30 June.

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TABLE 8 - GENERAL PURPOSE FORCES - NAVY SHIP CONSTRUCTION AUTHORIZATION PROGRAM
Authorized for Start of Construction in Fiscal Year

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
New Construction												
CVA Attack Carrier	1		1				1		1		1	
SSN Attack Submarine	1	3	8	6	6	6	5	3	3			
Escorts	2	6	8	10	16	10	10	10	12	12	12	13
Small Patrol			3	10	3	12	10					
Frigates	3	7					1					
Destroyers	2							2	2	3	3	3
Mine Warfare						4	5	7	1	1		
Amphibious	1	4	5	3	10	15	12	1	10	3		
Logistics & Oper.Sup.	2	1	1	1	7	7	7	3	22	22	15	6
Direct Support Ships				1	2	1	1	1	2		2	1
Research & Develop.	2	—	—	—	—	—	—	—	—	—	—	—
Total New Construction	14	21	26	31	44	55	52	27	53	41	33	23
Conversions												
CVA (Modernization)						1				1		
SS Attack Submarine		6										
CG (Modernization)						1			1			
AGSS Auxiliary Submarine	1											
DLG (BT to HT)						1	1		1	1		
DLG/DLGN (AAW Modernization)						1	4	1	3	4	1	
Destroyers (FRAM)	14	14	24	19								
DD (DD931 ASW Modernization)				1			3	7	3			
DDG (DL & DD931)				6								
Mine Warfare			1	1		1		9	11	11	10	10
Amphibious					1							
Logistics & Oper. Sup.	—	—	6	7	3	—	—	—	—	—	—	—
Total Conversions	15	20	31	34	4	5	8	17	19	17	11	10
Total New Const. & Conv.	29	41	57	65	48	60	60	44	72	58	44	33
Total Cost Ships (Millions)	$1010	1365	1663	1429	1726	1774	1982	1203				
Net Advanced Procurement	-5	+19	+28	-44	+11	+10	+13	+56				
TOTAL	$1005	1384	1691	1385	1737	1784	1995	1259				

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TABLE 9 - GENERAL PURPOSE FORCES - MARINE CORPS
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966 a/	1967 a/	1968 a/	1969 a/	1970 a/	1971 a/	1972 a/
Ground Forces												
Hdqtrs Fleet Marine Forces	2	2	2	2	2	2	2	2	2	2	2	2
Amphibious Divisions												
Active	3	3	3	3	3	3-2/3	4	4	3	3	3	3
Reserve	b/	1	1	1	1	1	1	1	1	1	1	1
Total Divisions	3	4	4	4	4	4-2/3	5	5	4	4	4	4
Combat Battalions, Active												
Infantry	26	27	27	27	27	33	36	36	27	27	27	27
Tank	3	3	3	3	3	4	4	4	3	3	3	3
Amphibian Tractor	3	3	3	3	3	4	4	4	3	3	3	3
Artillery	14-2/3	14	14	14	14	16-2/3	19	19	14-2/3	14-2/3	14-2/3	14-2/3
Total Active	46-2/3	47	47	47	47	57-2/3	63	63	47-2/3	47-2/3	47-2/3	47-2/3
Combat Battalions, Reserve												
Infantry		9	9	9	9	9	9	9	9	9	9	9
Tank		1	1	1	1	1	1	1	1	1	1	1
Amphibian Tractor		1	1	1	1	1	1	1	1	1	1	1
Artillery		5	5	5	5	5	5	5	5	5	5	5
Total Reserve	b/	16	16	16	16	16	16	16	16	16	16	16
HAWK Batteries												
Active	8	8	9	9	9	12	16	16	12	12	12	12
Reserve		3	3	3	3	4	4	4	4	4	4	4
Total HAWK	8	11	12	12	12	16	20	20	16	16	16	16
Air Forces												
Air Wings												
Active	3	3	3	3	3	3	3	3	3	3	3	3
Reserve	1	1	1	1	1	1	1	1	1	1	1	1
Total	4	4	4	4	4	4	4	4	4	4	4	4
Aircraft c/												
Fighter												
F-4		2	44	77	100	140	180	225	225	225	225	225
F-6	109	77	40									
F-8	171	158	177	138	109	75	45					
Total Fighter	280	237	261	215	209	215	225	225	225	225	225	225
Attack												
AF-1	34											
A-4	212	258	250	236	214	180	160	100	80	40	20	
A-6					12	36	48	60	72	72	72	72
A-7								40	40	80	100	120
Total Attack	246	258	250	236	226	216	208	200	192	192	192	192
Recon/ECM												
RF-8	27	26	25	27	19	12						
RF-4					1	15	27	26	25	23	22	22
EF-10	23	34	24	24	23	18	18	18	14	13	5	
EA-6						9	8	6	5	5	22	27
Total Recon/ECM	50	50	49	51	43	54	53	50	44	41	49	49
Tactical Air Control												
T-1		24	23	24	27	25	14					
TF-9	29	16	13	12	12	11	11	2				
TA-4							11	34	36	36	36	36
Total Tac. Air	29	40	36	36	39	36	36	36	36	36	36	36
Helicopter Trans.												
UH-34	175	223	297	291	267	264	216	144	96	72	48	24
CH-37	26	29	27	27	22	24						
CH-46				2	48	96	192	264	264	288	312	336
CH-53						19	72	72	72	72	72	72
Total Helo. Trans.	201	252	324	320	337	403	480	480	432	432	432	432
Light Helo/Obs.												
OH-43	31	36	36	35								
O-1	30	29	29	20	12		12	12				
UH-1			4	10	45	72	106	102	36	36	36	36
OV-10								54	54	54	54	54
Total Helo/Obs.	61	65	69	65	57	72	118	168	90	90	90	90
Combat Read. Trng	26	39	42	39	43	40	48	119	126	132	148	152
Helo/Obs. Trng						48	60	64	71	84	84	84
Tanker/Trans. d/	60	39	36	37	34	36	36	36	36	36	36	36
Support	93	83	95	94	86	94	84	78	78	78	72	72
Total Marine Corps	1046	1063	1162	1093	1074	1214 e/	1348	1456	1330	1346	1364	1368

a/ Planned Forces (FY 61 thru 65 show actual forces on 30 June.)
b/ Prior to 30 June 1962, the Marine Corps Reserve was structured to provide only individual augmentation to in-being forces upon mobilization.
c/ Reserve aircraft are included with Navy Reserve Forces, Table 10.
d/ Includes only KC-130s after FY 1964.
e/ Navy estimates 1165 aircraft were available for assignment to operational units including an estimated 87 aircraft available from Ready For Issue Pool on 30 June.

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TABLE 11 - NAVY AND MARINE CORPS AIRCRAFT PROCUREMENT PROGRAM

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Fighter												
F-8E	94	102	90									
F-4B/J	72	118	150a/	125	124	156	250	33				
F-111B						4		20	42	66	88	25
Total Fighter	166	220	240	125	124	160	250	53	42	66	88	25
Attack												
A-4C/E/F	180	200	180	118		46	100					
A-6A	12	23	43	48	64	112	63	78	48			
A-7A					35	157	230	240	214	180	160	160
Total Attack	192	223	223	166	99	315	393	318	262	180	160	160
Observation												
OV-10							76	38				
Recon/ECM												
RA-5A/C	42	20	23					12	24	10		
EA-6A/B		1						4b/	25	36	27	
RF-4B				9	27							
Fleet Early Warning												
E-2A/B	3	12	24	14					10	24		
Carrier ASW												
S-2E	48	51	48	48	48	24						
SH-3A/D	60	53	36	36	24	24	24					
Patrol												
P-3A/C	12	47b/	48	48	48	45	32	40	40	29		
Helicopters												
UH-34D	85	99										
UH-2	48	48	36	18								
UH-1E			30	48	24	86	18					
UH-46A			4	4	6	10						
CH-46A		14	32	56	84	184	92	60	60	60	59	
CH-53A				16	24	60	15	24	12	12	12	1
Total Helo	133	161	102	142	138	340	125	84	72	72	71	1
Fleet Tactical/Mission Sup.												
C/KC/LC-130	30	7		4			8c/	1f/				
C-2A				d/	12	5						
Trainer												
T-2B				10	36	18	36					
T-39D		10	32									
TA-4E					66	130	94					
TC-4C							9					
T-37B								90	40			
LTH								40				
Total Procurement	686	805	776	602	622	1061	1047	680	518	417	343	186
Proc Cost (Millions)e/	$1,279	$1,478	$1,420	$1,195	$1,379	$2,083	$2,108	$1,542				

a/ Includes 27 aircraft procured from Air Force.
b/ Excludes one aircraft financed under RDT&E.
c/ TACAMO aircraft.
d/ Excludes 2 aircraft financed under RDT&E in FY 1964.
e/ Includes flyaway aircraft, advance buy, peculiar AGE, and training device costs. All spares and other support are not included.
f/ DEEP FREEZE aircraft.

[redacted]

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TABLE 12.- GENERAL PURPOSE FORCES - AIR FORCE AND AIR NATIONAL GUARD
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
ACTIVE FORCES												
Fighter & Attack A/C a/												
B-57	48	48	48	48	48	48	36	24				
B-66	48											
F-84		300	222	162								
F-86		75										
F-89	12	12										
F-100	910	860	728	657	657	594	522	450	396	264	96	
F-101	75	66	66	66	66							
F-102	287	275	269	203	131	175	175	163	163			
F-104	72	129	54	54	54	36	18					
F-105	122	265	394	516	516	402	252	162	90	72		
F-4				54	288	444	810	990	990	936	936	936
F-111							18	72	168	240	336	432
A-7									24	216	360	360
Total A/C	1574	2030	1781	1760	1760	1699	1831	1861	1831	1728	1728	1728
Reconnaissance A/C a/												
RF-84		72										
RF-101	144	128	128	128	128	96	84	72	90	72	72	72
RF-4					36	144	216	252	270	288	288	286
RB/EB-66	108	108	108	108	72	54	b/					
Total A/C	252	308	236	236	236	294	300	324	360	360	360	360
Tac Elec Warfare Sup (TEWS) a/												
EB-66							28	28	28	28	28	28
EC-47							47	47	47	47	47	47
Total A/C							75	75	75	75	75	75
Spec Air Warfare Fcs (SAWF) a/												
A-1				50	68	64	50	25	14	14	14	14
A/B-26		16	33	33	33	31	31	28	23	21	21	20
T-28		16	29	33	14	24	24	24	24			
O-2							18	18	18	18	18	18
C-46		12	12	24	12	12	12	12	12	12	12	12
AC-47						16	22	22	22	16	16	16
C/HC-47		12	12	24	31	33	41	41	41	35	35	35
C-123					92	97	108	108	108	91	91	91
UH-1						4	4	4	4			
U-10		8	20	20	20	46	46	46	46	18	18	18
A-37							18	25	50	62	62	62
Total	—	64	106	184	270	327	374	353	362	287	287	286
Tac Air Control												
O-1				22	120	120	190	94	34			
O-2							34	120	120			
OV-10								36	96	96	96	96
Total A/C	—	—	—	22	120	120	224	250	250	96	96	96
Other A/C in Combat Units a/												
Tankers (KB-50)		120	120	100	40							
Combat Readiness Training												
Fighter and Attack	309	294	235	260	240	302	351	356	431	438	434	432
Reconnaissance	39	39	38	17	32	41	32	32	32	32	34	34
Other c/	70	75	74	102	127	203	225	266	274	247	251	251
Total A/C	418	408	347	379	399	546	608	654	737	717	719	717
Total Active A/C	2364	2930 d/	2579	2599	2785	2986	3412	3417	3615	3263	3265	3262
Tactical Missiles												
MATADOR	120											
MACE A (MGM-13A)		72	88	88	88	88						
MACE B (MGM-13B)		36	54	54	54	54	54	54	36	36	36	36
AIR NATIONAL GUARD e/												
Fighter Aircraft												
F-84	300		67	150	250	250	250	247	240	232		
F-86	125	50	127	118	75	75	74	72	71			
F-100	100	50	132	200	223	198	198	198	198	300	500	500
F-104								18	18	18		
F-105				19	17	24	25	25	24	25	75	75
Total A/C	525	100	326	487	565	547	547	560	551	575	575	575
Reconnaissance												
RB-57	60	60	60	60	60	24	24	24	24	24	24	24
RF-84	144	54	137	126	126	126	126	124	119	115	110	105
RF-101						54	54	54	54	54	54	54
Total A/C	204	114	197	186	186	204	204	202	197	193	188	183
Tankers (KC-97)		10	30	30	50	50	50	50	50	50	50	50
Total ANG A/C	729	224	553	703	801	801	801	812	798	818	813	808

a/ In combat units. Numbers of aircraft are derived by multiplying authorized squadron unit equipment by the numbers of squadrons. They do not include command support aircraft.
b/ RB-66s converted to EB-66 TEWS aircraft.
c/ Includes SAWF, MAP, TEWS, TACC, and ARS.
d/ Includes seven Air National Guard tactical fighter wings (525 aircraft) and four tactical reconnaissance squadrons (72 aircraft) for a total of 597 aircraft on active duty.
e/ Possessed aircraft where less than UE.

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TABLE 13 - GENERAL PURPOSE FORCES
AIR FORCE PROCUREMENT PROGRAM
(FY 1961-1972)

Type of Aircraft	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
F-105	180	231	107									
F-4		3 a/	307	327	222	618	191	245	100	53		
F-111(TFX)					10	48	117 b/	143	144	161	121	
A-7							20	181	240	173		
OV-10						11	98	48				
O-2							176	47				
A-37							57	120				
F-5						10	31	4				
RF-4C	—	2	24	89	128	96	42	86	46	—	—	
Total	180	236	438	416	360	783	732	874	530	387	121	
Procurement Cost (In Millions) c/	$362	$533	$974	$942	$1,005	$1,976	$1,792	$2,075				

a/ Excludes 27 aircraft sold to Navy.
b/ Including 24 aircraft for eventual sale to Australia.
c/ Includes flyaway aircraft, Advance Buy, Peculiar AGE, and training device costs. All spares and other support are not included.

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TABLE 14 - AIRLIFT AND SEALIFT FORCES
(End Fiscal Year) a/

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Active Forces												
C-5A										24	64	96
C-141					16	92	188	224	224	224	224	224
C-130	208	240	312	436	504	488	444	444	444	432	368	320
C-133	44	44	44	44	44	38	38	38	28	28	28	
C-135		42	40	38	28	14	9					
C-124	260	316	300	300	308	260	194	130	80			
C-7A b/	9	40	86	122	137	137	96	96	96	96	96	96
C-118	107	95	95	48								
C-123	96	80	80	80								
C-97		48										
C-121	56	56	28									
Total Active	780	961	985	1068	1037	1029	969	932	872	804	780	736
Air Force Reserve												
C-119	592	592	592	592	592	480	336	208				
C-123	48	48	48	48	24							
C-124	40		20	20	48	88	152	152	152	152	104	64
C-130											40	64
Air National Guard												
C-130										8	40	64
C-121				56	56	56	40	8				
C-97	88	40	128	144	144	144	136	88	48	40	8	
C-124							24	72	80	80	80	64
C-123	8	8	8	8	8	8	8	8	8			
Reserve & Guard Total	776	688	796	868	872	776	696	536	288	280	272	256
Res & Gd L/R Airlift (C-97, C-121, C-124, C-130)	128	40	148	220	248	288	352	320	280	280	272	256
30-day lift to:												
S.E. Asia (tons-000) c/	14.7	20.0	23.6	25.4	29.0	44.3	65.1	75.1	72.2	102.7	140.0	170.4
Europe (tons-000) c/	32.0	42.4	50.3	54.4	61.1	79.9	120.2	139.8	133.8	182.5	269.5	331.5
Sealift d/												
Forward Mobile Depots:												
Fast Deploymnt Log. Ships											8	20
Victory-Class Ships			3	3	3	3	3	3	19	19	19	
Cargo:												
General Purpose	13	14	14	14	14	14	14	14	13	11	8	6
Roll-on/Roll-off	2	2	2	2	2	2	3	3	3	3	3	3
Special Purpose	45	43	41	41	49	60	73	74	41	41	40	32
Tankers	24	25	25	25	25	26	26	26	26	26	26	23
Troop Ships e/	17	16	16	16	16	16	16	16	16	16	8	8
Total	101	100	101	101	109	121	135	136	118	116	112	92

a/ Numbers of aircraft are derived by multiplying authorized squadron unit equipment by the number of squadrons.
b/ Prior to FY 1967 these were part of the Army's General Purpose Forces
c/ Based on active and reserve military capabilities; CRAF not included
d/ Does not include amphibious or underway replenishment ships in General Purpose Force - Navy.
e/ Distribution between Active and Ready Reserve Ships, 1965 through 1972, will be determined by the Secretary of the Navy based on sea transportation requirements as they then exist.

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TABLE 15- AIRLIFT AND SEALIFT PROCUREMENT PROGRAM
(End of Fiscal Year)

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Airlift												
C-130B/E	57	93	144	78								
C-135A/B	20	15										
C-141			16	45	84	100	34					
C-5A							8	18	27	33	29	
Total A/C	77	108	160	123	84	100	42	18	27	33	29	
Cost ($ Millions) a/	202	298	493	445	521	488	564	423				
Sealift												
T-LSV, Roll-on Roll-off			1									
T-FDL, Fast Dplmt Logistics Ships						2		5	13	10		
Cost ($ Millions)			19			68		234				

a/ Includes flyaway aircraft, advance buy, peculiar AGE, and training device costs. All spares and other support are not included.

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TABLE 16 - SUMMARY OF STRENGTH, DRILL STATUS, ETC.
FOR RESERVE AND GUARD FORCES
(End of Fiscal Year)

(In Thousands)

	1961	1962 a/	1963	1964	1965	1966	1967	1968
Army Reserve								
Paid Drill Training	301.8	261.5	237.0	268.5	261.7	251.0	260.0	260.0
Other Paid Training	59.3	48.3	47.2	77.4	54.6	70.5	69.0	71.0
Total Paid Status	361.1	309.8	284.2	345.9	316.3	321.5	329.0	331.0
Army National Guard								
Paid Drill Training	393.8	361.0	360.7	381.5	379.0	420.9	418.5	400.0
Other Paid Training								
Total Paid Status	393.8	361.0	360.7	381.5	379.0	420.9	418.5	400.0
Total Army Paid Status	754.9	670.8	644.9	727.4	695.3	742.4	747.5	731.0
Naval Reserve								
Paid Drill Training	129.9	111.3	119.6	123.3	123.5	123.8	126.0	126.0
Other Paid Training	8.0	7.9	9.8	8.4	9.1	8.0	8.0	8.0
Total Paid Status	137.9	119.2	129.4	131.7	132.6	131.8	134.0	134.0
Marine Corps Reserve								
Paid Drill Training	43.8	46.6	46.3	45.9	45.6	48.6	48.0	48.0
Other Paid Training	2.1	2.0	1.8	2.1	2.5	2.7	2.8	2.8
Total Paid Status	46.0	48.6	48.1	48.0	48.1	51.3	50.8	50.8
Air Force Reserve								
Paid Drill Training	64.5	58.4	58.6	60.8	46.3	45.0	49.9	44.8
Other Paid Training	11.5	10.7	9.1	6.4	3.7	3.7	3.6	3.6
Total Paid Status	75.9	69.1	67.7	67.2	50.0	48.7	53.4	48.4
Air National Guard								
Paid Drill Training	70.9	50.3	74.3	73.2	76.4	79.9	82.7	84.8
Other Paid Training								
Total Paid Status	70.9	50.3	74.3	73.2	76.4	79.9	82.7	84.8
Total AF Paid Status	146.8	119.5	142.0	140.5	126.4	128.6	136.1	133.2
Total Reserve Forces								
Paid Drill Training	1004.8	889.1	896.5	953.2	932.5	969.2	985.1	963.6
Other Paid Training	80.9	68.9	67.9	94.3	69.9	84.9	83.4	85.4
Total Paid Status	1085.7	958.0	964.4	1047.5	1002.5	1054.1	1068.5	1049.0

a/ Excludes reservists called to active duty during the "Berlin Crisis".

NOTE: Detail may not add to totals due to rounding.

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TABLE 17 - DEPARTMENT OF DEFENSE PROGRAMS SUPPORTING THE FOUR SAFEGUARDS RELATED TO THE TEST BAN TREATY
(TOA, $ Millions)
(Fiscal Years)

	1964	1965	1966	1967	1968
Conduct of Underground Testing					
RDT&E (DASA)	10.9	21.2	37.7	33.1	48.5
Maintenance of Lab Facil. & Prgms					
RDT&E (DASA)	38.0	39.2	40.4	39.3	43.6
RDT&E (Army)	7.6	8.4	8.4	5.9	5.8
RDT&E (Navy)	5.3	5.2	5.0	3.0	3.0
RDT&E (Air Force)	3.0	3.0	3.0	2.7	2.3
Military Construction (Army)					8.2
Military Construction (DASA)	1.2			1.9	
Sub-Total	55.1	55.8	56.8	52.8	62.9
Main. of Stand-by Atmos.Test Cap.					
RDT&E (DASA)	39.3	56.2	24.9	20.8	16.3
RDT&E (Air Force)	23.6	12.1	6.0	4.5	9.5
Military Construction (DASA)	20.0	4.1	2.8	1.8	1.4
Sub-Total	82.9	72.4	33.7	27.1	27.2
Monitoring of Sino-Soviet Actions					
Aircraft Procurement (Air Force)		2.8	1.8	4.2	3.8
Other Procurement (Air Force)	12.1	9.9	9.9	16.1	10.7
Military Construction (Air Force)	0.1	9.0	0.6		5.5
O&M (Air Force)	17.4	21.7	24.6	12.4	12.4
Military Personnel (Air Force)	8.3	10.2	14.4	16.8	18.1
RDT&E (Air Force)				14.1	15.9
RDT&E (ARPA)	58.8	58.3	58.3	47.5	49.5
Sub-Total	96.7	111.9	109.6	111.1	115.9
TOTAL	245.6	261.3	237.8	224.1	254.5

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TABLE 18 - RECAPITULATION OF DOD SPACE PROJECTS
(TOA, $ Millions)
(Fiscal Years)

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TABLE 19 - SUMMARY OF THE RESEARCH PROGRAM
Fiscal Years
(TOA, $ Millions)*

	1962	1963	1964	1965	1966	1967	1968
Engineering Sciences							
Electronics			26	27	28	28	27
Materials			34	44	45	47	33
Mechanics			25	26	29	29	28
Energy Conversion			12	14	14	15	14
Sub-Total			97	111	116	119	102
Physical Sciences							
General Physics			28	30	33	30	30
Nuclear Physics			15	17	15	16	13
Chemistry			10	11	11	11	11
Mathematical Sciences			33	35	37	38	37
Sub-Total			86	93	96	95	91
Environmental Sciences							
Terrestrial			6	6	7	6	6
Atmospheric			19	20	19	21	22
Astronomy-Astrophysics			8	9	10	10	9
Oceanography			18	19	19	20	22
Sub-Total			51	54	55	57	59
Biological & Medical Sciences			34	33	33	34	32
Behavioral & Social Sciences			9	10	12	13	12
Nuclear Weapons Effects Research			36	38	39	41	43
In-House Independent Lab. Res.			35	39	35	36	34
University Program (THEMIS)						18	27
Other Support				8	7	7	8
Total Research	339	351	346	383	391	415	409

*Amounts will not necessarily add to totals due to rounding.

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TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT
(TOA, $ Millions)
(Fiscal Year)

	Prior Years	1962	1963	1964	1965	1966	1967	1968
RESEARCH								
Army		73	73	74	82	82	91	92
Navy		119	126	118	122	123	131	132
Air Force		70	83	84	97	98	102	103
ARPA		31	31	34	44	49	50	39
DASA		46	38	36	38	39	41	43
Sub-Total		339	351	346	383	391	415	409
EXPLORATORY DEVELOPMENT								
Army								
Chemical Technology				60	56	49	43	42
Communications and Electronics				39	40	49	42	38
Ordnance				31	29	26	25	25
Life Sciences				22	30	34	25	26
Aeronautics				15	13	15	18	15
Materials				14	14	14	13	13
Other				61	60	66	62	57
Sub-Total		135	211	242	242	253	228	216
Navy								
Sea Warfare Systems				151	143	133	118	114
Chemical Technology				14	11	5	5	1
Communications and Electronics				41	37	30	25	23
Ordnance				48	47	47	36	39
Life Sciences				13	13	13	13	12
Aeronautics				38	35	29	26	25
Materials				12	10	10	10	11
Other				45	53	55	50	47
Sub-Total		323	357	362	349	322	283	272
Air Force								
Chemical Technology				34	37	37	34	32
Communications and Electronics				50	53	55	46	44
Avionics				61	67	65	56	55
Ordnance				10	8	9	7	5
Bioastronautics				27	26	26	27	23
Aeronautics				65	64	67	63	52
Materials				30	27	26	25	23
Other				47	56	53	53	51
Sub-Total		296	302	324	338	338	311	285
ARPA								
DEFENDER				133	132	122	115	118
VELA				60	62	58	49	50
AGILE				26	22	29	26	27
Other				35	20	16	41	20
Sub-Total		217	222	254	236	225	231	215
TOTAL EXPLORATORY DEVELOPMENT		971	1092	1182	1165	1138	1053	988
ADVANCED DEVELOPMENT								
Army								
Operational Evaluation V/STOL	1	7	12	17				
New Surveillance Aircraft	2	7	11	9	14	5	1	1
Heavy Lift Helicopter			15	2	2	3	2	
Research Helicopter				1	1	2	4	12
Aircraft Suppressive Fire Systems			2	9	6	2	6	3
Auto Data Sys/Army in the Field		7	21	15	9	2	4	4
Surface to Air Missile (SAM-D)					14	15	13	35
DoD Satellite Comm Grnd	80	102	27	25	15	22	8	6
NIKE-X Adv. Development							20	20
Anti-Tank Weapons	34	26	28	18			1	5
Lightweight Howitzer						3	6	5
Limited War Lab			4	4	4	13	7	7
Therapeutic Developments							11	11
Power System Converter						12	14	12
Night Vision						4	15	16
Abn. Surveillance & Target Acq.						6	11	13
Other		41	140	56	56	32	61	68
Sub-Total		190	260	156	121	121	184	218

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TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (Cont'd)
(TOA, $ Millions)
(Fiscal Year)

	Prior Years	1962	1963	1964	1965	1966	1967	1968
ADVANCED DEVELOPMENT (Cont'd)								
Navy								
V/STOL Development	1	6	12	22	8	4	2	
Airborne Elec. Warfare Equip.						15	14	15
Adv. Surface-to-Air Missile System (ASMS)						6	4	15
Adv. Point Defense Surface Missile System						9	8	6
Adv. ARM Technology							3	2
Landing Force Support Weapon (LFSW)							2	3
Augmented Thrust Propulsion			15	12	7	1	2	5
Astronautics		1	1	12	11	5	7	6
Adv. Undersea Surveillance		8	26	23	13		10	16
Abn. ASW Detection System			4	11	20	18	25	24
Adv. Sub Sonar				3	2	4	12	10
Adv. Surface Sonar				5	11	2	1	2
Acoustic Countermeasures		1		1	5	4	4	4
ASW Torp C/M Resist					3	7	6	4
Sub-Launched Anti-ship Torp.					2	3	3	5
Deep Submergence Program				2	35	15	23	42
Combine Gas Turbine Engine						8		
Active PLANAR Array Sonar				1	7	9	7	12
ASW Ship Int. Combat System					7	9	7	7
Reactor Propulsion Plants		13	10	11	13	20	13	13
Adv. Surface Craft				2	4	2	5	10
Adv. Mine Development					1	5	5	5
Adv. Mine Countermeasures						3	2	3
Other Advanced Developments		23	20	31	31	37	49	74
Sub-Total		52	88	136	180	186	214	283
Air Force								
Light Intra-Theater Transport								2
V/STOL Aircraft Technology				0	10	5	3	
Lightweight Turbojet		2	5	3	11	8	5	
Tri-Service V/STOL	1	6	12	19	31	21	5	3
V/STOL Engine Development						31	20	20
Overland Radar						9	10	10
AWACS (Abn. Warn. & Cont. Sys)					1	5	4	
Advanced Avionics					13	5	7	9
Penetration Aids, Tac. Ftrs.						5	3	6
TAC AGM Missiles (MAVERICK)					3		20	10
Conventional Weapons						15	10	5
Flight Vehicles Sub-systems							9	8
Advanced ASM Tech.						9	8	8
X-15 Aircraft	150	10	10	9	8	7	5	3
Adv. Manned Strat. Acft. (AMSA)					28	46	11	26
Adv. Filament Composites					5	6	8	8
Ad. ICBM Technology			9	8	3	6	10	10
SABRE (Self-Algn. Boost & Reentry)					12	15	12	8
Stellar Inert Guid.		3	49	22	2	1		
X-20 (DYNASOAR)	109	100	132	64				
GEMINI (Manned Space Flt)						1		
Large Solid Prop. Motor						5	1	
[redacted]								
Tac. Satellite Comm.			5	49			12	15
Abn. Term. for Sat. Comm.							3	4
Manned Orbital Lab. (MOL)				10	37	150	237	431

[redacted]

TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (Cont'd)
(TOA, $ Millions)
(Fiscal Year)

	Prior Years	1962	1963	1964	1965	1966	1967	1968
ADVANCED DEVELOPMENT (Cont'd)								
Air Force								
[redacted]								
Reentry & Recovery (START)			14	18	21	32	16	5
Adv. Liquid Rocket Tech.					4	11	13	13
Adv. Space Guidance					1	4	2	6
Adv. Space Power Supply Tech.								5
Space Experiments Support (SESP)							3	16
Other Advanced Developments		232	190	174	118	63	50	50
Sub-Total		379	455	378	308	500	524	749
TOTAL ADVANCED DEVELOPMENT		[redacted]						
ENGINEERING DEVELOPMENT								
Army								
NIKE-ZEUS Testing	836	263	175	64	40			
NIKE-X				270	339	405	427	422
Fire Power other than Msls.	3	30	47	48	42	37	40	49
Aircraft Supp. Fire Sup.System		7	6	13	13	23	25	14
Other Airmobility Systems						10	9	6
Surface Mobility		6	11	7	6	10	10	9
Combat Surv. & Target Acq.		19	25	19	15	10	12	14
Communications & Electronics		26	47	29	20	19	16	21
Other Engineering Development		118	120	121	101	57	50	61
Sub-Total		469	431	571	576	571	589	596
Navy								
Med. Range Air-to-Surface Missile (CONDOR)					2	9	19	54
Adv. SPARROW						2	14	8
Three-T Systems Improvement								7
Unguided/Conventional Air-Launched Weapons					4	5	7	8
Multi-Mission Tac. Ftr. (VFAX)								3
ASW A/C (VSX)								25
MK-48 Torp.						45	35	14
Jezebel Sonobuoy					2	10	14	3
Sub-Sonar Developments						5	8	15
Other Undersea Warfare Projects						9	20	19
EA6B						41	46	29
CBATCS							12	29
TRIM							26	7
Marine Corps Developments					9	16	17	14
Other Engineering Developments						71	53	59
Sub-Total		68	105	147	137	213	271	294
Air Force								
XB-70	800	220	207	156	57	23	10	
J-58		33	92	94	84	64	23	
YF - 12/A Intercep., FCS, Msl		44	42	60	32	28	28	20
F-4 Improvements						10	11	
MARK II Avionics						26	35	33
Adv. Tac. Fighter (FX)						1	2	4
ABRES			123	155	161	150	137	126
NIKE Targets		4	6	4	7	9	8	8
Advanced ICBM								9
Adverse Weather Aerial Deliv.						2	1	3
TITAN III Space Booster		19	237	330	234	105	66	50
AGENA D		22	10				2	14
Point-to-Point Satellite Comm.							3	5
Other Engineering Develop.		71	123	91	82	80	103	64
Sub-Total		413	840	890	657	498	429	336
TOTAL ENGINEERING DEVELOPMENT		950	1376	1608	1369	1282	1289	1226

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TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (Cont'd)
(TOA, $ Millions)
(Fiscal Year)

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TABLE 20 - FINANCIAL SUMMARY OF RESEARCH AND DEVELOPMENT (Cont'd)
(TOA, $ Millions)
(Fiscal Year)

	Prior Years	1962	1963	1964	1965	1966	1967	1968
OPERATIONAL SYSTEMS DEV. (Cont'd)								
Navy								
Basic Pt. Def. Surf.MslSys.								2
Surface Msl Sys Projects					47	56	56	47
A/L G/M F.t. Sprt.				7	5	10	7	7
U/W Ordnance Flt. Sprt. Prgm				4	6	8	7	8
AL/SL Ordnance Flt. Sprt.				3	7	6	5	5
Torpedo MK-46	38	11	21	14	15	8	4	2
Command Control System		6	11	13	7	6	6	1
Naval Tactical Data System	68	10	7	6	4	4	4	
Marine Corps Tac Data System	21	8	6	5	3	2	2	2
Comm. Intel & Security -		5	6	13	12	12	10	5
FDL Ship						10	8	
Anti-Radiation Missile						6	46	18
Other Operational Systems		77	61	92	46	62	56	66
Sub-Total		601	597	539	446	586	837	778
Air Force								
SR-71			20	70	81	17	6	2
MINUTEMAN			137	329	323	279	351	350
PACCS (Post Atk Com & Cont Sys)			7	2	4	5	9	3
OTH Radar System			7	10	10	4	1	3
SPACETRACK	4	19	23	13	8	8	6	8
RF-111						13	10	2
F-111A	5	6	116	231	321	238	100	122
SRAM						3	32	57
FB-111						25	41	58
C-5A				10	42	159	258	305
TITAN III Vehicle						36		
Comm. Intel & Security					9	43	47	55
Special Activities	807	328	486	414	273	407	290	248
Other Operational Systems		1299	777	261	82	34	34	71
Sub-Total		1652	1573	1340	1103	1271	1185	1284
Defense Agencies								
Defense Agencies Sub-Total		107	143	184	186	105	95	92
TOTAL OPERATIONAL SYSTEMS DEV.		2539	2433	2249	1915	2217	2383	2359
TOTAL R&D		6931	7666	7674	7035	7512	7737	8171
Less Support from Other Appro.		610	612	576	512	566	560	648
TOTAL OBLIGATIONAL AUTHORITY RDT&E Appropriations		6321	7054	7098	6498	6946	7177	7523
Financing Adjustments		-977	- 54	-122	- 15	-200	+ 4	-250
NEW OBLIGATIONAL AUTHORITY, RDT&E Appropriations		5368	6993	6984	6483	6746	7181	7273 a/

a/ Data shown do not include $7,632,000 in FY 1968 for special foreign currency program.

[redacted]

TABLE 21 OTHER MAJOR PROGRAMS
(TOA, $ Millions)
(Fiscal Years)

		1963	1964	1965	1966	1967	1968
A.	SPECIALIZED ACTIVITIES						
[redacted]							
	2. Communications	774	794	807	1045	974	1184
	3. NMCS	46	69	65	54	58	76
	4. Other	1618	1778	1987	2088	2235	2294
	Total	[redacted]					
B.	LOGISTICS	3674	3845	3966	5283	6280	6044
C.	PERSONNEL SUPPORT						
	1. Training	2528	2677	2920	3805	4316	4667
	2. Medical	345	361	439	494	610	720
	3. Retirement*	(1015)	(1211)	(1386)	(1592)	(1814)	(2020)
	4. Other	2104	2296	2356	2960	3328	3534
	Total	4977	5334	5715	7259	8254	8921
D.	ADMINISTRATION						
	1. Contingencies	14	10	7	1	15	15
	2. Claims	22	19	29	24	34	30
	3. Other	1235	1309	1423	2622	2970	3026
	Total	1271	1338	1459	2647	3019	3071

* Retirement Pay Accrual is carried in all major programs. Therefore, the Retired Pay, Defense Appropriation is shown as a non-add entry.

[redacted]

TABLE 22 - DEPARTMENT OF DEFENSE COST REDUCTION PROGRAM
(In Millions of Dollars)

	Savings Realized in: a/					
	1962	1963	1964	1965	1966	Total
A. BUYING ONLY WHAT WE NEED						
1. Refining Requirement Calculations						
a. Major items of equipment b/	-	90	487	1,060	803	2,440
b. Initial provisioning	-	163	218	368	215	964
c. Secondary items	348	481	643	626	53	2,151
d. Technical manuals	-	-	10	9	8	27
e. Technical data and reports	-	-	2	6	13	21
f. Production base facilities	-	35	14	18	4	71
2. Increased Use of Excess Inventory in lieu of new procurement						
a. Equipment and supplies	-	-	57	169	114	340
b. Idle production equipment	-	1	-	4	20	25
c. Excess contractor inventory	-	18	14	8	29	69
3. Eliminating Goldplating (Value Engineering)	64	72	76	204	324	740
4. Inventory Item Reduction	-	-	-	83	82	165
Total Buying Only What We Need	412	860	1,521	2,555	1,665	7,013
B. BUYING AT THE LOWEST SOUND PRICE						
1. Shift from Non-Competitive to Competitive Procurement						
Total % competitive c/	-	37.1%	39.1%	43.4%	44.4%	-
Total amount of savings	160	237	448	641	551	2,037
2. Shift from CPFF to Fixed or Incentive Price						
Total % CPFF d/	-	20.7%	12.0%	9.4%	9.9%	
Total amount of savings	-	-	100	436	600	1,136
3. Direct Purchase Breakout	-	-	5	6	14	25
4. Multi-Year Procurement	-	-	-	67	70	137
Total Buying at Lowest Sound Price	160	237	553	1,150	1,235	3,335
C. REDUCING OPERATING COSTS						
1. Terminating Unnecessary Operations	-	123	334	484	794 e/	1,735
2. Consolidation & Standardization						
a. DSA operating expense savings	31	31	42	59	60	223
b. Consolidation of contract admin.	-	-	-	-	5	5
c. Departmental operating expense savings	-	-	95	186	230	511
3. Increasing Efficiency of Operations						
a. Improving telecommunications mgmt.	75	80	131	118	153	557
b. Improving trans. & traffic management	24	24	7	35	84	174
c. Improving equip. maint. management	48	-	65	117	93	323
d. Improving non-combat vehicle mgmt.	-	2	18	24	30	74
e. Reduced use of contract technicians	-	-	20	26	9	55
f. Improving military housing management	-	6	13	16	18	53
g. Improving real property management	-	23	25	46	54	148
h. Packaging, preserving and packing	-	-	7	8	30	45
Total Reducing Operating Costs	178	289	757	1,119	1,560	3,903
D. MILITARY ASSISTANCE PROGRAM (MAP)						
Total MAP	-	-	-	19	3	22
TOTAL PROGRAM	750	1,386	2,831	4,843	4,463	14,273

a/ Includes certain one-time savings not expected to recur in the same amounts in future years.
b/ In addition FY 1962 "requirements" for major items of equipment were reduced by $24 billion. In FY 1963, the Army reduced 1964 pipeline requirements by $500 million.
c/ FY 1961 was 32.9%. FY 1966 actual was 44.4%. Savings are 25% per dollar converted.
d/ First nine months of FY 1961 was 38%. FY 1966 actual was 9.9%. Savings are 10% per dollar converted.
e/ When all of the actions taken under this program during the last 5-1/2 years have been completed, they will yield savings of $1.4 billion annually.

[redacted]

[redacted]

TABLE 23 - AMOUNTS REQUESTED FOR AIRCRAFT, MISSILES, SHIPS, AND TRACKED COMBAT VEHICLE PROCUREMENT AUTHORIZATION IN FY 1968 REQUEST AS COMPARED WITH FY 1967 BUDGET
($ in Thousands)

	Authorized a/ FY 1967	Appropriated b/ FY 1967	Requested FY 1968
Aircraft			
Army	1,145,500	1,145,500	768,700
Navy & Marine Corps	3,137,500	3,125,500	2,420,400
Air Force	5,344,300	5,320,300	5,582,000
Missiles			
Army	516,100	516,100	769,200
Navy	416,400	416,400	625,600
Marine Corps	19,800	19,800	23,100
Air Force	1,234,500	1,234,500	1,343,000
Naval Vessels			
Navy	1,901,800	1,756,700	1,824,000
Tracked Combat Vehicles			
Army	421,400	421,400	424,700
Marine Corps	7,900	7,900	5,100
Totals	14,145,200	13,964,100	13,785,800

a/ Includes $3,707.7 million requested in FY 1967 supplemental authorization request.

b/ Same as a, above, except use "budget" in lieu of "authorization."

[redacted]

TABLE 24 - SOURCE OF FUNDS FOR AIRCRAFT, MISSILES, SHIPS AND TRACKED COMBAT VEHICLES FY 1968 PROCUREMENT PROGRAM
(In Thousands)

	Total Amount of FY 1968 Program	Funding Available for Financing Program in Part	NOA Requested for Authorization
Aircraft			
Procurement of Equipment and Missiles, Army	768,700	-	768,700
Procurement of Aircraft and Missiles, Navy (and Marine Corps)	2,560,400	140,000	2,420,400
Aircraft Procurement, Air Force	5,782,000	200,000	5,582,000
Sub-total - Aircraft	9,111,100	340,000	8,771,100
Missiles			
Procurement of Equipment and Missiles, Army	769,200	-	769,200
Procurement of Aircraft and Missiles, Navy	625,600	-	625,600
Procurement, Marine Corps	23,100	-	23,100
Missiles Procurement, Air Force	1,368,000	25,000	1,343,000
Sub-total - Missiles	2,785,900	25,000	2,760,900
Navy Vessels			
Shipbuilding and Conversion, Navy	1,946,400	122,400	1,824,000
Tracked Combat Vehicles			
Procurement of Equipment and Missiles, Army	424,700	-	424,700
Procurement, Marine Corps	5,100	-	5,100
Sub-total - Tracked Vehicles	429,800	-	429,800
GRAND TOTAL	14,273,200	487,400	13,785,800

[redacted]

TABLE 25 - FY 1968 AIRCRAFT PROCUREMENT PROGRAM
($ in Millions)

Army		Total FY 1968 Program Quantity	Total FY 1968 Program Amount
CH-47	Helicopter	71	110.2
	Less: Advance Procurement, Prior Year		-31.5
			78.7
CH-47	Advance Procurement, Current Year		21.5
UH-1B/D	Helicopter	528	120.5
	Less: Advance Procurement, Prior Year		-25.4
			95.1
UH-1B/D	Advance Procurement, Current Year		11.7
AH-1G	Helicopter	214	103.0
	Less: Advance Procurement, Prior Year		-7.6
			95.4
AH-1G	Advance Procurement, Current Year		3.7
OH-6A	Helicopter	600	50.3
	Less: Advance Procurement, Prior Year		-3.9
			46.4
OH-6A	Advance Procurement, Current Year		5.5
CH-54A	Helicopter	30	62.1
	Less: Advance Procurement, Prior Year		-23.6
			38.5
CH-54A	Advance Procurement, Current Year		14.2
OV-1C	Airplane	36	39.0
	Less: Advance Procurement, Prior Year		-9.0
			30.0
OV-1C	Advance Procurement, Current Year		9.8
2B12A	Trainer		2.9
AH-56A	Advance Procurement, Current Year		24.5
	Items Less than $500,000		.5
	Modification of In-Service Aircraft		98.1
	Avionic/Armament Support Equipment		4.3
	Common Ground Equipment		26.4
	Component Improvement		24.7
	Production Base Support		6.9
	First Destination Transportation		3.8
	Ground Support Avionics		28.9
	Aircraft Spares and Repair Parts		97.2
	TOTAL ARMY PROGRAM	1,479	768.7

[redacted]

[redacted]

TABLE 25 - FY 1968 AIRCRAFT PROCUREMENT PROGRAM - Continued
($ in Millions)

Navy and Marine Corps		Total FY 1968 Program Quantity	Total FY 1968 Program Amount
RA-5C		12	79.0
	Less: Advance Procurement, Prior Year		-9.2
			69.8
RA-5C	Advance Procurement, Current Year		16.8
A-6A		78	272.3
	Less Advance Procurement, Prior Year		-9.0
			263.3
A-6A	Advance Procurement, Current Year		4.7
EA-6B		4	66.5
	Less: Advance Procurement, Prior Year		-12.5
			54.0
EA-6B	Advance Procurement, Current Year		6.3
A-7A/B		240	350.4
	Less: Advance Procurement, Prior Year		-33.2
			317.2
A-7A/B	Advance Procurement, Current Year		24.3
F-4J		33	117.2
	Less: Advance Procurement, Prior Year		-5.0
			112.2
F-111B		20	230.8
	Less: Advance Procurement, Prior Year		-7.8
			223.0
F-111B	Advance Procurement, Current Year		27.6
OV-10A		38	24.3
	Less: Advance Procurement, Prior Year		-9.9
			14.4
CH-46D		60	99.8
	Less: Advance Procurement, Prior Year		-3.1
			96.7
CH-46D	Advance Procurement, Current Year		2.7
CH-53A		24	64.2
	Less: Advance Procurement, Prior Year		-25.0
			39.2
P-3B/C		40	237.2
	Less: Advance Procurement, Prior Year		-17.1
			220.1
P-3B/C	Advance Procurement, Current Year		12.8
T-37B		90	27.1
LTH		40	6.0
LC-130H		1	3.9
	Modification of Aircraft		381.2
	Aircraft Spares and Repair Parts		539.3
	Component Improvement		59.6
	Aircraft Industrial Facilities		13.2
	Other Production Charges	—	25.0
	TOTAL NAVY AND MARINE CORPS PROGRAM	680	2,560.4

[redacted]

[redacted]

TABLE 25 - FY 1968 AIRCRAFT PROCUREMENT PROGRAM - Continued
($ in Millions)

Air Force		Total FY 1968 Program Quantity	Total FY 1968 Program Amount
FB-111	Fighter/Bomber	54	455.3
	Less: Advance Procurement, Prior Year		-9.1
			446.2
FB-111	Advance Procurement, Current Year		55.7
A-7D	Tactical Attack Fighter	181	313.0
	Less: Advance Procurement, Prior Year		-28.7
			284.3
A-7D	Advance Procurement, Current Year		41.7
F-4E	Tactical Fighter	245	558.0
	Less: Advance Procurement, Prior Year		-51.5
			506.5
F-4E	Advance Procurement, Current Year		10.5
F-5A	Tactical Fighter	4	2.8
F-111A	Advanced Tactical Fighter	143	879.8
	Less: Advance Procurement, Prior Year		-13.6
			866.2
F-111A	Prior Year Engine Price Increase		70.0
F-111A	Advance Procurement, Current Year		52.9
RF-4C	Tactical Reconnaissance Fighter	86	197.8
	Less: Advance Procurement, Prior Year		-22.5
			175.3
RF-4C	Advance Procurement, Current Year		3.0
O-2A	Forward Air Controller	47	5.0
	Less: Advance Procurement, Prior Year		-.7
			4.3
A-37B	Tactical Fighter	120	37.0
OV-10A(SR)	Light Armed Reconnaissance	48	26.4
	Less: Advance Procurement, Prior Year		-5.2
			21.2
C-5A	Jet Heavy Transport	18	411.4
	Less: Advance Procurement, Prior Year		-12.8
			398.6
C-5A	Advance Procurement, Current Year		24.8
CX-2	Jet Aeromedical Transport	4	16.0
T-37B	Primary Jet Trainer	104	19.7
T-38A	Supersonic Jet Trainer	123	76.3
T-41A	Primary Trainer	45	.4
UH-1D	Utility Helicopter	16	5.2
CH-3E	Cargo/Transport Helicopter	1	1.2
HH-53B	Heavy Lift Helicopter	4	6.8
U-17	Utility Aircraft	7	.2
	Modification of Aircraft		520.4
	Aircraft Spares and Repair Parts		1,309.0
	Common AGE		55.1
	Component Improvement		77.0

[redacted]

[redacted]

TABLE 25 - FY 1968 AIRCRAFT PROCUREMENT PROGRAM - Continued
($ in Millions)

Air Force - Continued	Total FY 1968 Program Quantity	Amount
Industrial Facilities		47.9
War Consumables		23.3
Other Charges		129.2
Classified Projects		493.3
TOTAL AIR FORCE PROGRAM	1,250	5,782.0

[redacted]

TABLE 26 - FY 1968 MISSILE PROCUREMENT PROGRAM
($ in Millions)

Army	Total FY 1968 Program Qty	Amt
CHAPARRAL Missiles	1,440	14.9
Ground Equipment		5.2
REDEYE (XMIM-43A) Missiles	4,013	21.9
HAWK (XMIM-23A) Ground Equipment		29.3
HAWK (Self-Propelled) Ground Equipment		2.4
Anti-Ballistic Missile System		269.0
HONEST JOHN (MGR-1B) Missles		.1
TOW Missiles	5,550	37.1
Ground Equipment		19.6
PERSHING (XMGM-31A) Missiles		4.0
Ground Equipment		87.3
SERGEANT (XMGM-29A) Missiles		.2
SHILLELAGH (XMGM-51A) Missiles	14,500	44.2
[redacted]	[redacted]	
Target Missiles		11.4
Land Combat Support System	26	17.7
Air Defense Battery Terminal Equipment	48	3.3
Modification of In-Service Missiles		33.6
Production Base Support		59.8
First Destination Transportation		3.4
Items Less Than $500,000		.1
Missiles Spares and Repair Parts		37.9
TOTAL ARMY PROGRAM	[redacted]	
Navy		
UGM-27C (A-3) POLARIS		92.9
ZUGM-73A (C-3) POSEIDON		94.3
SPARROW III	1,195	55.7
AIM-9D (SIDEWINDER 1C IR)	960	9.2
SHRIKE /ARM	6,255	93.3
RIM-2E (TERRIER)		3.5
RIM-8E (TALOS)	188	24.4
RIM-24B (TARTAR)		2.1
RIM-66A (STANDARD MISSILE MR)	240	13.1
RIM-67A (STANDARD MISSILE ER)	660	38.9
UUM-44A (SUBROC)	72	31.7
AERIAL TARGETS		53.4
Modification of Missiles		16.0
Missile Spares & Repair Parts		22.0
PHOENIX	45	54.8

[redacted]

TABLE 26 - FY 1968 MISSILE PROCUREMENT PROGRAM - Continued
($ in Millions)

	Total FY 1968 Program Qty	Amt
Navy - Continued		
Missile Industrial Facilities		10.8
Astronautics		9.5
TOTAL NAVY PROGRAM	9,615	625.6
Marine Corps		
REDEYE Missile (XMIM-43-A)	3,200	17.0
Other Supporting Costs		3.2
Spares and Repair Parts		2.9
TOTAL MARINE CORPS PROGRAM	3,200	23.1
Air Force		
LGM-25C TITAN II		2.9
LGM-30F/G MINUTEMAN II/III	83	378.3
SHRIKE/ARM	4,315	61.6
AIM-7E SPARROW	875	24.0
TARGET DRONES		9.0
Modification of In-Service Missiles		160.9
Spares and Repair Parts		80.6
Other Support		650.7
TOTAL AIR FORCE PROGRAM	5,273	1,368.0

[redacted]

[redacted]

TABLE 27 - FY 1968 TRACKED COMBAT VEHICLE PROCUREMENT PROGRAM
($ in Millions)

	Total FY 1968 Program	
Army	Quantity	Amount
Carrier, Personnel, M113A1	1,952	54.3
Carrier, Cargo, M548	559	18.6
Carrier, Command Post, M577A1	254	8.4
Carrier, Mortar, 81mm, M125A1	128	4.2
Carrier, Mortar, 107mm, M106A1	107	3.4
Recovery Vehicle, M578	79	6.1
Howitzer, Medium, 155mm, M109	27	2.7
Gun, Air Defense, 20mm, XM163	192	22.6
Armored Recon Airborne Assault Vehicle	600	91.4
Less: Advance Procurement, Prior Year		-30.8
		60.6
ARAAV Advance Procurement, Current Year		26.1
Trainer, Conduct of Fire, XM35	146	5.3
Chassis, Transporter, Bridge, Launcher	30	3.5
Combat Engineer Vehicle, M728	30	6.7
Tank, Combat, 152mm Gun, M60A1E2	300	92.1
Less: Advance Procurement, Prior Year		-11.4
		80.7
M60A1E2 Advance Procurement, Current Year		6.0
Retrofit Kits for M60A1 Tank		23.3
Tank, Combat, 105mm Gun, M60A1	300	52.9
Trainer, Conduct of Fire, M60A1E1	89	2.8
Trainer, Weapons System, M60A1E1	4	.9
Production Base Support		12.7
First Destination Transportation		6.0
Repair Parts and Support Materiel		15.4
Items Less than $500,000		1.5
TOTAL ARMY PROGRAM	4,797	424.7
Marine Corps		
Miscellaneous Supporting Costs	-	5.1
TOTAL MARINE CORPS PROGRAM	-	5.1

[redacted]

TABLE 28 - FY 1968 NAVY SHIPBUILDING AND CONVERSION PROGRAM
($ in Millions)

New Construction		Total FY 1968 Program Quantity	Amount
CVA(N)	Attack Aircraft Carrier (Nuclear) Advance Proc.	-	50.5
SS(N)	Submarine (Nuclear)	3	244.0
	Less: Advance Procurement in Prior Year	-	-27.2
			216.8
SS(N)	Submarine (Nuclear) Advance Procurement	-	8.7
DDG	Guided Missile Destroyer	2	166.6
DX/DXG	ASW-AAW Module Frigate Contract Definition	-	30.0
LHA	General Purpose Assault Ship	1	137.0
LHA	General Purpose Assault Ship Contract Definition	-	18.0
DE	Escort Ship	10	298.0
MSO	Ocean Minesweeper	7	60.7
FDL	Fast Deployment Logistic Ship	5	233.5
AOE	Fast Combat Support Ship	1	71.5
AGOR	Oceanographic Research Ship	2	14.0
AE	Ammunition Ship	2	65.4
ASR	Submarine Rescue Ship	1	17.7
	Service and Other Small Craft	-	40.8
	Advance Design and Contract Plans	-	2.0
	SUBTOTAL NEW CONSTRUCTION	34	1,431.2
Conversion			
SSBN	Fleet Ballistic Missile Submarine	3	268.3
SSBN	Fleet Ballistic Missile Submarine Advance Procurement	-	38.0
AS	Submarine Tender	1	19.3
DLG	Guided Missile Frigate	1	31.0
	Less: Advance Procurement in Prior Year	-	-9.2
			21.8
DLG	Guided Missile Frigate Advance Procurement	-	40.0
CG	Guided Missile Cruiser Advance Procurement	-	2.1
DD	Destroyer	7	91.7
	Less: Advance Procurement in Prior Year	-	-5.6
			86.1
DD	Destroyer Advance Procurement	-	5.2
MSO	Ocean Minesweeper	9	32.7
	Less: Advance Procurement in Prior Year	-	-5.1
			27.6
MSO	Ocean Minesweeper Advance Procurement	-	6.8
	SUBTOTAL CONVERSION	21	515.2
	TOTAL PROGRAM	55	1,946.4

[redacted]

TABLE 29 - AMOUNTS REQUESTED FOR RDT&E AUTHORIZATION IN FY 1968 REQUEST AS COMPARED WITH FY 1967 BUDGET

(In thousands)

	Authorized a/ FY 1967	Appropriated b/ FY 1967	Requested FY 1968
RESEARCH, DEVELOPMENT TEST, AND EVALUATION			
Army	$1,579,500	$1,568,700	$1,539,000
Navy (including the Marine Corps)	1,841,100	1,798,600	1,864,118 c/
Air Force	3,151,600	3,145,600	3,288,514 d/
Defense Agencies	481,059	481,059	464,000
Emergency Fund	125,000	125,000	125,000
Total	$7,178,259	$7,118,959	$7,280,632 e/

a/ Includes $135,000,000 in FY 1967 supplemental authorization request.

b/ Includes $135,000,000 in FY 1967 supplemental budget request.

c/ Includes $6,118,000 for the special foreign currency program included under a separate appropriation heading.

d/ Includes $1,514,000 for the special foreign currency program included under a separate appropriation heading.

e/ Includes $7,632,000, the total of c/ and d/ above.

[redacted]

TABLE 30 - SOURCE OF FUNDS FOR THE FY 1968
RDT&E PROGRAM

(In thousands)

	Total Amount of FY 1968 Program	Funding Available for Financing Program in Part	Requested for Authorization
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION			
Army	$1,571,000	$32,000	$1,539,000
Navy (including the Marine Corps)	1,946,118 a/	82,000 a/	1,864,118 a/
Air Force	3,411,514 b/	123,000 b/	3,288,514 b/
Defense Agencies	477,000	13,000	464,000
Emergency Fund	125,000	-	125,000
Total	$7,530,632 c/	$250,000 c/	$7,280,632 c/

a/ Includes $6,118,000 for the special foreign currency program included under a separate appropriation heading.

b/ Includes $1,514,000 for the special foreign currency program included under a separate appropriation heading.

c/ Includes $7,632,000 which is the total of a/ and b/ above.

TABLE 31 - FY 1968 RDT&E, ARMY PROGRAM
($ in millions)

	FY 1968 Program Amount
Budget Activity 1. MILITARY SCIENCES	
In-House Laboratory Independent Research	10.2
Defense Research Sciences	77.1
Information Processing	3.2
Intelligence-Electronic Warfare	2.7
Surface Mobility Studies	2.1
Nuclear Investigations	9.2
Materials	13.0
Human Factors	6.1
Environment	6.0
Bio-Medical Invetigations	20.1
Education and Training Development	.7
Studies and Analyses	15.0
Subtotal, Military Sciences	165.4
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
Light Observation Helicopter	.1
Advanced Aerial Fire Support System	48.0
Aircraft Suppressive Fire (Exp Dev)	2.2
Avionics (Exp Dev)	2.4
Air Mobility	10.0
Aeronautical Research	4.9
Demonstrator Engines	4.4
Operational Evaluation, V/STOL	.2
Research Helicopter	12.0
New Surveillance Aircraft	.8
Aircraft Suppressive Fire (Adv Dev)	3.2
Avionics (Adv Dev)	5.0
Avionics Systems (Eng Dev)	3.0
Aircraft Suppressive Fire Support System (Eng Dev)	13.7
Aircraft Engines	1.0
Supporting Development Air Mobility	4.8
Subtotal, Aircraft and Related Equipment	115.7

[redacted]

	FY 1968 Program Amount
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
Surface-to-Air Missile, NIKE HERCULES	1.0
Surface-to-Air Missile, HAWK/HIP	6.7
Interim Forward Area Air Defense - VULCAN/CHAPARRAL	8.0
Division Support Missile LANCE	24.5
Surface-to-Surface Missile PERSHING	20.0
Surface-to-Air Missile REDEYE	.5
Land Combat Support System	1.9
Missiles	19.1
Missile Propulsion	11.4
Forward Area Air Defense System	6.0
Surface-to-Air Missile Developments (SAM-D)	35.0
Surface-to-Surface Missile Rockets	1.5
NIKE X Advanced Development	20.0
NIKE X	423.3
Air Defense Control and Coordination System	5.0
Missile Effectiveness Evaluation	6.0
Kwajalein Test Site	35.0
White Sands Missile Range	81.3
Subtotal, Missiles and Related Equipment	706.2
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
Tactical Satellite Communications	5.3
Satellite Communications	5.8
Subtotal, Military Astronautics and Related Equipment	11.1
Budget Activity 5. SHIPS, SMALL CRAFT, AND RELATED EQUIPMENT	
Marine Craft	.9
Subtotal, Ships, Small Craft, and Related Equipment	.9
Budget Activity 6. ORDNANCE, COMBAT VEHICLES AND RELATED EQUIPMENT	
SHILLELAGH	2.4
Tank, Main Battle	34.0
Heavy Anti-Tank Assault Weapon System (Tow)	5.0
Surface Mobility-Components and Techniques	5.8
[redacted]	
Firepower Other Than Missiles	15.0
Power Systems-Converters	12.3
Nuclear Munitions Development (Adv Dev)	1.0

[redacted]

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	FY 1968 Program Amount
Budget Activity 6. ORDNANCE, COMBAT VEHICLES AND RELATED EQUIPMENT (Cont'd)	
Anti-Tank Weapon System	5.0
CB Weapons Program (Adv Dev)	4.2
Field Artillery Direct Support Weapon	1.0
Howitzer Lightweight Self-Propelled, 155mm	4.5
Mine Warfare	1.4
Infantry Individual and Supporting Weapons	12.3
Field Artillery Weapons, Munitions and Equipment	13.2
Nuclear Munitions (Eng Dev)	3.1
Wheeled Vehicles	3.2
Track and Special Vehicles	4.7
Fortifications, Mines and Obstacles	[redacted]
[redacted]	
Medium AT Assault Weapon (MAW)	20.0
Subtotal, Ordnance, Combat Vehicles, and Related Equipment	[redacted]
Budget Activity 7. OTHER EQUIPMENT	
Defense Commo Planning Group	10.0
Army Support of Headquarters Eucom	.2
Electronic Warfare Quick React Cap	5.0
Intelligence Data Handling System	.6
Communications Security Equipment Techniques	3.5
Primary COMINT/ELINT	9.7
Specialized Collection Activities and Systems	1.0
Communications-Electronics	4.5
Identification, Friend or Foe (IFF) (Exp Dev)	.2
Airborne Surveillance and Target Acquisition (Exp Dev)	6.0
Ground Surveillance and Target Acquisition (Exp Dev)	3.8
Electronics-Electronic Devices	13.8
[redacted]	
Mapping-Geodesy (Exp Dev)	4.3
Combat Support	4.4
Night Vision (Exp Dev)	4.2
Limited War Laboratory (Adv Dev)	7.0
Electric Power Sources	2.0
Auto Data Sys Army Fld	3.8
Night Vision (Adv Dev)	16.3
[redacted]	
Identification, Friend or Foe (IFF) Developments (Adv Dev)	1.3
Communications Developments	11.2
Image Interpretation Photo Processing	.5
Ground Surveillance and Target Acquisition (Adv Dev)	3.5

[redacted]

	FY 1968 Program Amount
Budget Activity 7. OTHER EQUIPMENT (Cont'd)	
Airborne Surveillance and Target Acquisition (Adv Dev)	12.5
Intelligence and Electronic Warfare Development	10.7
Mapping-Geodesy	3.2
Therapeutic Development	10.6
Unmanned Aerial Surveillance System	.3
Subsystem Reliability	1.0
Project Blue Zephyr	.7
Strategic Communications	1.1
Tactical Communications	7.2
Tactical ADPS Equipment	6.9
Aerial Combat Surveillance System	4.0
Ground Based Surveillance Systems	4.0
Nuclear Surveillance - Survey	.5
Support of Intelligence Operations	1.0
Image Interpretation Photo Process	4.0
Identification, Friend or Foe Equipment (Eng Dev)	1.6
Joint Advanced Tactical C3P	2.0
Electronic Warfare	2.8
Supporting Development for Communications	3.0
Combat Feeding, Clothing and Equipment	3.3
Night Vision Development (Eng Dev)	13.0
Training Devices	.9
Mapping-Geodesy (Eng Dev)	1.0
General Combat Support	12.6
CB Defense (Eng Dev)	5.0
Army Electronic Proving Ground	6.0
Testing	53.4
Subtotal, Other Equipment	[redacted]
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Facilities and Installation Support	77.8
International Cooperative Research	.3
Civilian Training Pool	.7
Subtotal, Programwide Management and Support	78.8
TOTAL, RDT&E, Army	1,571.0

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TABLE 32 - FY 1968 RDT&E, NAVY PROGRAM
($ in millions)

	FY 1968 Program Amount
Budget Activity 1. MILITARY SCIENCES	
In-House Laboratory Independent Research	15.6
Defense Research Sciences, Navy	115.9
General Surveillance and Navigation	16.0
Life Sciences Technology	3.2
Personnel and Training	2.0
Materials	10.1
Electronic Materials Techniques	5.7
Education and Training Development	2.0
Center for Naval Analyses (Navy)	8.5
Center for Naval Analyses (Marine Corps)	.8
Studies and Analyses (Navy)	11.0
Studies and Analyses (Marine Corps)	1.3
Subtotal, Military Sciences	192.1
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
F111B Aircraft	38.2
AEW CV Based Aircraft E2A	5.9
Improved Follow-on Light Attack Aircraft A-7A	6.0
ILAAS	9.0
Aircraft Systems Fleet Support	2.9
Target Fleet Support	4.9
Air ASW Fleet Support	1.6
Aircraft Propulsion Evaluation	2.4
Aircraft Flight Test General	2.1
Helo Avionics Systems	2.0
Airborne Surveillance & Navigation	20.9
Aircraft Communications	2.1
Aircraft, General Exploratory Development	24.7
Airborne ASW Detection	24.2
Avionics	2.9
Air/Surface Fire Control	5.3
Airborne Electronic Warfare Equipment	14.5
Environmental Applications	.7
Directional Jezebel Sonobuoy System	3.0
Integrated VP ASW Avionics System	3.9
CVS ASW Aircraft (VSX)	25.0
Avionics Development (VAST)	4.9
Drone Target Development	2.5
EA-6B Aircraft	28.9

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	FY 1968 Program Amount
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT (Cont'd)	
CV-Based ABN Tactical Control System	29.0
Tactical Recon A/C RF-X	.4
FAX-Navy	3.0
AIMS (ATCRBS/MARK XII)	1.6
TRIM/Combined Sensor Vehicle System	7.0
Subtotal, Aircraft and Related Equipment	279.5
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
Fleet Ballistic Missile System	433.0
FBM Command and Control	30.0
PHOENIX Missile System	36.9
SUBROC	2.2
Air-Launched Guided Missile Fleet Support	7.1
Surface Missile System Project	47.4
SHRIKE	7.8
Basic Point Defense Missile System	2.4
Anti-Radiation Missile (Standard ARM)	18.4
Guided Missile Propulsion	10.8
Guided Missiles Exploratory Development	19.7
Landing Force Support Weapon	3.0
Augmented Thrust Propulsion	5.0
Advanced ARM Technology	2.4
Advanced S/A Weapon System	15.0
Advanced A/L AAM System	1.8
Advanced A/L ASM Systems	2.0
Advanced Fuze Designs	1.7
Advanced Sea Based Deterrent	.6
Advanced Point Defense Missile System	6.0
Advanced SPARROW	8.5
Medium Range Guided Missile (CONDOR)	53.9
3T System Improvement	6.8
Pacific Missile Range	57.2
Missile/Weapons Systems Test and Instrumentation	5.7
Subtotal, Missiles and Related Equipment	785.3
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
Geodesy/ANNA	.7
Astronautics Exploratory Development	9.7
Tactical Applications of NavSat	1.4
Satellite Communications	2.0

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	FY 1968 Program Amount
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT (Cont'd)	
Tactical Satellite Communications	2.5
Subtotal, Military Astronautics and Related Equipment	16.3
Budget Activity 5. SHIPS, SMALL CRAFT AND RELATED EQUIPMENT	
All Weather Carrier Landing System	1.6
Aircraft Launching & Retrieving Flt Sup.	7.1
Sonar SQS-26	10.1
Sonar Fleet Support	13.9
Submarine Safety	1.0
Submarine Silencing	6.0
Fleet Support Electronics	3.5
Command Control Centers	1.3
Fleet Support - Hull and Machinery	2.0
Cryptologic Activities	4.8
Intelligence Data Handling System	.3
Subordinate OPCONCENTERS	.3
Flagship Data System	.9
Naval Nuclear Propulsion	18.6
Electronic Compatibility & Effectiveness	2.6
Shipboard Surveillance and Navigation	21.1
Command Support	9.0
Jamming and Deception	5.0
Shipboard Countermeasures	8.6
Ships, Submarines, Boats	17.9
Reactor Propulsion Plants	12.5
Advanced Mine Countermeasures	2.6
Active Planar Array Sonar	11.8
Advanced Submarine Sonar Development	10.4
Advanced Surface Ship Sonar Developments	1.5
Acoustic Countermeasures	4.0
ASW Ship Integrated Combat	6.7
Marine Gas Turbines	1.4
New Ship Design	7.0
Advanced Surface Craft	9.9
Aircraft Launching and Retrieving	3.1
Shipboard Systems Component Development	3.4
Advanced Identification Techniques	1.0
Ship Interior Communications	3.0
Advanced Navigation Development	.3
Advanced Command Data	2.4
Advanced Communications	5.9

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	FY 1968 Program Amount
Budget Activity 5. SHIPS, SMALL CRAFT AND RELATED EQUIPMENT (Cont'd)	
Shipboard Electronic Warfare	6.0
Advanced DIPS Techniques	1.4
Subsystem Reliability	1.0
River and Shallow Water Warfare	5.0
Mine Surveillance & Destruction System	1.0
Advanced ASW Communications	3.6
Sub Sonar Developments	14.9
Periscope Detection Radar	2.0
BW/CW Countermeasures	.4
Radar Surveillance Equipment	.5
Communications Systems	5.0
Intelligence Systems	5.0
Electronic Warfare System	9.3
Electronic Warfare QRC	3.5
Navigation System	1.4
Detect/Intercept Passive DIPS	10.0
Nuclear Electric Power Plants	1.2
Joint Advanced Tactical CCCP	3.0
CIC Conversion	.9
Subtotal, Ships, Small Craft and Related Equipment	297.6
Budget Activity 6. ORDNANCE, COMBAT VEHICLES AND RELATED EQUIPMENT	
Underwater Ordnance Fleet Support Program	8.3
Torpedo MK 46	2.0
Air-Launched Ship-Launched Ord. Fleet Sup.	5.2
WALLEYE	2.0
HERO Fleet Support	1.8
Anti-Tank Weapon ROCKEYE	1.0
Marine Corps Operational Weapon & Ordnance Development	2.8
Weapons and Ordnance	38.5
Marine Corps Ordnance/Combat Vehicles Exploratory Development	2.2
Advanced Mine Developments	5.0
ASW Torpedo Countermeasures Resistance	4.0
Sub-Launched Anti-Ship Torpedo	4.6
Advanced BW/CW Weapon	2.0
Advanced Conventional Ordnance	3.1
Marine Corps Ordnance/Combat Vehicle Advanced Development	2.2
Mine Warfare Developments	2.4
ASW Rockets	1.0

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	FY 1968 Program Amount
Budget Activity 6. ORDNANCE, COMBAT VEHICLES AND RELATED EQUIPMENT (Cont'd)	
MK-48 Torpedo EX-10	13.7
Unguided Conventional Air Launched Weapons	7.9
BW/CW Weapons	1.9
Conventional Ordnance Equipment	8.1
Marine Corps Ordnance/Combat Vehicles System	9.8
Subtotal, Combat Vehicles and Related Equipment	129.5
Budget Activity 7. OTHER EQUIPMENT	
Ship Support (ASWEPS)	2.5
FMF Expeditionary Airfield Support	1.8
US Marine Corps Tactical Data System	1.5
Marine Corps Operational Logistics Dev.	.7
Marine Corps Operational Electronic Dev.	1.7
Defense Communications Planning Group	20.0
Undersea Surveillance	7.0
Shorebased Countermeasures	5.7
Logistics	5.6
Training Equipment	7.0
[redacted]	
Other Marine Corps Exploratory Development	4.0
Advanced Undersea Surveillance	15.7
Deep Submergence Program	41.5
Mobile ASW Target	6.3
Oceanographic Instrumentation Development	3.7
Advanced Logistics	5.2
Advanced Medical Development	1.7
Other Marine Corps Systems	4.6
Subtotal, Other Equipment	[redacted]
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Navy Support to HQLANTCOM	.2
Navy Support to HQPACOM	.5
Facilities and Installation Support	62.4
Civilian Substitution Program	4.1

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	FY 1968 Program Amount
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT (Cont'd)	
Atlantic Undersea Test & Eval. Center	17.7
Electromagnetic Compatibility Anal. Center	.9
Technical Information Centers	1.6
International Cooperative R&D	.5
Management and Technical Support (ASW)	14.5
Subtotal, Programwide Management and Support	102.4
TOTAL, RDT&E, Navy	1,940.0
Special Foreign Currency Program	6.1
TOTAL, RDT&E	1,946.1

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TABLE 33 - FY 1968 RDT&E, AIR FORCE PROGRAM
($ in millions)

	FY 1968 Program Amount
Budget Activity 1. MILITARY SCIENCES	
In-House Laboratory Independent Research	8.0
Defense Research Sciences	91.5
Environment	10.0
Materials	23.1
Cloud Gap	1.5
Studies and Analyses	5.5
Education and Training	.7
RAND	15.0
ANSER	1.3
Subtotal, Military Sciences	156.6
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
B-52 Squadrons	19.7
FB-111 Squadrons	57.6
SR-71 Squadrons	2.0
A-7 Squadrons	24.0
F-111 Squadrons	121.5
RF-111 Squadrons	1.8
Aerial Targets	4.0
C-141 Squadrons	1.1
C-5A Squadrons	305.2
Aerospace Flight Dynamics	23.7
X-15 Research Aircraft	3.0
Low Altitude Guidance	1.0
Flight Vehicle Subsystems	8.0
Tri-Service V/STOL Development	3.3
Reconnaissance Strike Capability	6.0
Supersonic Combustion	2.0
Advanced Filaments and Composites	8.0
Hypersonic Vehicle Technology	1.0
V/TOL Engine Development	20.0
Advanced Avionics	9.0
Advanced Turbine Engine Gas Generator	5.0
Advanced Manned Strat A/C	26.0
Lt Intra Theater Transport	2.0
Mark II Avionics	32.8
Interceptor/Fire Control Missile System	20.0
Advanced Tactical Fighter (F-X)	4.0
Adverse Weather Aerial Delivery Sys	2.5
Aircraft Operational Support	.3

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	FY 1968 Program Amount
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT (Cont'd)	
Systems Engineering Group	25.2
Subtotal, Aircraft and Related Equipment	739.7
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
SRAM	56.6
Minuteman Squadrons	350.0
Advanced Weapons and Applications	5.7
Rocket Propulsion	31.7
Advanced Ramjet Msle Propulsion Tech	1.0
Advanced ASM Systems	7.5
Advanced Air Launch Rocket Prop	2.0
Tactical AGM	10.0
Advanced ICBM Technology	10.0
SABRE	8.0
Tactical Air-to-Air Weapons	2.0
Nike Targets	8.0
Advanced Ballistic Re-entry System	125.0
Advanced ICBM System	9.0
Western Test Range	73.6
Eastern Test Range	189.5
Subtotal, Missiles and Related Equipment	889.6
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
Spacetrack	7.5
Program 417	3.5
Special Activities	247.7
Bioastronautics	23.0
Aerospace Propulsion	28.0
Aerospace Avionics	55.0
Space Studies	2.0
Adv Space Power Supply Tech	4.5
Manned Orbiting Laboratory	430.0
Advanced Space Guidance	6.0
LARIAT	.5
Advanced Liquid Rocket Technology	12.9
Program 922	16.9
Tactical Satellite Communications	15.0
Space Tech Adv Re-entry Test	5.0
Program 949	50.0

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	FY 1968 Program Amount
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT (Cont'd)	
Aerospace Research (ARSP)	5.0
Plastic Balloon Components & Technology	.8
Space Experiments Support (SESP)	16.0
Titan III Space Booster	43.0
Agena D	14.0
Point-to-Point Sat Com	5.0
Satellite Control Facility	26.6
Arnold Engineering Development Center	44.5
Aerospace	26.4
Subtotal, Military Astronautics and Related Equipment	1,088.8
Budget Activity 7. OTHER EQUIPMENT	
Sac Comm and Control Networks (SACON)	.2
PACCS	3.4
Special Purpose Comm System	.2
Norad COC	.2
OTH Radar System	3.2
USSTRICOM	1.0
Tactical Air Control System	7.0
Def Com Plan Group	15.0
Cryptologic Activities	.8
Clear Sky	14.4
Special Collection Activities	25.0
Mapping, Charting, and Geodesy	.3
Intell Data Handling System	1.4
Aircom	2.3
Conventional Munitions	5.2
Ground Electronics	44.4
Overland Radar Technology	10.0
Program 673A	1.8
Tactical Air Control and Landing Devices	2.5
Advanced Devices	3.0
Survivable Command and Control Communications	2.0
Airborne Terminals for Sat Comm	4.0
Loran D	3.0
Tri-Service Lt Wt Tactical Radar	.5
Base Security	.7
Reconnaissance Exploitation	3.0
Conventional Weapons	5.0
BW/CW Program	7.0

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	FY 1968 Program Amount
Budget Activity 7. OTHER EQUIPMENT (Cont'd)	
Penetration Aids Tactical Fighter	6.0
Tac Info Proc and Interpret	3.0
ATCRBS/AIMS	1.7
Joint Adv Tact Command and Control System	5.0
Tactical Jamming System	10.0
Life Support System	1.0
CB Operational Support	5.5
Other Operational Support	12.7
Com/Int/Rec Operational Support	13.0
Arm/Ord Operational Support	10.5
Lt/Wt Precision Bombing	1.5
Test Instrumentation	17.0
AFWET Instrumentation Development	1.8
Info Analysis Center	2.2
JTF-2 Instrumentation Support	8.0
ECAC	4.7
Lincoln Laboratory	24.8
MITRE	12.5
Subtotal, Other Equipment	307.4
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
Exploratory Dev. Mgt.	2.1
International Coop R&D	.7
Dev Acquisition & Test Management	93.9
Command Management and Base Ops	131.2
Subtotal, Programwide Management and Support	227.9
TOTAL - RDT&E, Air Force	3,410.0
Special Foreign Currency Program	1.5
TOTAL - RDT&E	3,411.5

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TABLE 34 - FY 1968 RDT&E, DEFENSE AGENCIES PROGRAM
($ in millions)

	FY 1968 Program Amount
Budget Activity 1. MILITARY SCIENCES	
ADVANCED RESEARCH PROJECTS AGENCY	
Defense Research Sciences	39.0
Technical Studies	9.2
DEFENSE ATOMIC SUPPORT AGENCY	
Nuclear Weapons Effects Research	42.0
OTHER OSD ACTIVITIES	
Studies and Analyses, Defense Agencies	10.9
Subtotal, Military Sciences	101.1
Budget Activity 2. AIRCRAFT AND RELATED EQUIPMENT	
OTHER OSD ACTIVITIES	
Joint Task Force Two	10.2
Subtotal, Aircraft and Related Equipment	10.2
Budget Activity 3. MISSILES AND RELATED EQUIPMENT	
ADVANCED RESEARCH PROJECTS AGENCY	
Ballistic Missile Defense (DEFENDER)	117.5
Subtotal, Missiles and Related Equipment	117.5
Budget Activity 4. MILITARY ASTRONAUTICS AND RELATED EQUIPMENT	
DEFENSE COMMUNICATIONS AGENCY	
Communications Satellite Project	3.0
Subtotal, Military Astronautics and Related Equipment	3.0

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	FY 1968 Program Amount
Budget Activity 7. OTHER EQUIPMENT	
[redacted]	
Budget Activity 8. PROGRAMWIDE MANAGEMENT AND SUPPORT	
DEFENSE SUPPLY AGENCY	
Defense Documentation Center	11.6
Subtotal, Programwide Management and Support	11.6
TOTAL RDT&E, Defense Agencies	477.0

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TABLE 35 - FY 1968 RDT&E, EMERGENCY FUND

($ in millions)

	FY 1968 Amount
Emergency Fund, Defense	$125.0

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