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No. 61

Senate

By Mr. MONDALE (for himself, Mr. EAGLETON, Mr. McGOVERN, and Mr. MOSS):

S. 1725. A bill to accelerate the effective dates of individual income tax reductions provided by the Tax Reform Act of 1969; to restore the investment credit for small business enterprises; and to provide for the payment of Federally financed extended unemployment compensation under Federal-State agreements.

Mr. MONDALE. Mr. President, over the past 6 months, we have been paying the mounting price of a mindless economic policy.

The administration assures us we are not in a "recession." That is a cruel joke to those who are the victims of the administration's economic "game plan": to the 5 million people out of work throughout the country; to teenagers who are now experiencing their highest unemployment since 1963; and most of all to Vietnam veterans who come back from the horror of war only to stand in an unemployment line—in the 3-month period ending in January, almost 10 percent of veterans aged 20 to 29 were out of work.

The ultimate national shame is in the enormous waste of this unemployment. \$60 billion is lost in goods and services; 25 percent of our plant and equipment goes unused.

This means \$30 billion of personal income and \$20 billion of Federal revenues down the drain. It means a loss of \$150 for every man, woman, and child in the Nation.

For all State and local governments, the revenue loss is \$3 billion—full employment would return almost as much money to State and local governments as the President's revenue-sharing program.

In his budget for 1972, the President proclaimed an expansionary policy. That was a major departure, and I applaud him for it. But the rhetoric and the hope can not conceal one fact: The President's budget for fiscal 1972 is about as expansionary as his program for this fiscal year—a year during which unemployment has risen by a million people.

Some recent measures by the Congress moved us in the right direction. The 10 percent social security increase will give a \$3.5 billion stimulus to the economy. The Emergency Employment Act which just passed the Senate would create up to 200,000 new jobs—many of them for unemployed engineers and scientists.

But I believe that more is needed. As Herbert Stein of the Council of Economic Advisors said on March 25:

We don't believe we have an economy wound up to run to achieve the nation's growth goals without further stimulus.

A year ago the problem was the high interest rates. Since then, interest rates have dropped dramatically. Although I would like to see further reductions, I think monetary policy has been doing its share to stimulate recovery. We now need a comparable boost from fiscal policy.

Therefore, I am proposing today that we alter fiscal policy to stimulate the sagging economy. My bill has three main features. It will:

First. Cut personal income taxes by increasing the personal exemption to \$750 and the standard deduction to 15 percent. These cuts are presently scheduled to take place in 1972 and 1973. My proposal would move them up to this year.

Second. Create an interim program extending unemployment compensation benefits by 13 weeks. This program would be 100 percent federally funded, thus allowing the 13-week extension to be implemented in all States now when the need is greatest.

Third. Establish a 7-percent tax credit on the first \$25,000 of investment in plant and equipment. This tax credit would take the place of the administration's depreciation changes—which I strongly oppose.

My tax credit proposal is geared to bringing relief to the small businessman and the farmer, who are among those hardest hit by the high interest rates and low consumer demand of the past year and a half. The administration proposal would cost four times as much; it would represent a \$36 billion gift to business that we cannot afford. And at a time when firms are using three-fourths of their capacity, it is hard to understand why the new rules would result in much new investment, as claimed by the administration.

This is not the only policy that should be reversed. In particular, I am concerned that the President refuses to spend almost \$13 billion that the Congress has appropriated. In my judgment, this represents a serious disregard for the expressed will of Congress and the people it represents.

Moreover, the President should end his opposition to jawboning and adopt a consistent, even handed wage-price policy which applies to all industries, and which covers prices, profits, and credit as well as wages.

But I believe that the prime ingredient in a successful economic recovery over the next year and a half is a more vigorous fiscal policy now. That is what my bill calls for.

In recent months a number of arguments have been employed against a more expansionary policy. These arguments must be faced squarely.

First, the argument has been made that economic stimulation will lead to more inflation.

At present, with the economy operating \$60 billion below capacity, there is no reason to believe that inflationary pressures are threatening. Prices continue to rise, but the inflation is of the cost-push variety.

The real danger is in late 1972 and beyond when we should be approaching full employment. My bill would result in a revenue loss to the Treasury of \$5.9 billion in 1971, \$3.1 billion in 1972, and \$0.9 billion annually thereafter. Thus, its effect would be to stimulate the economy now when it is needed, and to fade out later when we near full employment. This is just the opposite of the President's liberalized depreciation program which will reduce Treasury revenues by \$2.5 billion in fiscal 1972, rising to a peak of \$4.1 billion in fiscal 1976, at about the time that demand inflation is most likely to confront us again.

Second, it has been argued that additional stimulation would give us a full employment deficit.

Actually, the President has already implicitly accepted a full employment deficit for fiscal 1972; the social security increase which he signed recently guarantees such a deficit.

But the real answer to this argument is that at a time of high unemployment there is nothing intrinsically desirable about a full employment balance, any more than there is about a regular

budget balance. The new dogma is infinitely preferable to the old dogma, but it is still dogma.

What we need now is a budget that will help bring economic recovery without creating renewed inflationary pressures. Given present conditions, this requires a full employment deficit. As Hobart Rowen has written in the Washington Post:

Getting so "locked" into the concept of a "full employment balance", rejecting a "full employment deficit" was neither good politics nor good economics.

It is going to be difficult for Mr. Nixon to explain, after his advisors have made such a solid case against a "full employment deficit", why they happen to be running one.

Third, the argument is made: With all our unmet social needs, how can we afford to cut taxes?

The case against cutting taxes is a strong one. Those of us who have been arguing that more money must be spent for our cities, for education, health and the environment, cannot responsibly advocate large tax cuts. That is one reason why I have vigorously opposed the new depreciation rules which amount to a 7-percent tax break for business.

My bill does not effect permanent tax changes—except for the small tax break for small business and farmers. Its essential feature is to alter the timing of changes presently scheduled for 1972 and 1973. Moreover, my bill would bring relief directly to those in greatest need—the unemployed, the small businessman and the farmer. In this sense, it does affect some of our highest priority areas.

Finally, the argument has been made that the economy does not need stimulation because it is now recovering.

The evidence on this is mixed. First quarter GNP grew by a sizeable 12 percent over the last quarter of 1970. However, much of this growth simply reflects inflation—"real" GNP grew by only 6.5 percent. Moreover, as much as half of this 6.5 percent was due to the rebound of the automobile industry. Had there been no auto strike in the fourth quarter of 1970, real GNP would have grown by only 3 to 4 percent in the first quarter of 1971.

This is better than the 1970 performance. But we must remember that the economy's potential output grows annually at 4 to 4½ percent. Thus, we actually fell further behind in the first quarter. The gap between potential output and actual output increased.

In the face of this mixed record, the administration insists that the economy is recovering—"a good solid expansion" in the words of Budget Director Shultz.

I had hoped for a more cautious response. The administration has embarrassed itself so often in the past by making euphoric predictions based on fragmentary evidence that one might have expected it to have learned a lesson.

In any event, I hope we can be forgiven for being highly skeptical about these predictions. Nor is our confidence in them increased by administration efforts to hide the economic facts, as when it muzzled BLS economists by canceling their regular press briefings.

But the issue now is more important than misplaced optimism and lost credibility. It has to do with the burdens of the current economic stagnation. The administration continues to adhere to a "wait and see" attitude. But while the administration is waiting and seeing, what are the families of America's 5 million unemployed to do? Where are they to turn for help?

I think we must act now to reverse the do-nothing policy of this administration, and get the economy moving again.

Mr. President, I ask unanimous consent that a summary of the provisions and a text of my bill be printed in the RECORD.

There being no objection, the bill and summary were ordered to be printed in the RECORD, as follows:

S. 1725

A bill to accelerate the effective dates of individual income tax reductions provided by the Tax Reform Act of 1969; to restore the investment credit for small business enterprises; and to provide for the payment of Federally financed extended unemployment compensation under Federal-State agreements

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Economic Recovery Act of 1971".

TITLE I—INCREASE IN PERSONAL EXEMPTIONS AND STANDARD DEDUCTION

SEC. 101. PERSONAL EXEMPTIONS.

(a) Section 151 of the Internal Revenue Code of 1954 (relating to allowance of personal exemptions) is amended by striking out "\$650" wherever it appears therein and inserting in lieu thereof "\$750".

(b) Section 6013(b)(3)(A) of such Code (relating to assessment and collection in case of certain returns of husband and wife) is amended by striking out "\$650" wherever it appears therein and inserting in lieu thereof "\$750", and by striking out "\$1,300" wherever it appears therein and inserting in lieu thereof "\$1,500".

(c) Subsections (c) and (d) of section 801 of the Tax Reform Act of 1969 are repealed.

SEC. 102. PERCENTAGE STANDARD DEDUCTION; LOW INCOME ALLOWANCE.

(a) Section 141 of the Internal Revenue Code of 1954 (relating to standard deduction) is amended by striking out subsections (b) and (c) and inserting in lieu thereof the following:

"(b) Percentage Standard Deduction.—The percentage standard deduction is an amount equal to 15 percent of the adjusted gross income, except that such deduction shall not exceed \$2,000 (\$1,000, in the case of a separate return by a married individual).

"(c) Low Income Allowance.—The low income allowance is \$1,000 (\$500 in the case of a separate return by a married individual)."

(b) Section 802(e) of the Tax Reform Act of 1969 is repealed.

SEC. 103. FILING REQUIREMENTS.

(a) Section 6012(a)(1) of the Internal Revenue Code of 1954 (relating to persons required to make returns of income) is amended—

(1) by striking out "\$600" each place it appears therein and inserting in lieu thereof "\$750";

(2) by striking out "\$1,700" each place it appears and inserting in lieu thereof "\$1,750"; and

(3) by striking out "\$2,300" each place it appears and inserting in lieu thereof "\$2,500".

(b) Section 941(d) of the Tax Reform Act of 1969 is repealed.

SEC. 104. COLLECTION OF INCOME TAX AT SOURCE ON WAGES.

(a) Section 3402(a) of the Internal Revenue Code of 1954 (relating to requirement of withholding) is amended—

(1) by striking out "January 1, 1972" in paragraph (3) and inserting in lieu thereof "the 15th day after the date of the enactment of the Economic Recovery Act of 1971";

(2) by striking out paragraph (4) and by renumbering paragraph (5) as (4); and

(3) by striking out "after December 31, 1972" in paragraph (4) (as renumbered) and inserting in lieu thereof "on or after the 15th day after the date of the enactment of the Economic Recovery Act of 1971".

(b) Section 3402(b) of such Code (relating to percentage method of withholding) is amended by striking out the table contained therein and inserting in lieu thereof the following:

Percentage Method Withholding Table	
Payroll period	Amount of 1 withholding exemption:
Weekly	\$14.40
Biweekly	28.80
Semimonthly	31.30
Monthly	62.50
Quarterly	187.50
Semiannual	375.00
Annual	750.00
Daily or miscellaneous (per day of such period)	2.10."

(c) Paragraphs (3) and (4) of section 805(b) of the Tax Reform Act of 1969 are repealed.

SEC. 105. EFFECTIVE DATES.

(a) The amendments made by sections 101, 102, and 103 shall apply to taxable years be-

ginning after December 31, 1970. The amendments made by section 104 shall apply with respect to wages paid on or after the 15th day after the date of the enactment of this Act.

TITLE II—PARTIAL RESTORATION OF INVESTMENT CREDIT

SEC. 201. CREDIT FOR \$20,000 OF INVESTMENT A YEAR.

(a) Section 49 of the Internal Revenue Code of 1954 (relating to termination of investment credit) is amended—

(1) by inserting after "pre-termination property" in subsection (a) the following: "and property to which subsection (e) applies";

(2) by inserting after "any property" in subsection (d) the following: "(other than property to which subsection (e) applies)"; and

(3) by adding at the end thereof the following new subsection:

"(e) Small Business Exemption.—

"(1) IN GENERAL.—In the case of section 38 property (other than pre-termination property)—

"(A) the physical construction, reconstruction, or erection of which is completed on or after the date of the enactment of the Economic Recovery Act of 1971, or

"(B) which is acquired by the taxpayer on or after such date,

and which is constructed, reconstructed, erected, or acquired for use in a trade or business, the taxpayer may select items to which this subsection applies to the extent that the qualified investment for the taxable year attributable to such items does not exceed \$20,000. In the case of any item so selected (to the extent of the qualified investment attributable to such item taken into account under the preceding sentence), subsection (c) of this section, paragraphs (5) and (6) of section 46(b), and the last sentence of section 47(a) (4) shall not apply. In applying section 46(c) (1) (A) in the case of property described in subparagraph (A), there shall be taken into account only that portion of the basis which is properly attributable to construction, reconstruction, or erection on or after the date of the enactment of the Economic Recovery Act of 1971.

"(2) SPECIAL RULES.—

"(A) MARRIED INDIVIDUALS.—In the case of a husband or wife who files a separate return, the amount specified in paragraph (1) shall be \$10,000 in lieu of \$20,000. This subparagraph shall not apply if the spouse of the taxpayer has no qualified investment for, and no unused credit carryback or carryover to, the taxable year of such spouse which ends within or with the taxpayer's taxable year.

"(B) CONTROLLED GROUPS.—In the case of a controlled group, the \$20,000 amount specified in paragraph (1) shall be reduced for each component member of the group by apportioning \$20,000 among the component members of the group in such manner as the Secretary or his delegate shall by regulations prescribe. For purposes of the preceding sentence, the term 'controlled group' has the meaning assigned to such term by section 1563(a), except that the phrase 'more than 50 percent' shall be substituted for the phrase 'at least 80 percent' each place it appears in section 1563(a) (1).

"(C) PARTNERSHIPS.—In the case of a partnership, the \$20,000 amount specified in paragraph (1) shall apply with respect to the partnership and with respect to each partner.

"(D) OTHER TAXPAYER.—Under regulations prescribed by the Secretary or his delegate, rules similar to the rules provided by sections 46(d), 48(e), and 48(f) shall be applied for purposes of this subsection."

(b) The amendments made by subsection (a) shall apply to taxable years ending on or after the date of the enactment of this Act.

TITLE III—EXTENDED UNEMPLOYMENT COMPENSATION

AGREEMENTS WITH STATES FOR PAYMENTS OF EXTENDED UNEMPLOYMENT COMPENSATION

SEC. 301. (a) Any State which is able and willing to do so may enter into an agreement with the Secretary of Labor (hereinafter in this section referred to as the "Secretary") under which—

(1) the State agency of such State will make payments of extended compensation in such State in like manner as if—

(A) the State law of such State contained a currently effective requirement that extended compensation be payable thereunder as provided by the Federal-State Extended Unemployment Compensation Act of 1970; and

(B) the "4 per centum" contained in section 203 (e) (1) (B) of such Act read "3.5 per centum"; and

(C) The "4.5 per centum" contained in Section 203 (d) of such Act read "3.5 per centum"; and

(2) payments will be made to the State in like manner as if—

(A) the State law of such State contained the requirement referred to in clause (1) (A); and

(B) the "one-half" contained in section 204 (a) (1) of such Act read "100 per centum".

(b) Any agreement entered into by a State under this section shall be effective for such period as may be specified by such State except that no such agreement shall be effective—

(1) for any period after December 31, 1971; or

(2) for any period beginning prior to—

(A) in case such agreement is with a State which, prior to the date such agreement is entered into, had included in its State law a requirement that extended compensation be payable thereunder as provided by the Federal-State Extended Unemployment Compensation Act of 1970, the effective date of such requirement; or

(B) in case such agreement is with a State other than a State described in clause (A), the date such agreement is entered into.

(c) As used in this section, the terms "extended compensation", "State", "State agency", and "State law" shall have the meaning prescribed therefor under section 205 of the Federal-State Extended Unemployment Compensation Act of 1970.

(d) (1) There shall be paid to each State, which has entered into an agreement under this section, either in advance or by way of reimbursement, as may be determined by the Secretary, such sum as the Secretary estimates the State will be entitled to receive under such agreement for each calendar month, reduced or increased, as the case may be, by any sum by which the Secretary finds that his estimates for any prior calendar month were greater or less than the amounts which should have been paid to the State. Such estimates may be made upon the basis of such statistical, sampling, or other method as may be agreed upon by the Secretary and the State agency.

(2) If any State having an agreement entered into under this section has, in its State law, a requirement described in subsection (a) (1) (A), the amount otherwise payable to such State under this section with respect to any payments by it of extended compensation shall be reduced by any amount paid to such State on account of such payments under the Federal-State Extended Unemployment Compensation Act of 1970.

(e) Funds in the extended unemployment compensation account (as established by section 905 of the Social Security Act) of the Unemployment Trust Fund shall be used by the Secretary for the making of payments to States having agreements entered into under this section. There are hereby authorized to be appropriated to such account such additional sums as may be necessary to assure a sufficiency of funds in such account for the making of the payments authorized by this section and by section 204 of the Federal-State Extended Unemployment Compensation Act of 1970.

SUMMARY OF PROVISIONS OF ECONOMIC RECOVERY ACT OF 1971

Title I would move forward to 1971 the income tax cuts presently scheduled for 1972 and 1973—by increasing the personal exemption to \$750 and the standard deduction to 15%. These changes would go into effect retroactively to January 1, 1971. They would cost the Treasury approximately \$4.5 billion in 1971, and \$2.2 billion in 1972.

Title II would grant a 7% tax credit on the first \$25,000 of investment in plant and equipment. This is similar to Amendment No. 326 to the 1969 Tax Reform Act which passed the Senate but was deleted in conference. The estimated cost to the Treasury is \$900 million.

Title III would provide an additional 13 weeks (beyond the traditional 26) of unemployment insurance payments. The Employment Security Act of 1970 provides for such payments effective January 1, 1972 (and in a few states July 1, 1972). This provision is not an amendment to the 1970 Act, but an interim program designed to fill the gap until this Act's effective dates. The extended benefits would be available if the national insured unemployment rate was above 3.5% or if the rate in any state was above 3.5%. At present, this would affect the unemployed in 32 states. Since it is 100% federally funded, it would not require action by the state legislatures and would go into effect immediately. Estimated net cost (above what would be spent in the absence of this measure) is \$500 million.



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WASHINGTON, TUESDAY, MAY 18, 1971

No. 73

Senate

NEEDS OF THE FARMER

Mr. MONDALE. Mr. President, May 7 was Salute to Agriculture Day at the White House.

A few days before, in a nationwide radio address President Nixon praised the success story of American agriculture.

The attention suddenly being devoted to our long-neglected farmers is encouraging.

Inviting a few farmers to the White House is nice. But putting a few more dollars into the pockets of several million farm families would be even nicer.

The President managed to get through his address without once mentioning parity—the key to farm income.

During his campaign for the Presidency he mentioned it:

Seventy-four percent of parity is intolerable in my book; farmers are entitled to better, and I pledge that in my Administration they will have better.

Parity now is at 69 percent—about the lowest level since the great depression.

The farmer works the longest hours for the lowest wages and receives the poorest return on investment of any segment of the American economy.

In the last decade, prices received by the farmer increased 10 percent.

At the same time:

Total operating costs were increasing by 50 percent.

Capital investment costs were increasing by 79 percent.

Fertilizer costs were increasing by 64 percent.

The result is not surprising: discounting for inflation, farm income declined by 25 percent between 1950 and 1970.

Now, we have reached rock bottom—the average farm family which works 60 hours per week receives about two-thirds the income it would be eligible to receive on welfare in New York City. One of every farm people living in rural areas is poor.

Something could be said for the low prices received by farmers if they were passed on to the consumer. But this has not happened.

In the 1960's, while prices received by farmers went up by 10 percent, food prices went up by 33 percent. In 1970, 95 percent of the increase in food prices went to the middle men—food proces-

sors, distributors, and retailers. As a result the farm-retail spread for food prices increased by 7 percent.

We are paying a heavy price for our neglect of the farmer. We have lost 23 million of them since World War II—an annual rate of 600,000.

Those who leave the farms end up in the cities. It is estimated that 20 percent of the growth of big cities in the last 15 years is due to migration from rural areas. And in the cities the new arrivals add their problems to the urban crisis.

In the face of these difficulties, the administration has adopted a policy of unbenign neglect. That means continued declines in farm income.

Take the dairy farmers. We continue to purchase little or no cheese for the school lunch program—even though the Agriculture Department has estimated that some 80 million pounds of cheese could be used. The President's fiscal 1972 budget again includes no money for the special milk program.

The budget also sharply cuts payments in the wheat, feed grain, and cotton programs \$700 million.

The simple truth is this: The budget—based on the provisions of the Agricultural Act of 1970—will result in less support to farmers. This means lower farm income in fiscal 1972.

This is intolerable.

I call on the President to act now to raise farm income by increasing price and income supports.

Moreover, I hope the President will unfreeze funds that were appropriated by the Congress but have been "frozen" by the Office of Management and Budget.

On Sunday, the President said he would increase insured loans for water and sewer projects. What about the \$56 million in water and sewer grant money, that has been held up by the administration?

What about the \$20 million of rural electric and telephone loan funds "frozen" until recently by the administration?

What about the \$46 million for the rural environmental assistance program which is being held up?

These funds are a critical part of building up our rural communities. They

should be released and we should appropriate larger sums next year.

For the rural environmental assistance program, the President's fiscal 1972 request is \$55 million less than Congress appropriated this year. That means a substantial cut in this type of rural conservation program so essential to our rural environment.

For rural electrification, the administration wants to spend \$345 million—roughly the same amount as we have spent every year since 1965.

This is not enough. There is an enormous backlog of unmet rural electric loans. A recent survey showed the loan demand at over \$800 million.

Our Nation is currently facing a critical power supply and power delivery crisis. This is surely not the time to hold back on rural electric loan funds.

What we need is good programs to revitalize our rural areas.

We do not need a dismantling of the Agriculture Department. At a time when the problems are getting worse, we have to face up to them, not avoid them through structural reorganization.

We do not need efforts to disguise the decline in farm income—new ratios calculated on a 1967 base period instead of the 1910-14 base period.

We do need a greatly expanded rural development effort. As a result of declining farm income, more and more farmers are being forced off the farms and are migrating to already overcrowded cities. We need to encourage job-creating opportunities in rural areas, to foster a policy of urban-rural balance.

We need to help farmers to obtain needed farm equipment. Recently, I introduced a bill to grant a 7-percent credit on the first \$25,000 of investment.

We need a new Farm Credit Act to modernize our credit programs and make more credit available in rural areas.

We need to give farmers greater market power. My National Agricultural Bargaining Act would enable farmer-elected marketing committees to bargain and negotiate with processors and other buyers for decent prices. I understand that the Farm Bureau is also working on a bill.

But more than anything, we need to raise farm income by increasing price and income supports. Anything less will insure the continued and disastrous exodus of people from our farm communities.



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WASHINGTON, TUESDAY, MAY 25, 1971

No. 78

Senate

Mr. MONDALE. Mr. President, past several weeks have brought new evidence—if any were needed—of how much the war in Indochina has scarred us as a people.

There was the complex tragedy of the trial of Lieutenant Calley, more mass marchers for peace around the country, and an effort to disrupt the Government in Washington.

But I was particularly struck by another, relatively quiet event. It was the solemn procession of Vietnam veterans past the Capitol grounds to throw away their medals. These young men have come to hate this war so deeply that they disowned honors won by risking their lives for their country.

This is what we have come to.

Our losses of war are not only 50,000 lives and billions wasted. The casualties have also been trust and pride and confidence—the basic strengths that nourish America's unity.

And now, amid all the embitterment and division brought by the war, the Senate comes to debate the draft.

We are asked to decide fateful questions of citizenship and responsibility, at a time when so many citizens feel their responsibility is to end the war rather than sustain it.

We are asked to summon young men to play out some final bloody act in the tragedy, at a time when 70 percent of the American people want no more of our sons to die in Indochina.

I cannot vote that summons.

So long as this war continues to divide America and squander her resources, I will oppose an extension of the draft.

At the same time, however, I do not believe the Congress can now make a sober and fully dispassionate decision regarding alternatives to the draft, such as a volunteer army.

My vote against extension of the draft, therefore, is not an endorsement of an all-volunteer force. I have serious reservations about an all-volunteer army.

But I will give this and other alternatives the most thorough examination as the Senate continues in the months ahead to consider the future shape of military service.

In summary, my position on the issues now before the Senate is as follows:

First, I oppose extension of the draft as long as the war continues. If the administration truly wants to end this war, there will be no immediate military need for the manpower provided by extending

the draft at this point.

Second, if some extension of the draft should pass the Senate, I will support an amendment to prevent any more young men being sent to the war in Southeast Asia unless they volunteer.

Though they are only 25 percent of the total army, draftees have been 70 percent of the hard-core combat forces in Vietnam.

Draftees have been 57 percent of the total casualties in Vietnam.

The death rate among draftees in 1970 was twice the rate for nondraftees.

The burden borne by draftees in this war has been singularly cruel and unusual. It must be stopped.

Third, if the draft is extended despite opposition, I will support legislation offered by Senator KENNEDY to eliminate certain inequities in the present system. Specifically:

To establish a ceiling on draft calls and to reassert congressional authority over the draft.

To broaden the definition of conscientious objectors to conform to the Supreme Court's decision in *Welsch* against U.S., and to restore the Justice Department's role in reviewing conscientious objectors cases.

To provide new legal rights to registrants, including the right to counsel and the right to present witnesses at all selective service proceedings.

To prohibit by law the use of the draft as a punishment for protest activities.

To eliminate previous legal restrictions on judicial review of questions of law in classification proceedings.

Finally, I want to pose questions which have troubled me most about an all-volunteer army, and which have persuaded me that the eventual replacement for the present system of military service will demand far more attention than we have given it so far.

Will an all-volunteer force, as now envisioned, be an army of the poor and the black?

Testimony by the Department of Defense, and the overwhelming evidence from campuses across the country, indicates that college graduates do not want to serve in the military.

College graduates simply prefer other alternatives to a career in the Army. Yet other alternatives are not available to many noncollege educated young Americans. For example, although the unemployment rate for our overall population

stands at the intollerable level of 6.1 percent, unemployment among black youths has reached 30 percent. For white youths who are not in college, the unemployment rate is twice the national average. What kind of options are really open to these people?

If military pay is to be used as an incentive for volunteers, if even present pay is better than the income of the poor, who will volunteer for the Army? Will it not be those with the least chance for a decent life in this country?

And will that be a just sharing of the citizens responsibility for national defense?

Supporters of a volunteer army say the underprivileged will be better off in the military, receiving higher salaries and better training than they could find elsewhere. They say all Americans deserve freedom of choice.

But what is the meaning of freedom of choice to a volunteer who is part of the 30-percent unemployment figure. How much freedom of choice do we have in this country for those without an education and without a job?

If supporters of a volunteer army are serious about freedom in this case, I think they should be sure volunteers really have the option to choose between the army and another job or an education. Unless realistic alternatives to military service are available to these young men, it seems to me that they will have neither freedom nor choice.

Then there are questions regarding the political implications of an all-volunteer force.

During the Vietnam War, the presence of draftees has insured that the Army contains a civilian-oriented, skeptical prize-winning journalist who exposed My Lai to the public, wrote me about his experience with that incident:

I interviewed perhaps fifty former members of Charlie Company while researching my newspaper articles and book on My Lai, and without fail found that the only honest information about what happened that day came from draftees. I'm convinced that had most of the young men at My Lai been career soldiers, the story never would have been developed.

Col. Anthony B. Herbert, a highly decorated career Army officer echoes Mr. Hersh's findings. Speaking from his own experience in the military, Colonel Her-

bert wrote me what he thinks would happen if a voluntary army replaced the draft:

Eliminate these internal sets of checks and balances (the draft) and you will, I believe, end up with a professional career oriented group who will attack every problem in light of what is best for the Corps rather than for the country at large. The officer corps would soon become a military aristocracy. Those of us present in the Officer Corps today have witnessed a so-called professional group among us who attempt to do exactly just that in the name of loyalty to the Officer Corps and/or army, rather than to their country. It was not a professional army officer or even a professional enlisted man who brought My Lai to the attention of the U.S. public. There have been other similar incidents, maybe not on so large a scale, which have occurred throughout Vietnam. Many I have seen reported in Inspector General files, Criminal Investigative files, and news media. None by the so-called "professional types." If there had not been draftees and other non-professionals at My Lai, I say the U.S. public would still not know of it.

These facts and testimony seem to me to raise grave doubts about the potential injustices and abuses of an all-voluntary military force.

George Bernard Shaw once said:

Liberty means responsibility. That is why most men dread it.

The Senate's decision on the draft is one of those dreadful responsibilities.

I believe we have an obligation to stop the conscription of our young men to fight a senseless war. But I believe we have an equally pressing responsibility to see that we do not replace the present system with something potentially worse.

And I also believe that the citizens of America—all its citizens, rich and poor—have a responsibility to the national defense and well-being of their country.

We must not magnify the tragedy of Vietnam by letting its cruelty and injustice obscure that responsibility.

Many of those who have opposed extension of the draft have done so with enormous energy, determination and a true spirit of public service. I would hope those qualities are brought to bear in the months ahead for construction of a just and workable alternative for service to our Nation.

I ask unanimous consent that certain letters be printed in the RECORD.

There being no objection, the letters were ordered to be printed in the RECORD, as follows:

APRIL 5, 1971.

Senator WALTER F. MONDALE,
Capitol.

DEAR SENATOR MONDALE: My beliefs about the merits of a draft against an all-volunteer Army is an extremely personal, based on my work in connection with the My Lai expose. I interviewed perhaps fifty former members of Charlie Company while researching my

newspaper articles and book on My Lai, and without fail found that the only honest information about what happened that day came from draftees. The 'lifers' and officers simply refused to tell the truth.

I'm convinced that had most of the young men at My Lai been career soldiers the story never would have been developed. I can make no general conclusions about the merits of a draft vs. an all-volunteer Army. I don't know all of the facts. But I do know the thought of having only careerists in the service leaves me with dread.

I'm not sure if this helps or not.

SEYMOUR M. HERSH.

DEPARTMENT OF THE ARMY,
Fort McPherson, Ga., April 5, 1971.

Hon. WALTER F. MONDALE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR MONDALE: In response to your letter dated March 30, 1971, concerning VOLAR I must preface my remarks with the fact that our Chief of Staff has already committed us to the support of replacing our present force with an all-volunteer one. As a subordinate of course I will support this concept and do my utmost to complete the mission, i.e. at present I am Reenlistment Officer Third U.S. Army which is at present in first place of all Armies in CONARC by reenlistment rate. However, I feel that loyalty to my country must over ride loyalty to a Chief of Staff or any other single person or group. I have been asked a straightforward question: I would consider it disloyal to my country as well as lacking in moral courage to give any answer other than a straightforward one in return. With this in mind, if the answer below is not sufficient or needs clarification please feel free to call on me for further response.

The United States is not a professional militaristic nation. I mean in effect we are not directing expansion or conquest via an aggressive military policy. Our Army has been directed throughout our history as a defensive arm only.

In the defense of a free nation, a nation "of the people, by the people" all segments of that nation should participate in its defense. In a free nation's Army, if that nation is to remain a democracy an Army should reflect in almost equal portions those same percentages of all segments as are present in its overall population, Catholic, Protestant, Jew, other, white, black, yellow, red other, plus all social class levels etc., etc. Regardless of what the VOLAR Committee has written or believes just the fact that this could possibly not be the case should deter us from adopting the VOLAR concept.

As present in the U.S. Army with all segments represented, especially non-professionals in the sense of non-volunteers, or volunteers only for short periods rather than intended careerists the Army has an inherent set of checks and balances so necessary for a free nation in maintaining civil control of its armed might.

Eliminate these internal sets of checks and balances and you will, I believe, end up with a professional career oriented group who will attack every problem in the light of what is best for the Corps rather than for

the country at large. This is no figment of my mind, I assure you. The Officers Corps would soon become a military aristocracy. Those of us present in the Officers Corps today have witnessed a so called professional group among us who attempt to do exactly just that in the name of loyalty—the Officers Corps and/or Army, rather than to their country. It was not a professional army officer or even a professional enlisted man who brought My Lai to the attention of the U.S. public officials. There has been other similar type incidents, maybe not on so large a scale, which have occurred throughout Vietnam. Many I have seen reported in Inspector General files, Criminal Investigative files, and news media. None by the so called "professional types." If there had not been draftees and other non-professionals at My Lai, I say, the U.S. public would still not know of it. A careerist is very reluctant to speak out and terminate a career—which is the case even in today's Army. The Army professionals have much power which can be brought to bear internally in order to prevent those within a command from speaking out, which is why we hear about these things many times only after one of the non-professionals is out of service. Just knowing these individuals are in a command may times prevents crimes from being committed by those who fear exposure from such "left wingers," "rabble rousers" and "hippy types."

Mr. Mondale, please feel free to use my remarks however necessary. Mr. Peterson stated that it has been difficult to obtain permission from other officers to be quoted. Just this fact alone should exemplify what I have stated concerning the "professional" in the sense I feel we would have them in an all-volunteer Army. Because my views are not single. It is the prevalent view among my military associates who I assure you are many of our finest Army officers today with tremendous records. That I chose to speak out, many feel, will result in great pressures being brought to bear upon my family and self. All I can reply is that I feel that someday a much greater pressure, the conscious, will be brought to bear upon those for what they know and yet fail to say.

Finally in order to get a little more exact idea of some of the results of professionalism I refer you to the Franklin Institute Research Laboratories (FIRL) Career Motivation Study, Junior Officer Retention, DA Pamphlet 600-20, dated August 1969, in order that you can read directly statements of many young officers on their observation of our so called "professional" segment of the Officers Corps.

I thank you for your letter and the opportunity to express this view to so distinguished a panel, with the possibility of effecting such action before it is too late.

Sincerely,

ANTHONY B. HERBERT,
Lt. Col., Infantry.



United States
of America

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WASHINGTON, TUESDAY, MAY 25, 1971

No. 78

Senate

THREE MISTAKEN ASSUMPTIONS OF CURRENT U.S. MIDEAST POLICIES

Mr. RIBICOFF. Mr. President, the distinguished senior Senator from Minnesota recently addressed a gathering in Minneapolis concerning our Nation's present policies in the Middle East.

His remarks display an unusually keen awareness of the self-defeating nature of the tactics now being employed by our own Government to reach a settlement between Israel and Egypt. Senator MONDALE will have performed a great service if his dispassionate analysis of the implications of Secretary Rogers' recent trip is heeded.

Senator MONDALE eloquently describes the dilemma posed to American interests by downplaying our interest in Israel's security. As the Senator puts it:

To disguise our ultimate interest in Israel's security is to endanger that interest by fostering miscalculation among all the parties.

Senator MONDALE has pinpointed three highly dubious assumptions upon which the State Department's present policies rest:

That our immediate objective should be a definite "settlement" managed from the outside.

That the U.S. can and should act as middleman in negotiations.

And finally—

The forecast of doom if we don't sponsor instant negotiations and a settlement.

I agree fully with Senator MONDALE's assertions that the only chance for peace is Arab acceptance of Israel. And I wish to underscore his observation that the Arabs will never face up to that acceptance so long as outsiders hold out the prospect of forcing Israeli concessions bit by bit.

At a time when Israeli doubts about U.S. intentions and vague assurances are so strong, Secretary Rogers' calculated snubs to Israeli sensitivities during his visit there could only maximize their worst suspicions. While I certainly do not question the Secretary of State's desire for peace in the Middle East, I must question the way he is going about finding it.

I commend Senator MONDALE's perceptive speech to all my colleagues who share a desire for a lasting peace in the Middle East.

Mr. President, I ask unanimous consent that the text of Senator MONDALE's speech be printed at this point in the RECORD.

There being no objection, the speech was ordered to be printed in the RECORD, as follows:

SPEECH BY SENATOR MONDALE

Diplomacy, we are told, is often the art of delicate understatement—even in the face of catastrophe.

The Captain of the *Titanic* was reportedly being diplomatic, for example, as his great ship struck an iceberg and was sinking in the North Atlantic.

Learning there were not enough lifeboats for all passengers and that her husband would be left behind, a sobbing woman cried out to the Captain, "How can this happen . . . this ship was supposed to be indestructible." "Madam," the Captain coolly replied, "that appears to have been an unrealistic assumption."

As for both diplomacy and sinking ships, I want to talk to you tonight about some "unrealistic assumptions" behind this country's policy in the middle East.

The columnists tell us we are now at another turning in the baffling and volatile part of the world. The Secretary of State has flown 18,000 miles, bargained with Arab and Israeli, and returned with vague hints of some agreement to re-open the Suez Canal.

By now, there is something tiresome in these clichés of crisis, the expectant shuttling of officials, the intricacy of formulas. The diplomatic graveyard in the Middle East is strewn with turning points, climatic moments and the pretensions of governments.

But if the diplomatic game seems mundane, the reality of the problem is not.

We are dealing with the hopes and fears and passions of over 90 million people.

Their conflict traces a bloody history, all the more venomous because it's within living memory. Divisions of culture and religion are inflamed on both sides by charges of genocide. Fierce nationalism pits Arab against Arab as well as against Israel.

The price is an appalling waste of precious resources.

Arabs and Israelis, people with rich traditions of learning and compassion, spend together twice as much on weapons as on schooling for their children, and five times what they invest in health care.

Four of the Arab nations have per capita incomes of less than \$1,000, yet they spend more than 10% of their Gross National Product on arms.

And over all the hate and waste is the pervasive danger of a clash between the great powers.

At stake is the survival of the region . . . and perhaps the peace of the whole world. That is why—for all the claims and formulas—our policy in the Middle East is deadly serious business. That is why we have to examine the basic assumptions that sent Secretary Rogers on this trip and other diplomatic excursions.

For I am afraid that he carried with him—over every one of those 18,000 miles—dangerous misconceptions about the Middle East and the role of the United States in bringing peace to the area.

It seems to me the principal misconception has been a chronic flaw in our policy since the beginning of the Arab-Israeli conflict.

For over two decades, we have been stuck in a dilemma of our own making.

On one hand, extraordinary factors of history and morality have given us an abiding stake in Israel's security. Five Presidents—if not always their Secretaries of State—have understood that behind the whole elaborate mess was a simple fact: we could not let Israel go under.

On the other hand—in some murky mixture of oil politics, fear of "losing" the Arabs (who were hardly "ours" to begin with), and sheer bureaucratic momentum—our diplomacy has strained mightily to disguise to everybody that irreducible interest in Israel.

It still does.

Our dilemma is that we cannot have it both ways. To disguise our ultimate interest in Israel's security is to endanger that interest by fostering miscalculations among all the parties.

An Israel unable to rely on our support, Arabs emboldened by what seems to them our equivocation, Russians tempted by our apparent irresolution—none will make the hard decisions to build a peace in everyone's interest.

Our present course runs into the logical dead-end of that dilemma—a confrontation with Israel over a "settlement."

Never mind that a meaningful settlement is probably impossible to achieve by pressuring Israel—or, even if proclaimed, that it could still damage our long-range interests.

The current pre-occupation, for instance, is the opening of the Suez Canal. We are leaning hard on the Israelis to extract the necessary concessions from them. And the immediate beneficiary will be the naval power of the Soviet Union. And an open canal, once more an important link for world commerce, would be one more hostage to Soviet diplomacy. But we seem intent on a deal—even to the point of paying to dredge the Canal ourselves. (I wish we were as anxious to clear the pollution from our own lakes and rivers.)

Not that the Nixon Administration has a corner on this sort of folly.

We should not forget—the Israelis certainly haven't—that Israel gave up the gains of the 1956 war for an all too vague formulation of support by the Eisenhower Administration . . . a promise shamefully sidestepped when the going got tough again with Nasser and the guerrillas.

When Nasser closed the Straits of Tiran in 1967, the studied hesitation of the John-

son Administration may well have confused both sides to the point of hastening hostilities rather than heading them off.

We stood by in 1967 while the UN peace force was pulled out summarily on Egypt's order. As Arab rhetoric became more inflammatory and the noose tightened on Israel's sea outlet through the Gulf of Aquaba, the U.S. leisurely debated schemes for sending in neutral flagships to "test" Arab intentions.

And when Abba Eban came to Washington that fateful spring—expecting us to produce on a decade of promises—he got embarrassed evasion and patronizing preachments on restraint.

It was not surprising that the Generals prevailed over the diplomats in Tel Aviv. Our equivocation left Israel almost no choice but to strike for her life.

That pattern of evasion and preaching has been repeated again and again by this Administration.

We drew the Israelis into the present cease-fire last fall on the condition that neither side would seize military advantage from the truce.

Then, as the Soviets stole a major tactical march by moving up their missiles under shelter of the agreement, we first denied it . . . then said we were checking . . . then said it was true, we knew it all along, and it was a bad thing. The missiles are still there, but I wonder about our credibility with the Israeli Government—let alone what the Arabs and Soviets think they can get away with.

Now, Secretary Rogers has reportedly had a quarrelsome session with Mrs. Meir to pressure her on opening Suez.

According to the *New York Times*, the Arabs are naturally pleased. Last Sunday's *Times* reported:

"With the U.S. now actively involved in the negotiating process and its big power prestige on the line, the Egyptian leadership seems confident that the focus of any American pressure . . . will be on Israel, particularly in regard to a first-stage Israeli pullback and a re-opening of the Suez Canal."

The mistakes have been shared amply, then, by both parties. They have been especially magnified, however, by the peculiar bureaucratic aberrations of the Nixon Administration.

With the White House staff openly dominating policy on the major issues of Vietnam or arms control, the State Department has tried to save its bureaucratic face by zealously trying to redraw the map of the Middle East. If the process has been therapeutic for morale, the cost has been high—an often heedless pushing for settlement for settlements' sake, policy more by adrenalin than by analysis.

But whatever the combination of misperception and mismanagement, U.S. policy has come to rest on three highly dubious assumptions.

Each is clung to with the same reverence and bravado as the "unsinkability" of the *Titanic*. And each leaves us short of lifeboats.

The first of these assumptions is that our immediate objective should be a definitive "settlement" managed from the outside. We reason that since the parties are too greedy to get together themselves, someone should do the job for them.

Yet—much as we all want peace—realistic planning, even with the current cease-fire, must begin with the high probability of some kind of continuing state of conflict in the Middle East over the next 3-5 years. Even with some kind of political settlement now, there would probably be prolonged tension and more shooting.

And putting first things first, our overriding objective should be to avoid direct U.S. involvement in those likely hostilities.

Talking about a "settlement" in this context obscures the basic issue: how to cope

with the absence of a settlement, whether it's renewed war or an imperfect truce.

Moreover, the historical evidence—from the partition of Palestine to the Straits of Tiran—argues clearly that the two sides are basically unaffected by outside efforts at mediation.

The most recent experience, in fact, is that matters can get much worse precisely when the diplomatic traffic is heaviest. Witness the hijacking crisis, the Jordanian civil war and the unchallenged advance of Soviet missiles amid all the diplomatic maneuvering of last summer and fall.

As for outside management, I believe external powers can and do influence events. But much more by their material investment than by their questionable ingenuity in drawing plans for somebody else's borders.

The United States can have most influence in the Middle East by clearly and firmly placing its weight behind its interests, even if we never utter a word about the details of a settlement.

We are now squandering that influence in a pretentious and almost frenzied quest for an agreement which would push Israel back to her vulnerable 1967 borders.

The second mistaken assumption in our policy derives from the first. It is that the U.S. can and should act as middleman in negotiations.

The argument is that the Israelis will respond to our pressure. And the Arabs need evidence that we want a fair settlement before they'll agree.

Yet as any lawyer or labor-management negotiator knows, the every task of mediation necessarily imposes an ambiguity on the mediator's relation with all parties.

The more credibly we play the mediator's neutral role in the Middle East, the more we defeat the very purposes of mediation.

For the Israelis, our neutral stance heightens their fears that we will abandon them. And we risk provoking a more desperate and reckless policy from them when we supposedly want just the opposite.

Israel may "need" us in the sense that U.S. budgetary and military aid is their optimum option in maintaining their defense.

But the vital Israeli decisions—those they see, such as borders, involving their existence—are not amenable to our leverage.

Where national survival is at stake, our influence will be effective only if we assuage fears—never if we try to exploit them.

We have authentic influence on Israel only to the degree we help remove the threat to its existence.

The hard truth is that the only chance for peace in the Mid East is Arab acceptance of Israel.

But the Arabs will never face up to that acceptance so long as outsiders hold out the prospect of forcing Israeli concessions bit by bit—which is precisely what this Administration has been holding out in its formula-mongering over the past 18 months.

As with the Israelis, our ambivalent policy only promotes Arab recklessness and intransigence.

The third assumption behind U.S. diplomacy—in some ways the most fashionable and foolish—has been the forecast of doom if we don't sponsor instant negotiations and a settlement. The Arabs, we are told, will grow ever more radical, and the Soviets will pick up all the chips.

Yet the evidence to the contrary is overpowering—and the attrition of the Palestinian guerrillas in the most dramatic recent example. The existence of a strong, secure Israel—able to preserve the status quo until a genuine settlement is achieved—in the long-run weakens rather than strengthens the Arab radicals who are staking everything on confrontation.

Nor can the Russians easily endure the persistent frustration of their Arab clients.

We should certainly be concerned with the Soviet influence in the Middle East. But a settlement made now in the shadow of Russian missiles will only enhance that influence.

Moscow's stock will go down precisely as the Arabs come to understand that Israel and the United States will not be moved by vacant formulas or menacing gestures.

These three assumptions have led us, then, away from the one strategic principle from which our Middle East policy must proceed—firm, unequivocal support of Israel.

The irony is that we are not choosing here—as so often in policy questions—between what is right and what works.

I personally believe we have a moral commitment to Israel. But it is equally clear that a strong Israel is also the best hope for an enduring peace in the Middle East.

And even if the standard is a more narrow measure of U.S. national interest, a strong Israel is the sole guarantee over the next decade that we will not be embroiled directly in the conflict in the area.

I should add that only a sure sense of Israeli security can keep the lid on the terrible Pandora's box of nuclear armaments in the Mid East.

None of us can predict the outline of a plausible settlement at this point.

At a minimum, however, I think we have to return to the guideline of "secure and recognized boundaries" for Israel as required in the November 1967 UN Security Council Resolution.

It also seems to me that much of the present buffer areas around Israel—to the degree that they lessen the need to mobilize and fight by an irreversible timetable—are really a deterrent to all-out war.

But there is no question that political realities will dictate eventually some kind of settlement on Israel's borders. Territory cannot indefinitely purchase safety at the expense of unrelieved Arab embitterment.

Finally, there is one absolutely essential complement to strong Israeli security—justice for the Arab refugees.

The Palestinian Arabs have been that unstable mass in the area—threatening to explode and bring the whole region down around them.

They cannot go on living in the soul-destraining squalor of the refugee camps. Another generation of Arab children cannot be left to despair and hatred.

If these injustices persist, no peace—however firm at the beginning—will last long in the Middle East.

All of us—above all, Israel, but also her friends in this country—have a responsibility to help remove that disgrace and danger.

We must make a start at that. And our government must stop trying to be something we are not.

We are not a disinterested mediator obliged to cool detachment toward both sides.

We are a vitally interested friend of Israel. And everyone must understand that if the long process of resignation and reconciliation is to begin at last.

Once we have set ourselves right, I think there is genuine hope for the Middle East.

We can help make it what its great human and material potential promise it could be.

A land not of the maimed and the orphaned, but of safe, healthy, self-respecting children.

A land not of pillboxes and national hatred, but of gifted peoples working together in gathering prosperity and peace.

United States Senate

WASHINGTON, D.C. 20510

Walter F. Mondale
U.S.S.



Congressional Record

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No. 78

Senate

PROBLEMS OF RECONSTRUCTION OF VIETNAM AFTER THE WAR

Mr. HATFIELD. Mr. President, I should like to commend to the Senate a speech of Senator WALTER MONDALE which he gave to the Baptist National Convention on May 14. He seeks to stimulate thought on the problems of reconstruction of Vietnam after the war is ended and American troops have departed.

The Senator has my gratitude for providing the needed incentive in calling for research by Far East experts, and I am certain that other Members of the Congress will want to find a forum for offering constructive suggestions to the executive branch and committees of Congress on this subject.

Senator MONDALE's thought that an international conference be called is a useful suggestion. In such an event, however, the United States should in no way attempt to dominate or seek to influence the outcome, as has been our tendency in years past. Rather we should provide the research assistance, the technical expertise which is needed and which is asked for.

I ask unanimous consent that these remarks be printed in the RECORD.

There being no objection, the remarks were ordered to be printed in the RECORD, as follows:

REMARKS BEFORE BAPTIST NATIONAL CONVENTION

(By Senator WALTER F. MONDALE)

You asked me tonight to speak about peace and justice in the international community.

That was a generous choice of topics. We could talk of so many urgent needs—peace in the Middle East . . . an end to the savagery in Pakistan . . . justice for the victims of racial tyranny in Southern Africa . . . justice for the Arab refugees in the Middle East.

But nowhere tonight are the human stakes in peace more pressing—nowhere in the healing of justice more needed—than in the devastated lands of Indochina.

I could talk about the Indochina we all know too well—

The towering illusions and senselessness of the war.

The promises unmet in Paris and the blunders hidden in Laos and Cambodia.

The corruption of the Saigon regime and the barbarity of North Vietnam toward American prisoners.

And not least, the scarred and crippled young veterans who came to Washington a few weeks ago to turn in their silver stars and purple hearts . . . because they wanted this country to be through with the whole soul-destroying mess.

As for that Indochina, I think our obligations are clear.

We have more than met our military duty to the defense of South Vietnam. We now have a duty to ourselves to bring our men home.

But beyond the taudy glitter of Saigon or the demonstrations in Washington, there is another Indochina—an Indochina seldom mentioned in Congress or by the Administration.

It is a land of fallow paddy fields, napalmed villages and defoliated forests—of bombed out schools and hospitals, and too many orphanages; of miserable resettlement camps for literally millions of refugees; of broken bodies and scarred minds; and of mute scenes of forgotten skirmishes.

I could talk to you of the tragedy in all this. But I would rather speak of hope.

I believe we have an obligation to rekindle hope in this Indochina—an obligation which can begin even as our troops leave. And in that—as much as in any act of arms—we will be nourishing our own hope for international peace and justice.

What I am suggesting is that we finally begin to turn our attention from the horrors of this war to a grand effort of peaceful reconstruction in Southeast Asia,

which is assuming an important position in international regional affairs should be a participant at an early stage.

Even more important, it must be the victims of this war—South Vietnam, North Vietnam, Cambodia, and Laos—who will play the major organizational and managerial role in their own development. Again, if this war has taught us anything, I would hope that it is that no outsider can make their decisions for them.

How could it begin?

Here in the United States, perhaps, a bipartisan, bicameral group in the Congress like the Members of Congress for Peace Through Law might examine the situation in Indochina and the possibilities for organizing an initial research effort in consultation with the Executive Branch.

President Johnson's Johns Hopkins speech of April 5, 1965 might be a good point of departure. And President Nixon supported this concept in his Foreign Policy Message to the Congress last year.

After preliminary work, an international conference could be called to determine the overall goals for a South East Asian Development Association. Invitees could include all the nations of Indochina, China, Japan, Australia, New Zealand, the Philippines, the Soviet Union and other countries in South and Southeast Asia.

The site for such a conference could be determined through consultation. Perhaps two conference sites could be selected initially, one in a major non-Communist capital in the region—Tokyo, Bangkok or Djakarta.

I think it might be appropriate for the other to be in Peking.

Such a conference could discuss broad plans for the reconstruction of Indochina and its economic reintegration into the economy of the region.

Each participating nation, aside from those of Indochina, could contribute funds. The programs could be administered by a joint council with a revolving chairmanship made up of the Indochinese members.

As for the U.S. contribution, we might start with a percentage of the total amount this country has spent in war efforts in Indochina since 1961. If that figure were to be only one percent, the total would be \$1 billion.

And that would be only a start on the needs of reconstruction. Others would also have to give generously.

The organization, for example, could maintain a coordinating secretariat in Tokyo. Japan could thus be brought into the mainstream of the plan. That strikes me as altogether fitting, since the Japanese have profited more than any other Asian nation from this war.

Of course, other major offices should be located in the nations of Indochina.

A possible point of departure for the organization's efforts might be the Mekong Valley Authority plan proposed by President Johnson and endorsed by President Nixon as well. This would underline the bipartisan nature of the American involvement in the plan.

It would be essential that there be no military assistance component in this multilateral effort. I realize that military aid may be an unfortunate necessity for the security of the countries involved, but this could be much better handled through bilateral aid mechanisms.

I can see a number of regional organizations which might be established under the direction of South East Asian Development Association. These could include:

- An Agricultural Research Institute;
- A Public Health Organization;
- An Industrial Development Corporation;
- An Agricultural Commodities Bank;
- An Export-Import Bank, and
- A University Center along the lines of the East-Wide Center of the University of Hawaii.

Certainly none of these suggestions should be taken as firm or binding. What I have been trying to do is to stimulate ideas. Each country will inevitably have special problems and needs which are not always amenable to multilateral efforts.

Ultimately, the decisions are with the nations of the area.

But perhaps these thoughts are at least a

which is assuming an important position in international regional affairs should be a participant at an early stage.

Even more important, it must be the victims of this war—South Vietnam, North Vietnam, Cambodia, and Laos—who will play the major organizational and managerial role in their own development. Again, if this war has taught us anything, I would hope that it is that no outsider can make their decisions for them.

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start in the right direction.

In any case, we must confront both the problems and the opportunities.

A generation in Indochina has not known what it was like to sleep without fear of terror or the sound of bombs. A generation of peasants has not been able to walk out in their fields without searching the skies or hillsides or undergrowths for the threat of death.

And that fear and misery and bitterness will never make the generation of peace all of us—critics and supports of the Administration alike—want so desperately for our children.

John Kerry, the leader of the Vietnam Veterans Against the War, said it eloquently before the Senate Foreign Relations Committee. The people of Indochina want, he said, "... to be fed, to bury their dead in plots where their ancestors lived, to be allowed to extend their culture, to try and exist as human beings ... I think we have a very definite obligation to make extensive reparations to the people of Indochina."

And President Nixon said it in a speech to the United Nations in 1969:

"When the war ends, the United States will stand ready to help the people of Vietnam—all of them—in their tasks of renewal and reconstruction. And when peace comes at last to Vietnam, it can truly come with healing in its wings."

In this common effort, we can bind up not only the wounds in Southeast Asia, but also perhaps the divisions the war has created in America.

And if we truly believe in international peace and justice, we can do no better—and no less—than to try.

United States Senate

WASHINGTON, D.C. 20510

Walter F. Mondale
U.S.S.



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of America

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Senate

NASA'S SPACE SHUTTLE PROGRAM

Mr. MONDALE. Mr. President, an authoritative study has concluded that NASA's proposed multibillion-dollar space shuttle program cannot be justified on economic grounds.

This study thus destroys NASA's principal justification for developing this enormously expensive project.

The NASA budget request for fiscal year 1972 contains \$100 million for further development of the space shuttle.

This figure is only the tip of an iceberg. The ultimate cost of developing a shuttle could be well over \$12 billion.

The shuttle, along with the space station, represents NASA's next commitment to a huge manned space program. The total development costs of both the shuttle and station will be at least \$20-\$25 billion over the next decade.

Yet, in October 1970, a Rand Corp. report for the Air Force—RM-6244-1-

PR—concluded that the development of the shuttle is "not easy to justify."

The summary of this Rand report concludes that:

... the total space funding requirements over the next 20 years are not significantly different for plans that use the shuttle for space transportation and those that accomplish the same missions without the shuttle. All of these results indicate that criteria other than cost should be used to evaluate the desirability of the space transportation system.

Rand's conclusions are devastating.

NASA's primary justification for development of this multibillion-dollar project is that it would be more economical than existing boosters.

But since the shuttle is not cost-effective—as Rand concludes—then there is no basis whatsoever for spending billions to develop it.

Using traffic rates based on NASA and Defense Department estimates, the Rand report considered eight alternative space plans for use of the shuttle. Only in one of these eight plans did the shuttle demonstrate a net monetary gain by 1990. And Rand concluded that even those savings "seem to be marginal."

Moreover, since the report was written last fall, the research and development cost estimates of the shuttle have increased by almost \$3 billion—from \$9 billion to approximately \$12 billion.

This increase thus obliterates even the marginal savings originally projected by Rand.

Most significantly, Rand makes it clear that unless we are committed to a greatly expanded space budget, the shuttle makes no economic sense at all.

According to the Rand report, the decision to proceed with the shuttle will mean a NASA spending level of \$75 billion to \$140 billion between 1975 and 1990—depending on which options are adopted. In short, it will mean a vastly expanded space program—designed primarily to accommodate more costly manned space extravaganzas.

The report observes that shuttle development requires a peak civilian space budget for 1 year in excess of \$7 billion, about double the present annual budget. Other annual funding levels, the report notes, will not be as large as the peak levels, but "would also exceed current budgets by significant amounts."

While these budget peaks could be somewhat alleviated by deferring various types of missions, the report concludes that:

None of those—plans—examined in this study resulted in savings in space transportation costs sufficient to compensate for the space shuttle's research, development, test, engineering and investment costs through 1990.

For as the report points out, reducing shuttle operations reduces the shuttle's cost-effectiveness. Heavy traffic and heavy payload favors the shuttle concept, "while light traffic favors the use of current or new expendable launch systems."

For example, under one NASA projection for use of the shuttle between 1978 and 1990, there would be 970 NASA missions—or an average of 74 missions per year. The weight of the payloads

launched would peak at a maximum of over 6 million pounds in a single year—or 3,000 tons.

Yet, during the decade of the 1960's, NASA exceeded 30 launches per year only once—36 in 1966. And in terms of the weight of cumulative payload launched, 1969 was NASA's biggest year with 442,358 pounds—221 tons—over 97 percent of which was attributed to the four Apollo flights.

It is obvious that a system designed to place in orbit up to 3,000 tons of payload per year is intended to do far more than accommodate unmanned, instrumented flights. For in 1969 and 1970, the total payload of such unmanned flights was approximately 5 tons for each year.

It is no wonder, then, that eminent space scientists like Dr. James Van Allen and Dr. Thomas Gold strongly oppose the shuttle. They argue that there is no scientific justification for such an expanded space program and that real progress can be made in space with lightweight, instrumented flights—without men.

In its conclusion, the Rand report states that:

It is possible that within 50 years, space will be frequented by vacationers, tourists, and industrial manufacturing concerns, as a result of launch systems descended from the first reusable shuttle. At some time the urge to start toward that goal will be great enough to warrant the development of a reusable space transportation system. The principal question is whether that time is now.

I believe that the American taxpayer will conclude that there are more urgent needs here on earth which deserve priority.

Mr. President, I ask unanimous consent that this Rand report be printed at this point in the RECORD.

There being no objection, the report was ordered to be printed in the RECORD, as follows:

THE SPACE SHUTTLE AS AN ELEMENT IN THE NATIONAL SPACE PROGRAM

(By R. D. Shaver, D. J. Dreyfuss, W. D. Gosch and G. S. Levenson)

(NOTE.—This research is supported by the U.S. Air Force under Project RAND—Contract No. F44620-67-0045—Monitored by the Directorate of Operational Requirements and Development Plans, Deputy Chief of Staff, Research and Development, HQ USAF. Views or conclusions contained in this study should not be interpreted as representing the official opinion or policy of RAND or of the United States Air Force.)

PREFACE

In September 1969, the President's Space Task Group recommended that the Department of Defense and the National Aeronautics and Space Administration jointly develop a low-operating-cost space transportation system (STS), the principal element of which would be a two-stage, fully reusable, low-operating-cost earth-to-space shuttle. Although a space shuttle may make the transportation of men and materials into space more efficient, and may also reduce the cost per pound of payload in orbit, compared with present booster systems, many important questions remain unanswered:

1. What levels of space traffic are necessary to justify economically the development of a shuttle?
2. What should the size and operating characteristics of the shuttle be?
3. When should development start?

4. How would the shuttle help the Air Force and NASA realize their respective goals?
5. How will technological obsolescence affect operations, in view of the expected 20-year (or longer) operational lifetime of the STS?

This Memorandum concentrates on questions of economic justification and potential STS funding problems. It is believed that the economic issues discussed here will have important implications for future Air Force actions on the STS and on possible alternative booster programs.

This is an interim report of an STS study that is presently under way at Rand. Additional results will be published when the study is completed.

This Memorandum is an updated version of RM-6244-PR, which was published in April 1970. The original report was based on research completed in January 1970, before the fiscal 1971 budget was announced. Changes and modifications in the mission models and system concepts have occurred since the original report was prepared; the more significant of these have been incorporated in this revision. These changes, however, do not affect the basic conclusions of the original report. Neither the original nor this updated version reflect the more recent changes in the DOD and NASA space budgets.

A talk based on the text of the original report was presented at the AIAA Advanced Space Transportation Meeting in Cocoa Beach, Florida, on February 5, 1970.

SUMMARY

The concept of a two-stage, fully reusable launch vehicle that can place a 50,000-lb payload into low earth orbit is currently being studied by the Department of Defense (DOD) and the National Aeronautics and Space Administration (NASA) for possible inclusion in a future space transportation system. Although such a vehicle has been recommended for development by the President's Space Task Group (STG), that development is not easy to justify. Based on traffic rates derived from conservative options in the STG and DOD space plans, this space shuttle, with an estimated RDT&E¹ cost of almost \$9 billion, could show a net (undiscounted) transportation cost saving of \$2.8 billion by 1990. However, shuttle development would require a peak civilian space budget in excess of \$7.0 billion in 1975, about double the present level. Other annual funding levels, while not as large as the peak levels, still exceed current budgets by significant amounts. Alternative space plans might be adopted that would alleviate budget peaks by slipping various elements in the basic space plan (e.g., reduced shuttle operations), but none of those examined in this study resulted in savings in space transportation costs sufficient to compensate for the space shuttle's RDT&E and investment costs through 1990. Also, while a saving of \$2.8 billion seems large, total NASA program costs for a variety of plans range from about \$75 billion to about \$140 billion (1975 to 1990), and any program uncertainties could cancel these savings or make them appear small by the time they are predicted to be realized.

Some transportation cost savings might be augmented by redesigning satellites to use the excess payload potential of the shuttle, by employing the shuttle to recover and reuse satellites, or by using the shuttle for satellite maintenance in orbit. Very preliminary estimates have shown cost savings directly attributable to satellite redesign to be between \$150 million and \$200 million per year. These savings could strengthen the economic rationale for the shuttle.

While primary emphasis has been placed on a shuttle with a 50,000-lb payload capability, preliminary cost estimates indicate that there is little difference in total space transportation costs through 1990 for design payload

¹Footnotes at end of article.

weights as low as 25,000 lb, as long as the cargo-bay volume remains at 15-ft diameter and 60-ft length. Furthermore, the funding peaks in the civilian space budget would not be reduced markedly by designing the space shuttle for a smaller payload weight. At the same time, considerations such as flexibility in satisfying unanticipated future requirements and the ability to realize promised satellite cost savings argue for the larger shuttle.

It appears that estimated costs for individual designs of generic shuttles having a given payload capability would not vary significantly, using presently available cost-estimating techniques. Also, the total space funding requirements over the next 20 years are not significantly different for plans that use the shuttle for space transportation and those that accomplish the same missions without the shuttle. All of these results indicate that criteria other than cost should be used to evaluate the desirability of the space transportation system.

I. INTRODUCTION

Despite the recommendations of the President's Space Task Group (STG) for expeditious development of an earth-to-orbit shuttle system, (1) and the strong support of various governmental agencies for such program, (2-4) the prospects for an operational space shuttle before 1980 are not bright. The long-range attractiveness of a low-recurring-cost reusable space transportation system (STS) whose prime element is the shuttle is widely acknowledged—many feel that such a system will be necessary to exploit the full potential of space. Nevertheless, the appropriateness of and justification for immediate shuttle development are being challenged on two principal grounds: (1) the development risks are too high, and (2) national funding priorities presently exclude a space program sufficiently large to warrant shuttle development. (5) Others question the depth and completeness of the favorable analyses advocating this development. (6)

We need not repeat the criticisms of shuttle development here. Instead, by reviewing the case for shuttle development, we shall illuminate some potential trouble areas. Since the most persuasive case for the shuttle derives from its supposed economic advantages, the bulk of our remarks will deal with funding of space programs and the effects of shuttle development and operation.

The STG, the Department of Defense (DOD), the National Aeronautics and Space Administration (NASA), the President's Scientific Advisory Council (PSAC), and many engineering and scientific organizations and societies, e.g., the AIAA (7) have all identified the shuttle as an important element in a future national space program. In the time period since these reports were made public, support for their proposals within the administration and the Congress has not mounted noticeably, and both the administration and the Congress are now deeply immersed in reducing "nonessential" government spending. Space programs are particularly visible targets for cost reduction, and those that lack solid scientific worth or are unduly expensive are certain to be questioned. Still, strong pressures for maintaining current U.S. preeminence in manned space flight remain; many feel that Congress would act favorably on a modest proposal to support a civilian space program, possibly at a dollar level somewhat less than one-half of one percent of the GNP per year, on the grounds that it would help basic scientific research, maintain a viable national technology base, contribute to national security, and build national pride and prestige.⁸ Assuming the existence of a modestly funded manned-space-flight program, it remains to be determined whether a shuttle system should be developed to support this program.

II. IS THE SHUTTLE ECONOMICALLY ATTRACTIVE?

Could the RDT&E costs of the shuttle be recovered within an acceptably short period of time? To address this question completely, the analyst must consider (1) estimated space traffic rates (hence, national space plans), (2) shuttle design (size, configuration, etc.), and (3) the availability of the requisite technology. This Memorandum will not address questions about technology or their relevance to the desirability and philosophy of shuttle development;⁴ nor do we treat the important questions of which shuttle design or configuration is the most attractive. Further, we have restricted our attention to new two-stage launch vehicles that are fully reusable, LOX-LH₂ rocket-propelled, and have vertical-takeoff and horizontal land-landing capability, automatic self-checkout, and other desirable features that make routine shuttle launch and recovery operations conform more nearly to aircraft-like operations than to current launch-vehicle procedures. Our primary consideration is a shuttle having a 50,000-lb payload capacity and a 10,000-cu ft cargo bay; secondary consideration is given to shuttles having a cargo bay of the same volume but smaller design payloads.⁵

To estimate space traffic rates, we have used the STG National Space Plan Option III and DOD Space Plan B, a modest military space plan that emphasizes current, well-defined military support missions.⁽¹⁾ Because of the generally conservative traffic-rate estimates implied by these plans, this is a more severe test of the economic justification of the shuttle than would result from using the more ambitious plans found in the STG report.

For simplicity, in this study the shuttle will be regarded as economically desirable if after a specified period the total savings over other methods for accomplishing the same total effort exceed the costs of the shuttle's RDT&E and investment. (This very narrow definition will be expanded later.) Obviously, the total number of shuttle launches required during that period importantly affects the shuttle's desirability; heavy traffic favors the shuttle concept, while light traffic favors the use of current or new expendable launch systems. In estimating traffic rates from the various space programs defined by the STG and DOD, care must be taken to determine which payloads (and how many) can fit in the shuttle's cargo bay and how many launches are needed to support the various military, unmanned civilian, and manned NASA programs (scheduled crew rotations, space-station logistics, in-orbit propellant-transfer demands, etc.).

Given our tentative launch-traffic estimates (both DOD and NASA launches), an estimated cost for shuttle RDT&E plus facilities of \$9.0 billion, an assumed 100-flight useful lifetime, and a two-week-shuttle turnaround time, the money recovered by the shuttle would exceed its cost after about 11 years of operation (late in 1987).⁶ The annual launch cost savings in the mid- and late 1980s would often exceed \$1 billion per year. Ignoring other factors, our estimated traffic rates (about 60 launches per year in the mid-1980s) seem to justify initiation of shuttle development.⁷ However, neither NASA nor DOD alone would have sufficient space traffic by 1990 to warrant separate shuttle developments.

The estimates of the shuttle's useful lifetime and its turnaround time were taken directly from the STG report. (1) Together, those estimates largely determine the total number of vehicles to be purchased over a specified time and therefore strongly influence conclusions about shuttle desirability. We have estimated a requirement for 10 shuttles (exclusive of the three vehicles required for test and evaluation) through 1990 to support the basic space plan. Were the vehicles never to crash, wear out, or become too obsolete to use, the space plan could be sup-

ported with only three shuttles, saving \$3.3 billion in investment. Similarly, if turnaround times were doubled (four weeks rather than two), we would have to add three more vehicles, at an incremental cost of \$1.3 billion. If the shuttle's useful lifetime were halved (50 flights rather than 100), six additional vehicles would be required, at a cost of \$2.45 billion. The final decision to develop a fully reusable shuttle must, of course, reflect much more than a simple cost summary. For example, the space plan used to generate a traffic model should be analyzed carefully, since the average yearly expenditure required for it is larger than the current (and declining) space budget, and the amount by which its peak funding exceeds current funding levels is substantial. This latter peak, occurring as early as 1975, is particularly troublesome as it is caused primarily by the shuttle's development schedule. These points are discussed in more detail later in this Memorandum.

As well as we can estimate at this time,⁸ the civilian space plan proposed by the STG cannot be implemented if the NASA budget is limited to \$4 billion, or even \$5 billion, per year (see the Appendix for a brief description of the major hardware items and their estimated costs). Excluding all consideration of a manned flight to Mars, a follow-on manned lunar exploration program, and a 50-man orbital space base, the joint funding of the shuttle and an earth-orbital space station could lead to a NASA budget in excess of \$7 billion in 1975.⁹

Slippage of the shuttle's initial operational capability (IOC) date past that of the space station would help reduce these funding peaks. At the same time, such delays could seriously perturb current space planning.

Other hardware would have to be modified or developed to support crew rotations to and from the space station. If new expendable boosters were developed and the Apollo Spacecraft modified, this hardware would then tend to encourage further delay in the shuttle's development schedule by weakening the uncertain case concerning the shuttle's economic advantages. Not only would there be a desire to exploit the new expendable boosters at least to the point of recovering their development costs (savings over current launch hardware), but also the existence of a new, cheaper-than-current launch system would increase the shuttle's break-even level of launching traffic, hence moving the break-even point further into the already uncertain future. Previous justifications for rapid shuttle development have hinged explicitly upon acceptance of the STG space plans, and hence on a large space funding peak in the mid-1970s. Thus, the case for shuttle development is still open.

If the shuttle is desirable economically but may not be funded because of annual budget limitations, then it is important to extend the analysis to include alternative space plans that may be more acceptable from a funding standpoint and to reassess shuttle cost benefits for these new plans.

III. IS THE SHUTTLE ECONOMICALLY DESIRABLE, GIVEN ALTERNATIVE SPACE PLANS?

To generate alternative space plans that still attempt to satisfy the objectives for U.S. activities in space described by the STG, we have modified the basic STG Option III by delaying, stretching, or eliminating various program elements in the basic plan (which we shall call Plan 1). These modifications suggest seven alternative plans (see Table 1): Plans 2, 3, and 4 aim at reducing NASA's mid-1970s funding problems, and Plans 5 through 8 represent attempts to reduce the overall space budget level by eliminating the lunar exploration program. Some plans achieve both goals, but only at the cost of decreasing the scope of the national space program. None are recommended as replacements for those in the STG report; rather, they serve as comparisons for the purposes of our analysis.

Footnotes at end of article.

TABLE 1.—ALTERNATIVE SPACE PLANS, IOC DATES FOR MAJOR PROGRAM ELEMENTS

Program element	IOC date							
	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8
Space station.....	1977	1977	1981	1981	1977	1977	1981	1981
Space base.....	1984	1985	1987	1987	1984	1985	1987	1987
Lunar station.....	1981	1983	1983	1983	(1)	(1)	(1)	(1)
Lunar base.....	1983	1985	1985	1985	(1)	(1)	(1)	(1)
Shuttle.....	1977	1982	1977	1981	1977	1982	1977	1981
Nuclear ferry.....	1981	1983	1983	1983	(1)	(1)	(1)	(1)
Lunar tug.....	1983	1985	1985	1985	(1)	(1)	(1)	(1)

¹ Program eliminated.

In examining these alternatives, we shall focus on several closely related issues regarding the shuttle and its development:

1. At what level of the annual nonmilitary space budget is a space shuttle economically advantageous?

2. Should the shuttle and a space station be developed simultaneously, and if not, which should be given priority?

3. If the shuttle's IOC is delayed into the 1980s, how are the current civilian and military space plans affected? And should a new expendable launch vehicle be developed in the interim?

The remainder of this Memorandum will be concerned primarily with the first issue; the others are touched on only in passing.

We have subdivided the alternative space plans into five interrelated programs:

1. A manned earth-orbital program consisting of a 12-man space station that grows to a 50-man base and scientific and experimental modules located near the station; the cost of supporting the station is included (along with the transportation costs).

2. A manned lunar exploration program consisting of a 6-man orbiting lunar station, a 6-man permanent lunar base, scientific modules for both the station and the base, and hardware to construct the lunar base; the transportation costs are included.

3. A program containing all the elements of the STS, including their RDT&E costs, investment costs, and support costs.

4. A residual program including all other (unmanned) civilian programs and overhead costs.

5. A military space program.

Table 2 lists the major elements of these programs and the Plan 1 schedules for each.

TABLE 2.—PLAN 1 SCHEDULE FOR PROGRAM-ELEMENT PROCUREMENT AND YEARLY SHUTTLE FLIGHTS

Item	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Number of items to be procured														
Manned earth-orbital program:														
Living module.....	1	0	0	0	1	0	2	0	0	0	0	0	0	0
Working module.....	1	0	0	0	1	0	3	3	0	0	0	0	0	0
Nuclear-power module.....	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Manned lunar program:														
Lunar-station module.....	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Lunar base.....	0	0	0	0	0	0	1	0	0	0	0	0	0	0
STS program:														
Shuttle.....	2	0	1	0	1	1	1	0	1	0	1	1	0	1
Nuclear ferry.....	0	0	0	0	1	0	1	0	1	0	0	1	0	1
Lunar tug.....	0	0	0	0	0	0	1	0	0	1	0	1	0	0
Saturn V.....	0	0	0	0	2	0	2	2	0	2	0	2	0	2
Saturn V (downrated).....	1	0	0	1	3	0	5	1	1	0	0	1	0	1
Orbital fuel depot.....	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Number of shuttle flights														
NASA.....	14	9	10	12	36	34	42	41	39	40	39	39	46	46
Military.....	27	22	24	22	17	20	20	17	17	20	20	20	20	20

The breakdown in year-to-year total obligational authority (TOA) for the various programs is shown in Fig. 1 [not printed in the RECORD]. Costs for all of the unmanned portions of the basic space plan are taken directly from Refs. 1 and 3. We shall not vary these costs as we examine alternative plans, except as necessary because of changes in the STS, on the assumption that neither the scientific nor military programs will depend explicitly on the existence of the shuttle but will be funded on their own merits. We have arbitrarily placed the shuttle's entire RDT&E and investment costs under NASA's budget. This, of course, accentuates NASA's budget problems while lessening those of the DOD.¹⁰

The previously mentioned NASA funding peak in 1975 is evident in Fig. 1, as is a somewhat lesser peak in 1981 (due to preparations for the lunar program and the space base). The cumulative space-plan costs through 1990 are estimated to be \$141 billion, an average of \$7.0 billion per year (an average NASA budget of \$4.9 billion per year). Figure 2 compares annual NASA costs for Plans 1 through 4 (those plans that include a lunar program). The attempts to reduce the funding peak in the mid-1970s by delaying various program elements are seen to be effective, although a peak occurs between 1980 and 1982 for Plans 2 and 4 because of concurrent shuttle and lunar-program developments. Plan 3, in which the space station is delayed but not the shuttle, does not result in as great a decrease in the 1975 peak as do Plans 2 or 4, but it has no sharp peak in the early 1980s. The total costs of each

space plan are shown in Table 3. The differences among the totals seem small.

TABLE 3.—TOTAL COSTS THROUGH 1990 FOR PLANS 1 THROUGH 4

Plan:	Costs (billions)	
	NASA	NASA plus military
1.....	\$97.6	\$141.4
2.....	97.4	142.7
3.....	94.6	138.4
4.....	94.9	139.0

Figure 3 shows comparative year-by-year costs for Plans 5 through 8. (These plans are, in essence, Plans 1 through 4 without a lunar-program component.) The cost trends noted for Plans 1 through 4 also occur in these four plans, except that peaks caused by the lunar program in the early 1980s are reduced. The total cumulative costs are less than those for plans 1 through 4, as shown in Table 4.

TABLE 4.—TOTAL COSTS THROUGH 1990 FOR PLANS 5 THROUGH 8

Plan:	Costs (billions)	
	NASA	NASA plus military
5.....	\$80.4	\$124.2
6.....	81.4	126.7
7.....	78.3	122.1
8.....	77.9	123.0

It is possible to consider each of these eight alternative plans without a shuttle, replacing it with Titan III and Saturn V derivatives and modified Apollo hardware where necessary. Ignoring the effects on space planning arising from funding considerations,¹¹ we have examined the cost differences that would result from removal of the shuttle in each plan. Figure 4 shows the cumulative savings and cost increases caused by development and use of the 50,000-lb-payload shuttle for each plan. In only the base case, Plan 1, does the shuttle demonstrate a net monetary gain by 1990, and even under this plan, the savings seem to be marginal. Unanticipated increases in the shuttle's RDT&E or operating costs would quickly deplete any savings indicated, and because of the basic uncertainty in our cost estimates, such increases cannot be ruled out.

If the entire STS were to be abandoned (i.e., the shuttle, the nuclear ferry, the lunar tug, the orbital fuel depots, and the orbit-to-orbit chemical shuttle for synchronous-orbit flights), the total costs to accommodate the projected space traffic through 1990, using the basic space plan, would be increased by \$3 billion over the costs that would result if only the shuttle were abandoned. Since this cost differential appears after an operational lifetime of less than 10 years for the lunar-specific elements, a lunar program using existing hardware (modified as necessary) seems inefficient, i.e., the nuclear ferry is a worthwhile investment compared to employing existing hardware.

Even though there are apparent large differences in pace among Plans 1 through 4, their total costs through 1990 are nearly identical.

Footnotes at end of article.

tical. Delaying various program elements within the plans does not produce a sharp decline in total expenditures; such delays only vary the years in which these expenditures occur. Clearly, different plans are not equivalent in their effects on U.S. manned-space-flight activities. Delaying the space station would affect many aspects of these activities; similarly, delaying the shuttle's IOC date past that of the space station would increase costs for both NASA (about \$300 million per year for support of the 12-man station) and the DOD (about \$150 million per year). We urge further study of the tradeoffs between funding-peak problems associated with concurrent shuttle and space-station development, the loss to U.S. manned-space-flight activities associated with funding the shuttle first, and the added yearly cost penalty (to both NASA and the DOD) associated with giving priority funding to the space station.

IV. WHAT IS A GOOD SIZE FOR THE SHUTTLE?

There continue to appear in the literature discussions about shuttle size selection. Protagonists for shuttles smaller than that recommended in the STG report argue that the decreased capability per launch would be compensated for by the decreased cost of development and procurement, and in addition might lessen development risks. We will test this assertion for shuttles sized to carry payloads between 25,000 and 50,000 lb by estimating their RDT&E, investment, and launch-operations costs through 1990.

The estimated RDT&E costs for a space-shuttle development program are shown in Fig. 5 as a function of design payload for a constant cargo-bay volume of 10,000 cu. ft.¹² The costs do not vary directly with design payload; only modest RDT&E cost savings result from a large payload reduction. Total space-program transportation costs (through 1990) for Plan 1 (which includes the lunar program) and Plan 5 (no lunar program) are shown in Fig. 6 for space shuttles with design payloads of 25,000, 40,000, and 50,000 lb. Included in these costs are RDT&E, investment, and operational costs of an orbit-to-orbit shuttle.¹³

Several cost factors interact to make total transportation costs insensitive to design payload: (1) RDT&E costs decrease only slightly with decreasing design payload weight at a fixed payload volume; (2) reducing the design payload increases the number of shuttle flights for those missions the shuttle can support, thus increasing both operational and investment cost per mission; (3) smaller-payload shuttles cannot support all the project missions, forcing the use of expendable launch vehicles for some payloads; and (4) the orbit-to-orbit shuttle frequently cannot be recovered as shuttle design payloads are decreased, so an increasing number of orbit-to-orbit shuttles must be expended rather than recovered and reused. These cost advantages and disadvantages tend to cancel each other for the range of design payloads considered. Thus total cost provides little basis on which to choose between different shuttle sizes.

Several other factors influence the selection of a size of a shuttle. These include (1) annual funding problems; (2) future mission-model uncertainties; (3) obsolescence; and (4) uncertainties in current cost estimates. Although we have touched only on the first of these factors (and we note that the annual funding peaks for a 25,000-lb-payload shuttle would be nearly as great as those shown earlier for a 50,000-lb design), the other considerations would appear, on balance, to favor larger shuttles.

V. WILL SATELLITE COST SAVINGS JUSTIFY THE SHUTTLE?

Transportation cost savings are not the only benefits promised by the shuttle development. It is often asserted that the availability of a low-cost earth-orbital STS will produce significant savings in total space-

system costs, over and above those directly associated with launch vehicles. Satellite R&D and hardware costs could probably be substantially reduced if satellites did not have to be designed to an irreducible minimum weight but could take advantage of the excess shuttle payload capacity. Recovery and reuse of satellites might pay a handsome cost dividend for certain satellite systems, while in-orbit maintenance might save money for others. The magnitude of these additional savings is often implied to be great, or at least sufficient to erase any nagging doubts about the desirability of the shuttle, but it has remained unquantified. Such savings are difficult to measure but bounds can be crudely estimated.

In seeking an upper bound to payload cost savings, we ask, "How much money, in theory, is invested in satellite programs whose cost will be affected by the existence of a low-launch-cost shuttle, and what fraction of this investment can be recovered by changes in satellite design or system operation?" In practice, only a moderate portion of the entire space budget will be influenced by the development of the shuttle (ignoring launch costs and procedures). Some space programs, particularly those involving manned space flight, are already designed to take advantage of the shuttle. Other missions, such as placing hydrogen fuel in orbit for nuclear ferry flights to the moon, are simply not subject to cost-benefit tradeoffs. Still, many unmanned satellites, mainly military, mostly modest in volume and weight, are theoretically subject to design or operational changes resulting from reduced launch and recovery costs per payload. For the military and civilian space programs mentioned above, which might be benefited by the shuttle, we have tentatively estimated the total costs to be between \$1.5 billion and \$2.0 billion per year.

Were all these costs recoverable, or nearly recoverable, the shuttle would quickly pay for its R&D costs, and few would question its worth. However, ignoring satellite recovery and reuse, the savings resulting from redesigning satellites are likely to be less than the reductions in launch costs,¹⁴ which we estimate to be between \$300 million and \$400 million per year. Assuming that each shuttle flight costs on the average only one-tenth as much as a current launch operation, we estimate total satellite cost savings of between \$150 million and \$200 million per year. These savings are not negligible; nor are they stupendous. Figure 7 shows the sum of transportation and satellite cost savings for Plans 1, 4, and 5, using the lower of these two bounds.

Potential satellite cost savings do affect shuttle selection and the development schedule. Smaller shuttles offer less potential than large shuttles for realizing satellite-redesign cost savings. In fact, many future payloads that require synchronous orbits already approach the equivalent of a 25,000-lb low-earth-orbit requirement; thus the possibility of satellite redesign being affected by the lower launch costs of a smaller shuttle is already doubtful. Also, most satellite systems involved are likely to be funded, whether or not a shuttle is developed. Thus programs calling for early shuttle development are favored.

We have said little about potential cost savings arising from recovery, reuse, or in-orbit maintenance of satellites. Such savings probably affect a smaller percentage of the total budget than do those from satellite redesign, but a higher fraction of the former may be actually recoverable. No inclusive estimates of cost savings from satellite recovery, reuse, and in-orbit maintenance exist, but as an order-of-magnitude estimate, we place them at about equal to those from satellite redesign. We also note that the two

satellite cost savings are not directly additive. The same satellite systems are involved in both, and the two options are competitive methods for reducing system costs.

VI. OTHER CONSIDERATIONS

If neither total transportation cost savings nor total satellite cost savings are sufficient to justify the shuttle's large RDT&E expense, it is still possible that other attributes of the shuttle might trip the decision in favor of it.⁽¹¹⁾ Most of these attributes involve convenience of operation or an enhanced use of space. We shall not discuss convenience here; however, arguments about the increased use of space imply a major impact on the space program and deserve further consideration.

It seems inevitable that low-cost transportation to earth orbit will open up space to an extent that cannot be fully anticipated. If space transportation resembles other transportation systems, in effect, the impact of low-cost space transportation may be difficult to overestimate. But how low does this cost have to be for space to be fully exploitable? Surely, space transportation systems have a long way to go before they will be available to the general public. Tourism, for example, would require that recurring costs be reduced by at least an order of magnitude below those attributed to the shuttle.⁽¹²⁾ Moreover, it does not seem likely that commercial entrepreneurs will become involved in space in the next 20 years, although there is some disagreement on this point.⁽¹³⁾

What, then, are the space activities that present shuttle designs are supposed to engender? Probably not scientific missions. Some space-exploitation missions, e.g., communications or navigation, might be created, but the biggest impact of the shuttle will probably be in the military domain. Military missions that have unique capabilities when performed from space have already been identified and, where justified, acted upon. There are other missions, however, that have ground-based competitors, and the cost-effectiveness of these missions will undoubtedly be sensitive to launch-vehicle costs.¹⁵

Some space systems that lack ground-based counterparts have not received serious consideration for funding simply because they are too expensive. Some of these programs (usually experimental feasibility investigations) would clearly benefit from low-cost transportation. As has been true in many similar nonspace enterprises, promising but nonessential programs might be funded if they were inexpensive, in the hope that the additional expenditures would produce a useful system. The ultimate worth of untried programs is impossible to estimate; only direct experience is likely to help.

This brief discussion by no means settles the question of whether or not new mission potentials justify a shuttle development. Some new space programs would likely be funded once a shuttle became operational, and no doubt, some of these would turn out to be very worthwhile. To attempt to justify the shuttle on this basis would, however, be risky—a gamble on an uncertain future.

VII. OBSERVATIONS AND CONCLUSIONS

The space shuttle promises many future advantages, including cost savings, if the STG schedule for an orbiting space station, space base, and lunar programs can be implemented. However, serious funding difficulties exist that may force rescheduling of the STG programs, in which case near-term development of the currently proposed two-stage fully reusable shuttle may or may not be desirable. Viewed over the long term, the shuttle has definite merit, but its immediate economic justification depends on the pace that is finally adopted for the national space program.

Our studies to date have produced these tentative observations:

1. Cost considerations provide little basis

Footnotes at end of article.

for selecting an optimum shuttle size; on the other hand, flexibility in meeting unanticipated launch requirements, potential for satellite cost savings, and growth potential favor a larger rather than a smaller shuttle.

2. Cumulated over a time period of 20 years, the differences between total space funding requirements for shuttle-supported and no-shuttle plans are insignificant. This may suggest that cost criteria should be regarded as secondary in the evaluation of shuttle desirability.

3. The STG schedules calling for shuttle IOC by 1977 should be studied further. Such an IOC date at once raises two concerns: Is present technology adequate to plan on only a five-year R&D and procurement program (from 1972 to 1977)? And could adequate funding be obtained to support such a program within so short a time span, while the program itself remains subject to question?

4. Shuttle system appears most advantageous with an early IOC date and heavy expected space traffic. However, early IOC dates cause large, near-term funding peaks. While these peaks can in some measure be reduced through judicious rescheduling of the various space-program elements, the amount of early funding required and the need for immediate program start are still formidable problems. Furthermore, any significant delay in the shuttle's IOC date will seriously reduce whatever economic advantage the shuttle has over competing, nonreusable systems.

Finally, it may be that the proper way to take a longer view of a new STS is to consider it as the first in a long line of reusable launch systems, leading eventually to a truly low-cost, high-utility system. It is possible that within 50 years, space will be frequented by vacationers, tourists, and industrial manufacturing concerns, as a result of launch systems descended from the first reusable shuttle. At some time the urge to start toward that goal will be great enough to warrant the development of a reusable space transportation system. The principal question is whether that time is now.

APPENDIX.—HARDWARE DESCRIPTIONS

To compare the budgets of the proposed alternative space plans over the next 20 years, it is necessary to consider the costs of the various hardware items required in each plan. The items considered are representative of the types that would be required but are not necessarily those currently being studied by NASA, nor are they necessarily the elements that NASA would actually procure for a given plan. General descriptions of the major hardware items and their development and production costs are given below.

Space shuttle

The space shuttle represents a unique type of vehicle. There are no previous historical data upon which its development and production costs can be based; therefore, analogs of current hardware cost data and estimating relationships have been applied.

Assumptions about applicable estimating relationships have been made by breaking the space shuttle into appropriate components for which there are available data. The major-component breakdown and the relevant data base are as follows:

1. Structure: high-speed aircraft.
2. Propulsion: Liquid-rocket and turbojet engines.
3. Subsystems: manned-spacecraft components, primarily non-structural, such as avionics, environmental control systems (ECS), electrical power, etc.
4. Thermal protection: high-temperature materials.

The gross weight and estimated costs of the 50,000- and 25,000-lb.-payload shuttles

are given in Table AX1. Estimated costs for the 40,000-lb.-payload shuttle were obtained by interpolation between the 25,000- and 50,000-lb.-payload shuttles.

TABLE A-1.—ESTIMATED COSTS FOR VARYING PAYLOAD CAPABILITY

Payload (lb.) (polar launch)	[In millions of dollars]				
	R.D.T. & E.	Facilities	First unit ¹	Launch operations ²	
				Fixed	Recurring
50,000	8,735	250	436	1.0	2.52
40,000	8,100	250	385	1.0	2.22
25,000	7,400	250	342	0.9	1.97

¹ First-unit costs are following ground- and flight-test articles. These costs include spares and AGE at 30 percent. Other numbers of units can be estimated by using a 95 percent cumulative-average log-linear learning curve.

² The fixed launch-operations costs include propellant, launch control and recovery, program integration, command and control facility, equipment maintenance, etc. First-flight recurring costs are based on 0.75 percent of first-unit shuttle costs less spares and AGE for refurbishment, and were arbitrarily selected to follow a 90 percent cumulative-average log-linear learning curve.

Space Station and Base

We have assumed that the space station and base would be built from common modules that would require the development of only three unique modular forms. The complete 50-man base would consist of the following modules: maneuvering, zero-g, artificial g, nuclear power, hub, hangar, warehouse, hospital, living quarters, and assorted booms and fairings.

The core, zero-g, warehouse, hospital, and living-quarters modules have been assumed, for the most part, to be common and have been designated the A Module, for estimating purposes. The hub and hanger modules have been assumed common and designated the B Module. The third module, the nuclear-powered module, is unique and has no commonality with the other two. Development costs are related to the three forms of modules, although there are functional differences among them all. The assumptions on commonality were based on similar form, structural weight, and subsystems (reaction control, electrical power, communications, ECS, and crew stations and controls).

The components of the large space base would be grouped in eight A Modules, four B Modules, and two nuclear-power modules. The initial small space station (12 men) would require only one A Module and one B Module. Weights and costs of space-station and base components are given in Tables A-2 and A-3, respectively. The modules of the space station and base would be equipped for experiments to be performed in earth and lunar orbit and at the base. First-unit cost for equipped experimental and scientific modules would be from \$120 million to \$160 million.

TABLE A-2.—WEIGHTS OF SPACE-STATION COMPONENTS

Subsystem	Weight (lb)		
	A module	B module	Nuclear-power module
Structure.....	64,000	45,700	47,200
Adapter.....	2,600	2,600	
Electrical power.....	6,000	2,750	4,700
ECS.....	9,000	3,000	
Communications.....	2,110	1,100	
Stability and control.....	170		
Navigation and guidance.....	1,500		
Crew system and display.....	8,260	2,000	
Shielding.....			100,000
Electrical power (nuclear only).....			26,450

TABLE A-3.—COSTS OF SPACE-STATION COMPONENTS

Module	Cost (in millions of dollars)		
	Development	First unit	Launch operations
A module.....	2,500	190	90
B module.....	1,065	96	53
Nuclear-power.....	250	70	0

Lunar station and base

Two modules would be used for the lunar station and one for the lunar base. The station, which is to be capable of housing 12 men, would consist of a living module and a zero-g module; the lunar base, also to be capable of housing 12 men, would be a single module. Because there are major differences between the station and the base, additional development cost is incurred for the latter, although other costs are common to both station and base. Weights and costs of lunar-station and base components are shown in Tables A-4 and A-5, respectively.

TABLE A-4.—WEIGHTS OF LUNAR-STATION AND BASE COMPONENTS

Subsystem	Weight (pounds)		
	Zero-g module	Living module	Lunar-base module
Structure.....	40,000	40,000	40,000
Adapter.....	2,600	2,600	2,600
Electrical power.....	14,000	14,000	16,000
ECS.....	5,000	5,000	7,500
Communications.....	650	200	650
Stability and control.....	200	200	
Navigation and guidance.....	1,000	0	0
RCS.....	900	900	
Crew system and display.....	3,000	5,000	3,000

TABLE A-5.—COSTS OF LUNAR-STATION AND BASE

Item	Cost (In millions of dollars)		
	Development	First unit ¹	Launch operations ¹
Lunar station.....	2,800	190	90
Lunar base.....	1,400		

¹ Costs are common to station and base.

The construction module that would be used to build the lunar base has a gross weight of 10,000 lb, a development cost of \$75 million, and a first-unit cost of \$25 million.

A lunar-descent stage would also be required to place payload on the moon (the lunar base, the construction module, etc.). This stage would have a gross weight of 150,000 lb., a development cost of \$380 million, and a first-unit cost of \$16 million.

Space booster

For those periods when the shuttle is not in use or when payloads are of such volume or weight that the shuttle cannot accommodate them, we have assumed that several boosters would be employed, including the Saturn V (SIC, SII, SIVB, and IU), Saturn VD (SIC, SII, and IU), Titan III-D, and Titan III-M.²⁶ Costs for the first units of these boosters procured after development are given in Table A-6. (The costs used in this study reflect the learning-curve effects of these prior units.)

Footnotes at end of article.

TABLE A-6—COSTS OF SPACE BOOSTERS

Booster	Cost (In millions of dollars)	
	1st unit	* Launch operations
Saturn V.....	215	40
Saturn V-D.....	185	25
Titan III-D.....	31	(1)
Titan III-M.....	26	(1)

* Costs included in hardware.

Six-man Apollo spacecraft

For those alternative space plans in which the shuttle operation would be delayed or in which there would be no shuttle, a six-man modified Apollo spacecraft would be used. This vehicle would have a gross weight of 20,000 lbs., a development cost of \$1 billion, a first-unit cost of \$300 million, and a launch-operations cost of \$73 million.

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FOOTNOTES

¹ Research, development, test, and engineering.

² See Refs. 8, 9, and 10 for arguments supporting this position.

³ Research, development, test, and engineering.

⁴ This topic is treated in Ref. 5.

⁵ In this Memorandum, a 50,000-lb-payload shuttle is a shuttle that can place 50,000 lb of discretionary payload into a 100-n-mi-high circular polar orbit. Its payload capacity for other orbits varies, being as high as 80,000 lbs at 100-n-mi-high circular orbits of 28.5-deg inclination.

⁶ In most cases, our conclusions are based on comparisons of the shuttle with current launch systems. When other launch systems are used as a comparison, we shall so note.

⁷ In this preliminary study, we have generally not considered such economic factors as discount rates and inflation, although these will be important considerations in any final decision.

⁸ Our current estimates are quite crude. At the completion of the ongoing NASA space-base studies, substantial improvements in these estimates should be possible. Nevertheless, we do not feel that this crudeness alters our principal results.

⁹ The annual funding estimates developed at Rand and those in the STG report (for Option III) compare as follows:

	Costs (In billions of dollars)		
	Fiscal year 1974	Fiscal year 1975	Fiscal year 1976
Rand estimate.....	6.4	7.1	6.7
STG estimate.....	5.0	5.4	5.5

These differences are almost entirely attributable to contrasting estimates of the shuttle's RDT&E costs, the STG estimate being only \$5.0 billion, compared to our estimate of \$9.0 billion, or possibly more.

¹⁰ It might be suggested that the DOD provide funds for a portion of the shuttle development, on the basis that the shuttle is responsive to their transportation needs. One possibility would be for the DOD to pay a percentage of the total costs commensurate with its projected use rate. Another would

have the DOD and NASA share the costs at the same ratio as their anticipated launch cost savings. Regardless of the total costs subsumed in the military budget, we will anticipate funding-peak problems, and, in fact, the burden might be shifted to two agencies rather than one.

¹¹ It might be noted that removing the shuttle program altogether diminishes most of the funding-peak problems mentioned above, i.e., if the shuttle is not developed, much of the pressure for delaying other programs would be relieved.

¹² Other studies (e.g., classified work by I. Rattinger, et al., Aerospace Corporation) have demonstrated that the ability of the space shuttle to support military, lunar, and interplanetary flights is drastically curtailed if the volume of the cargo bay is reduced significantly below this figure. However, total RDT&E costs appear to be a strong function of this bay size. Whether shuttles of smaller bay size are worth considering depends on the anticipated mission model, but preliminary investigations indicate that small-volume shuttles do not support the military and deep-space requirements sufficiently to amortize even the smaller RDT&E costs.

¹³ The costs of Saturn and Titan launch vehicles required for launching NASA payloads that exceed either the volume or weight capabilities of the shuttle are not included in Fig. 6. Most of the large NASA hardware (e.g., space-station and space-base models) for earth-orbital and lunar missions are launched using the Saturn vehicles. In the case of the delayed IOC of the shuttle, Titan vehicles are used for operational resupply.

¹⁴ This tentative conclusion was reached by Carl Builder, of Rand, in a theoretical analysis of the relative savings resulting from a new low-cost booster and redesigned satellites. He discovered that if satellite design were assumed to be optimized for current high-cost boosters and then reoptimized to make use of a new low-cost shuttle, it would be possible to estimate the total savings without detailed design knowledge. For example, if the launch costs are reduced by 90 percent, two-thirds of the total savings will be the result of differences in launch costs, and only one-third will be due to satellite

It is possible that future systems using current launch hardware would not be optimally designed, for whatever reasons present systems are not minimum-cost. The existence of a shuttle could have a catalytic effect, spurring changes in present satellite design and management practices. In that case, the shuttle could produce cost savings larger than those indicated by present studies.

¹⁵ An enhanced use of space could increase the total costs of the space program. It is assumed in this discussion that other, nonspace costs could be reduced by an even greater margin, thus showing a net gain for the country as a whole.

¹⁶ The Titan III-D and Titan III-M are up-rated versions of the Titan III-C.



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Senate

SENATE RESOLUTION 148—SUBMISSION OF A RESOLUTION RELATING TO PEACE TALKS CONTINUING UPON ELECTIONS IN SOUTH VIETNAM

(Referred to the Committee on Foreign Relations.)

Mr. EAGLETON, Mr. President, I wish to introduce a resolution for Mr. MONDALE and myself which calls on the administration to give the most urgent and serious consideration to the recent Communist proposals on withdrawal of U.S. forces and repatriation of U.S. prisoners. The Mondale-Eagleton resolution also specifies that the upcoming South Vietnamese election or other political events in South Vietnam should in no way delay or serve as a barrier to reaching an immediate agreement on these proposals.

Mr. President, the Mondale-Eagleton resolution comports with the expressed will of the U.S. Senate as indicated by the 61 votes cast for the Mansfield amendment. It expresses the deeply held belief of a majority of Senators of both parties and all political persuasions that the Government of the United States has honorably fulfilled whatever its commitment to the people of South Vietnam might have been and that the only remaining objective of the Government of the United States is to achieve the release of its prisoners of war.

This resolution will not buy time for the Thieu government in Saigon but if accepted and followed by the President could buy life for many young Americans in Vietnam or on their way there and cut the time that U.S. prisoners of war remain in prison.

On behalf of my colleague from Minnesota (Mr. MONDALE) who initiated this important resolution, I ask unanimous consent that the resolution and his remarks on it be printed in full at this point in the RECORD.

There being no objection, the resolution and statement were ordered to be printed in the RECORD, as follows:

SENATE RESOLUTION 148

Whereas the overwhelming majority of the American people desire the earliest possible return of our prisoners and withdrawal of all our forces from Indochina, conditioned only upon the safety of our men;

Whereas the President has stated as a purpose of his policy in Indochina the prompt return of prisoners of war and the safe and orderly return of U.S. forces;

And whereas the President has stated his commitment that repatriation of U.S. prisoners and withdrawal of U.S. forces will not be contingent upon the imposition of a political settlement in South Vietnam;

And whereas the Senate of the United States has by a clear majority expressed its desire that all U.S. forces be withdrawn from

Indochina and that all U.S. prisoners be repatriated promptly;

And whereas the current negotiating proposals of the North Vietnamese and Viet Cong delegations in Paris may permit a negotiated agreement for repatriation of prisoners and prompt and secure withdrawal of U.S. forces independent of a political settlement in South Vietnam:

Now, therefore, be it resolved, that it is the sense of the Senate that:

(1) the highest urgency of this Administration shall be to pursue promptly, with good faith, and with the full resources at its disposal the current proposals made by the North Vietnamese and Viet Cong Delegations in Paris,

(2) the sole consideration in negotiating these proposals be that an agreement be reached which provides for repatriation of all U.S. prisoners simultaneously with the safe withdrawal of all U.S. forces, and

(3) under no circumstances should such agreement be contingent upon, or delayed until, the completion of South Vietnamese elections in October 1971, or any other South Vietnamese elections or political events.

STATEMENT BY SENATOR MONDALE

This Administration is coming to its moment of truth in Vietnam.

The other side has now offered to return our prisoners of war in exchange for a definite withdrawal of all U.S. forces. And most important, they have apparently dropped a central part of their earlier position—the insistence that withdrawal of forces and repatriation of prisoners be accompanied by political agreement in which the United States, in effect, overthrew the present regime in Saigon.

No one can be certain what lies behind this major change in the position of the Viet Cong and North Vietnamese. Some argue that it is only a ploy to embarrass the Administration and provoke its critics. Perhaps there has been a judgment in Hanoi that the Saigon regime will collapse in any case with an ultimate departure of American forces. And there is at least the theoretical possibility that this reflects a decision on the part of the Communists to deal with the political future of South Vietnam through independent negotiations between themselves and the non-Communists in the South—assuming of course that non-Communist political forces will survive our departure. I don't know the answers to these questions about Hanoi's motivation in making this extraordinary move, any more than I know how seriously this Administration intends to respond.

But one thing is clear: this negotiating offer will lay bare—at long last—President Nixon's ultimate intentions in Southeast Asia.

If, as the President has said so often, our purpose is a secure withdrawal of U.S. forces and the prompt return of our long-suffering prisoners of war, and if the South Vietnamese are nearly as self-sufficient politically and militarily as the Administration has claimed them to be, our response in Paris should be affirmative. If it is, there is certainly a chance that both prisoners and troops can be home by Christmas.

But this offer will also expose some other "ifs" in the President's policy. If the real purpose of our policy is not to end the war but to prop up a regime in Saigon, if we are unwilling to face the truth about the strength of the Saigon regime and its million-man army, if we are still pursuing some idea of victory or humbling of the other side whatever the cost—then the Administration will let this opportunity for settlement be lost.

I do not underestimate for a moment the difficult questions to be solved in this kind of negotiated withdrawal of U.S. forces. But I think it's time to cut through the diplomatic rhetoric about "complexities" and get to the heart of the problem: The American people want our men and prisoners home from Vietnam, and they want them home now.

They do not want our men to go on being killed and maimed, to go on suffering in communist prison camps, for the sake of some generals in Saigon who cannot stand on their own feet even after the sacrifice of 50,000 American lives and over \$100 billions from the American taxpayer.

It has been suggested that the Administration will delay any settlement until the South Vietnamese Presidential elections in October. If that turns out to be true, the Americans who die and are wounded between now and then will truly have been sacrificed in vain. The record is all too clear that the present regime in Saigon is trying to prevent an authentic democratic election. The thought that we would keep our men in battle to preserve that corruption and travesty is literally sickening.

We must not mistake the momentous waive of public opinion on this subject.

This is certainly not a partisan matter. All of us who supported the last Administration's war policies bear responsibility for the terrible price of the war.

I and many other Democrats and Republicans must share the blame that our society—and this is expressed most poignantly in the bitter frustration of so many young men returning from Vietnam—is very nearly at the breaking point over the war.

But President Nixon now has a rare, perhaps fleeting opportunity to avert that break here at home and end the continuing death and destruction in Indochina.

If he does not seize the opportunity—and I pray that he does—the American people can only conclude that this Administration's policy may be more concerned with the fate of a dictator in Saigon, more concerned with some strange concept of pride, than with the future of this country.

In the final analysis, this is the President's responsibility. But the Senate also has responsibility in this vital matter—the responsibility to make its position unequivocally clear to the Administration.

Toward this end, I will introduce and seek an early vote on a sense of the Senate Resolution calling on the President to give the highest priority to the proposals submitted by the other side at Paris. This Resolution would make clear that the Senate believes that an agreement must not be prevented by any deferral or condition related to the upcoming elections in South Vietnam.

Hopefully, the Senate will take this opportunity to inform the President of its sense of urgency and seriousness in this matter.

United States Senate

WASHINGTON, D.C. 20510

Walter F. Mondale
U.S.S.



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