would be thousands of dollars in printing cost and an unestimated amount in personnel savings, storage space savings, and so forth.

These suggestions, when adopted, should save the various military departments money which can be utilized for other vital items for national defense. It is time that we draw a line on the expense of tradition when it serves no useful purpose. These suggestions point up the fact that careful examination of our practices should be made to find more ways of reducing unnecessary duplication of efforts by the services. Three identification cards in lieu of 12 is a reasonable cost-reduction savings. An individual would have to examine the present identification cards very closely to note that the seal was different and that an A or an N appeared after the DD Form 2 designation. The unification of the retirement pamphlets into one DOD publication is only good business sense and should be adopted as soon as possible to maximize the saving to the Government.

Mr. Speaker, Mr. Nickolas is a distinguished constituent whose views should receive prompt consideration. Currently, he serves as national president of the State Commanders and Adjutants Association of the Disabled American Veterans. His experience and background certainly makes his views significant.

SENATE—*Tuesday, July 20, 1971*

(Legislative day of Monday, July 19, 1971)

The Senate met at 10 a.m., on the expiration of the recess, and was called to order by Hon. LAWTON CHILES, a Senator from the State of Florida.

The Chaplain, the Reverend Edward L. R. Elson, D.D., offered the following prayer:

God of grace and God of glory, who watches over Thy people at work, at rest, and in all the changing scenes of life, bestow upon all Thy servants here the gifts of understanding, patience, and perseverance. May all their ways be ordered by Thy higher wisdom and according to Thy law. In this confused and troubled world keep our vision clear and our purpose pure as we strive for that new day when all men live in decency, dignity, and honor.

O Lord, guide the President, the Congress, the judiciary, all diplomats, leaders of our Armed Forces, managers of industry and labor, all teachers and students. Bring us together in a unity of high endeavor which transcends all lesser loyalties and forges us into one nation strong in the Lord and in the power of His might. And to Thee we shall ascribe all honor and glory. Amen.

DESIGNATION OF THE ACTING PRESIDENT PRO TEMPORE

The PRESIDING OFFICER. The clerk will please read a communication to the Senate from the President pro tempore (Mr. ELLENDER).

The assistant legislative clerk read the following letter:

U.S. SENATE,
PRESIDENT PRO TEMPORE,
Washington, D.C., July 20, 1971.

To the Senate:

Being temporarily absent from the Senate on official duties, I appoint Hon. LAWTON CHILES, a Senator from the State of Florida, to perform the duties of the Chair during my absence.

ALLEN J. ELLENDER,
President pro tempore.

Mr. CHILES thereupon took the chair as Acting President pro tempore.

THE JOURNAL

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the Journal of the proceedings of Monday, July 19, 1971, be approved.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

COMMITTEE MEETINGS DURING SENATE SESSION

Mr. MANSFIELD. Mr. President, I ask unanimous consent that all committees be authorized to meet during the session of the Senate today.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

THE CALENDAR

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of Calendar Nos. 260 and 262.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

INCREASE IN THE PERMANENT STATUTORY CEILING FOR NATIONAL GUARD TECHNICIANS AND MATTERS RELATED TO NATIONAL GUARD APPROPRIATIONS

The bill (S. 2296) to amend sections 107 and 709 of title 32, United States Code, relating to appropriations for the National Guard and to National Guard technicians, respectively, was considered, ordered to be engrossed for a third reading, read the third time, and passed, as follows:

S. 2296

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) section 107 of title 32, United States Code, is amended by—

(1) striking out the catchline and inserting in lieu thereof the following:

"§ 107. Availability of appropriation";

(2) striking out all of subsection (a);

(3) striking out "apportioned appropriations" in subsection (b) and inserting in lieu thereof "appropriations for the National Guard"; and

(4) redesignating subsections (b) and (c), as subsections (a) and (b), respectively.

(b) The table of sections at the beginning of chapter 1 of such title is amended by striking out

"107. Apportionment of appropriations."

and inserting in lieu thereof the following:

"107. Availability of appropriations.".

SEC. 2. Subsection (h) of section 709 of title 32, United States Code, is amended to read as follows:

"(h) In no event shall the number of technicians employed under this section at any one time exceed 53,100, except that the number of technicians so employed may not exceed 49,200 during the fiscal year beginning July 1, 1971."

Mr. MANSFIELD. Mr. President, I ask unanimous consent to have printed in the RECORD an excerpt from the report (No. 92-267), explaining the purposes of the measure.

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

COMMITTEE RECOMMENDATIONS

The committee recommends (1) that the statutory ceiling for technicians be retained in the form of permanent law; (2) that the statutory ceiling for technicians be raised from 42,500 to 49,200 in fiscal year 1972 and to 53,100 in fiscal year 1973 and beyond; and (3) that the obsolete apportionment provisions which have been suspended for over 15 years, for National Guard appropriations under section 107 of title 32 be eliminated.

BACKGROUND

The employment of National Guard technicians has been authorized since the National Defense Act of 1916. The authority was codified in title 32, United States Code, in 1956. The purpose of employing technicians is to provide support in the administration and training of the National Guard military organization and for the day-to-day maintenance and repair of equipment which cannot be accomplished during normal military training periods. Until 1968 the technicians were State employees paid from Federal funds, 95 percent of whom held dual status as members of the National Guard. The National Guard Technicians Act of 1968, Public Law 90-486, converted National Guard technicians to Federal employees with the resultant advantages of the Federal retirement system and other benefits available to Federal employees.

The act of 1968 recognized the military nature of the National Guard technician program and State characteristics of its operation by designating State adjutants general to employ and supervise technicians as Federal employees. The act also established an employment ceiling of 42,500 and made National Guard military membership a prerequisite for employment for approximately 95 percent of the technicians. This made a matter of law what had been the practice for many years. In other words, about 90 percent of the technicians serve in a dual

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capacity as Federal civilian employees and military members of the National Guard. In this capacity the technician performs his civilian work and his military training duty and is mobilized to active duty in his National Guard unit.

TABLES INDICATING MILITARY DESIGNATION OF TECHNICIANS AND SALARY RANGE

Table 1 provides a breakout of technicians for officer and enlisted grades for Army National Guard (ARNG) and Air National Guard (ANG) technicians for fiscal year 1972 budget along with fiscal year 1972 and 1973 Department of Defense hiring level requirements. Table 2 is a distribution of Army and Air National Guard technicians by Federal civilian grade classification.

TABLE 1

	Fiscal year—		
	1972 budget	1972 hiring level	1973 requirements
Army National Guard:			
Officers	2,516	2,797	2,910
Warrant officers	399	480	534
Enlisted	20,387	23,884	25,953
Competitive	1,063	1,139	1,153
Total ARNG	24,365	28,300	30,550
Air National Guard:			
Officers	2,045	2,120	2,226
Enlisted	15,183	17,733	19,195
Competitive	907	1,047	1,129
Total ANG	18,135	20,900	22,550
Total ARNG and ANG	42,500	49,200	53,100

TABLE 2.—NATIONAL GUARD TECHNICIANS, CONSOLIDATED ARMY AND AIR NATIONAL GUARD (EFFECTIVE JUNE 1, 1971)

Grade	Salary range	End May 1971	Fiscal year 1972 Budget [1]	Fiscal year 1972 Requirements [1]	Fiscal year 1972 Hiring level
GS-03 [2]	$5,524 to $7,180	431	439	504	479
GS-04	$6,202 to $8,065	609	612	696	662
GS-05	$6,938 to $9,017	3,982	3,815	4,573	4,331
GS-06	$7,727 to $10,049	5,982	6,150	6,828	6,540
GS-07	$8,582 to $11,156	2,871	2,869	3,236	3,097
GS-08	$9,493 to $12,337	2,926	2,762	3,299	3,141
GS-09	$10,470 to $13,611	1,584	1,634	1,772	1,720
GS-10	$11,517 to $14,973	612	633	706	675
GS-11	$12,615 to $16,404	633	636	752	720
GS-12	$15,040 to $19,549	810	734	955	912
GS-13	$17,761 to $23,089	960	1,068	1,103	1,051
GS-14	$20,815 to $27,061	100	92	125	112
GS-15	$24,251 to $31,523	2	8	11	10
Total GS		21,511	21,452	24,560	23,459
WG-02 [3]	$5,470 to $5,928	2	2	2	2
WG-04	$6,136 to $6,635	8	5	10	5
WG-05	$6,468 to $7,010	29	30	34	33
WG-06	$6,822 to $7,405	532	551	562	553
WG-07	$7,176 to $7,758	912	946	1,016	993
WG-08	$7,530 to $8,154	664	693	760	736
WG-09	$7,904 to $8,570	559	568	689	620
WG-10	$8,237 to $8,902	5,986	6,210	8,163	7,906
WG-11	$8,570 to $9,277	3,441	3,656	4,628	4,436
WG-12	$8,923 to $9,672	5,225	5,511	7,007	6,773
WG-13	$9,256 to $10,400	341	338	462	442
Total WG		17,699	18,510	23,333	22,499
WL-07 [3]	$7,883 to $8,549	62	63	71	70
WL-10	$9,048 to $9,797	532	546	691	655
WL-11	$9,422 to $10,213	75	78	97	93
WL-12	$9,818 to $10,650	118	123	162	156
WL-13	$10,192 to $11,024	4	3	5	5
Total WL		791	813	1,026	979
WS-04 [3]	$8,070 to $8,965	2	2	2	2
WS-07	$9,048 to $10,046	1	1	1	1
WS-09	$9,734 to $10,816	174	181	210	207
WS-10	$10,026 to $11,119	852	821	1,113	1,070
WS-11	$10,400 to $11,565	515	449	666	643
WS-12	$10,920 to $12,126	125	130	165	162
WS-13	$11,523 to $12,813	86	89	114	112
WS-14	$12,272 to $13,624	50	52	67	66
Total WS		1,805	1,725	2,338	2,263
Grand total		[4] 41,806	42,500	51,257	49,200

[1] The 1972 budget figures would apply if the 42,500 technicians statutory ceiling were not removed. Requirements indicate what the National Guard Bureau has determined to be its technician requirements exclusive of budget and ceiling considerations. Hiring Level is what the National Guard Bureau estimates its hiring level for technicians to be within anticipated budgetary ceilings.

[2] General Schedule classification.

[3] WG (Wage Grade), WL (Wage Leader), and WS (Wage Supervisor) are grades under the Civil Service Wage Board (WB), classification system, Wage Board personnel would closely parallel "blue collar" workers in private industry.

[4] This figure is below the authorized ceiling for technicians primarily because it is in the nature of a ceiling requirement that at any one point in time the actual number of technicians will be below it. Thus in any 1 month technicians will leave for a variety of reasons and it takes time to fill their vacancies. Sometimes budget constraints may also keep the Army or Air National Guard technician level below the statutory ceiling.

NEED FOR LEGISLATION—ADDITIONAL EQUIPMENT RECEIVED BY THE NATIONAL GUARD

The mission requirements of the Army and Air National Guard were satisfactorily accomplished during fiscal year 1970 and to a more limited degree in fiscal year 1971 within the present manpower ceiling of technicians. However, with the increased emphasis on the National Guard in the overall defense posture the National Guard has been receiving greater quantities of equipment, including more sophisticated equipment, to carry out its mission. As a result of this there appears to be sufficient justification to adjust upward the present statutory ceiling for technicians based on the increased maintenance factors required to support the equipment the National Guard is receiving.

In the opinion of the committee the National Guard Bureau and the Department of Defense provided ample and sufficient evidence to justify increasing the present statutory ceiling of 42,500 technicians by an additional 6,700 technicians for fiscal year 1972 (end strength of 49,200) and by 3,900 technicians for fiscal year 1973 (end strength 53,100). In this regard it should be noted that as the technicians acquired greater experience on the equipment that the National Guard receives it may very well result in a leveling out of requirements for technicians beyond fiscal year 1973.

Of the 10,600 technicians to be added to the Army and Air National Guard for fiscal years 1972 and 1973 approximately 73 percent will accrue to the functional areas of logistical support and maintenance. These functional areas are primarily composed of "blue collar" type employees.

ELIMINATION OF THE APPORTIONMENT REQUIREMENT

Permanent provisions of law which have been suspended for over 15 years require that appropriations be apportioned among the several States in direct ratio to the respective actual strengths of enlisted members in the National Guard for the particular State in question. This suspension has been due to the differences in armament, types of organizations and missions of the National Guard of the various States, and to the impracticality of apportioning appropriations solely on the basis of enlisted strength. Consequently the committee recommends a repeal of this permanent provision of law.

MAINTENANCE OF STATUTORY CEILING FOR TECHNICIANS IN FORM OF PERMANENT LAW

The present statutory ceiling of 42,500 technicians in the form of permanent law was very carefully considered as part of the National Guard Technicians Act of 1968. The committee feels that a statutory ceiling in the form of permanent law is more desirable than leaving the number of technicians subject to an annual authorization or appropriations process as the Department of Defense has recommended. The committee also felt that the statutory ceiling might effect some economies in the technicians program and aid planning to the degree that it provides in advance a definite number of technicians available for any one fiscal year. Finally, the committee felt that the statutory ceiling could be received in future fiscal years provided there were compelling reasons to do so.

ADDITIONAL COST OF INCREASED NUMBER OF TECHNICIANS

Although the National Guard will plan to have 49,200 technicians on board by the end of fiscal year 1972, it should be noted that the cost for the additional 6,700 technicians requested for fiscal year 1972 will only be about $15.1 million. The reason for this is because of a phased hiring program for the additional 6,700 technicians during fiscal year 1972 within the budget limits imposed. The increased cost for additional technicians for fiscal years 1972 and 1973 would be about $98.6 million. The $98.6 million figure reflects the impact of a full-year cost of the

additional 6,700 technicians hired during fiscal year 1972, as well as the cost of hiring the remaining 3,900 techicians during fiscal year 1973.

FISCAL DATA

Table 3 reflects the estimated gross annual cost of salaries and benefits for National Guard technicians for fiscal years 1972 through 1976. It is predicated on the numbers of technicians remaining constant from end fiscal year 1973 through fiscal year 1976 and assumes no increases in pay beyond fiscal year 1972. The estimated costs are based on average annual man-year costs forecast for fiscal years 1972 and 1973 with the fiscal year 1974 average man-years cost projected through fiscal year 1976. Excluded from the cost estimates are the technicians within the strength totals for which National Guard appropriations will be reimbursed.

DUTY-FREE TREATMENT OF CALCINED BAUXITE, BAUXITE ORE, AND ALUMINUM HYDROXIDE AND OXIDE, AND FOR OTHER PURPOSES

The Senate proceeded to consider the bill (H.R. 4590) relating to the dutiable status of aluminum hydroxide and oxide, calcined bauxite, and bauxite ore, which had been reported from the Committee on Finance with amendments, on page 2, after line 19, strike out:

SEC. 2. The first section of this Act shall apply with respect to articles entered, or withdrawn from warehouse, for consumption after July 15, 1971.

After line 22, insert:

(c) The amendments made by subsection (a) shall apply with respect to articles entered, or withdrawn from warehouse, for consumption after July 15, 1971.

At the top of page 3, insert:

SEC. 2. (a) Item 405.04 of the Tariff Schedules of the United States is amended—

(1) by inserting after "Trinitrotoluene" in the article description "and amatol"; and

(2) by striking out the matter in rate column numbered 1 and inserting in lieu thereof "Free".

(b) The rate of duty in rate column numbered 1 of the Tariff Schedules of the United States for item 405.04 (as amended by subsection (a)) shall be treated as not having the status of statutory provisions enacted by the Congress, but as having been proclaimed by the President as being required or appropriate to carry out foreign trade agreements to which the United States is a party.

(c) The amendments made by subsection (a) shall apply with respect to articles entered, or withdrawn from warehouse, for consumption on or after the date of the enactment of this Act.

And, after line 17, insert:

SEC. 3. (a) Schedule 6, part 2, subpart B of the Tariff Schedules of the United States is amended—

(1) by renumbering item 608.90 as 608.89; and

(2) by striking out items 608.91 and 608.92 and inserting in lieu thereof the following:

"608.90	Imported for use in the manufacture of maple sap evaporators	Free	1¢ per lb.
	Other:		
608.91	Valued not over 10 cents per pound	8% ad val.	1¢ per lb.
608.92	Valued over 10 cents per pound	0.8 per lb.	1¢ per lb."

(b) The rates of duty in rate column numbered 1 of the Tariff Schedules of the United States for items 608.89, 608.90, 608.91, and 608.92 (as amended by subsection (a)) shall be treated as not having the status of statutory provisions enacted by the Congress, but as having been proclaimed by the President as being required or appropriate to carry out foreign trade agreements to which the United States is a party. Such rates shall not supersede the staged rates of duties provided for such items in Annex III to Proclamation 3822, dated December 16, 1967, and the reference to item 608.90 in such Annex shall be treated as referring to item 608.89.

(c) The amendments made by subsection (a) shall apply with respect to articles entered, or withdrawn from warehouse, for consumption on or after the date of the enactment of this Act.

The amendments were agreed to.

The amendments were ordered to be engrossed and the bill to be read a third time.

The bill was read the third time, and passed.

The title was amended, so as to read: "An Act to amend the Tariff Schedules of the United States with respect to the dutiable status of certain articles."

Mr. MANSFIELD. Mr. President, I ask unanimous consent to have printed in the RECORD on excerpt from the report (No. 92-268), explaining the purposes of the measure.

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

PURPOSE OF HOUSE BILL

The purpose of H.R. 4590 is to provide for the permanent duty-free treatment of calcined bauxite, bauxite ore, and aluminum hydroxide and oxide. Currently the duties on calcined bauxite, bauxite ore, and on aluminum oxide when imported for use in producing aluminum are temporarily suspended.

SUMMARY OF COMMITTEE AMENDMENTS

The committee added two amendments to the House bill, both of which make duty free certain items for which there is no available domestic production. The first amendment would make TNT and blends of TNT and ammonium nitrate, called Amatol duty free. The second amendment would permit duty free importation of tinned sheets used in the manufacture of maple sap evaporators.

GENERAL STATEMENT

A. BAUXITE AND ALUMINA

The duty on crude bauxite and calcined bauxite was suspended by Public Law 83-499 until July 16, 1956. The duty on aluminum oxide (alumina), when imported for use in producing aluminum, was suspended for a 2-year period beginning July 17, 1956, by Public Law 84-725. Public Law 84-724 further suspended the duties on crude bauxite and calcined bauxite for an additional period of 2 years. Public Law 85-415 consolidated the provisions of Public Laws 724, and 725 of the 84th Congress and extended for 2 more years the periods of suspension provided therein. This duty treatment has been successively extended for additional 2-year periods by Public Law 86-441, Public Law 87-567, Public Law 88-362, Public Law 89-440 and Public Law 90-615. The present suspension of duty expires on July 15, 1971. This duty-free treatment is reflected in the Tariff Schedules of the United States in item 907.15, 909.30 and 911.05 and is presently effective with respect to imports entered on or before July 15, 1971. H.R. 4590, as amended, would make permanent the present suspension of duty on calcined bauxite and bauxite ore and would extend the existing suspension of duty on alumina when imported for use in producing aluminum by permanently suspending the duty on imports of alumina without regard to end use.

Alumina is a product used for the production of aluminum primarily, but is also used in the manufacture of abrasives, refractories, and aluminum chemicals. Bauxite ore is a mineral used in the production of alumina (from which aluminum and other products are produced) as well as abrasives, chemicals, refractories, and miscellaneous products. Bauxite is considered to be vital to domestic industries such as the aluminum, steel, and chemical industries. Your committee is advised that known domestic commercial deposits of bauxite are small and that the U.S. production of bauxite now accounts for less than 15 percent of domestic requirements and, as demand increases, the United States will continue to be largely dependent upon foreign sources for aluminum raw materials.

The bill would restore the column 2 rate of 0.5 cents per pound with respect to all alumina and the identical rate of $1 per ton with respect to calcined bauxite and bauxite ore. Such column 2 rates apply to products of a country designated by the President as being under Communist domination or control.

In view of the experience gained under suspensions since 1956, your committee is convinced that a permanent suspension of duty on alumina, calcined bauxite, and bauxite ore as provided by the bill, as amended, is warranted.

B. TRINITROTOLUENE (TNT) AND "AMATOL"

A committee amendment would provide duty-free treatment to TNT and blends of TNT and ammonium nitrate, generically called Amatol. Under present law, TNT is dutiable at a rate of 3.5 cents per pound and 22.5 percent ad valorem while Amatol is dutiable at 2.1 cents per pound and 13 cents ad valorem.

Amatol is used in the production of artificial diamonds and more importantly in explosion bonding where precision explosions are required. The last remaining domestic producer of TNT and Amatol is in the process of phasing out all domestic production by the end of 1971. TNT is an important material used by slurry explosive producers in mining operations. Without providing free importation domestic users of these materials will have to pay a substantial duty to import TNT and Amatol. Since there will be no domestic production of TNT or Amatol available after 1971, the import duties on these products serve no useful purpose. Consequently, the committee determined that the elimination of the duty on TNT and Amatol would be in the U.S. national interest. The committee notes that the use of TNT is carefully controlled by safety requirements enacted into law during recent Congresses. In providing for duty-free importation of TNT and Amatol, the committee does not intend to make these explosives available to unlicensed persons for unwarranted purposes within the United States. The committee's action will insure that legitimate domestic users of these explosives will not be adversely affected by an import duty which no longer serves a useful purpose.

C. TINNED SHEETS FOR USE IN MAPLE SAP EVAPORATORS

Under present law, imported tinned sheets used in the maufacture of maple sap evaporators are dutiable under a broad tariff classification at 0.8 cents per pound. This duty has placed the U.S. maple sap evaporator industry at a competitive disadvantage.

There are no U.S. producers of tin-coated sheets used in the manufacture of maple sap evaporators which will supply the domestic maple sap evaporator industry. Upon receiving a complaint from the evaporator industry, the committee inquired from the U.S. Tariff Commission whether there were domestic suppliers of such tin-coated sheets.

Despite assurances from the Tariff Commission that such tin sheets might be available from domestic suppliers, evaporator producers subsequently determined that no potential supplier could supply the tin sheets in question. Therefore, the only source of supply for these tin sheets is through importation. Removal of the duty cannot injure a domestic industry which does not produce and supply the tin sheets in question.

The committee amendment was purposely drawn to apply only to tin sheets used exclusively in the manufacture of maple sap evaporators. This additional assurance should allay any fears that the committee action could inadvertently harm domestic suppliers of other types or grades of tin sheets.

Your committee has received no objections on this bill from any interested executive branch agencies.

EFFECT ON THE REVENUES OF THE BILL AND VOTE OF THE COMMITTEE IN REPORTING THE BILL

In compliance with section 252(a) of the Legislative Reorganization Act of 1970, the following statement is made relative to the effect on the revenues of this bill. The committee estimates that the extension of the existing suspension of duties on bauxite and alumina, provided by the bill will not result in any additional revenue loss, or administrative costs. The removal of tariffs on (1) tin sheets used in the manufacture of maple sap evaporators, and (2) TNT and Amatol should result in only a negligible revenue loss.

In compliance with section 133 of the Legislative Reorganization Act of 1946, as amended, the following statement is made relative to the vote by the committee on reporting the bill. This bill was ordered favorably reported by the committee, without objection.

ORDER OF BUSINESS

Mr. MANSFIELD. Mr. President, I yield my time to the distinguished deputy majority leader, the Senator from West Virginia (Mr. BYRD).

WAIVING OF GERMANENESS RULE FOR TODAY

Mr. BYRD of West Virginia. Mr. President, in view of the fact that time today on the HUD appropriation bill and on the AEC authorization bill which follows the appropriation bill is under control, I ask unanimous consent that the Pastore rule of germaneness be waived for the day.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SPACE, SCIENCE, VETERANS, AND CERTAIN OTHER INDEPENDENT AGENCIES APPROPRIATIONS, 1972

The ACTING PRESIDENT pro tempore. Under the previous order, the Chair now lays before the Senate the pending business which the clerk will state.

The assistant legislative clerk read as follows:

H.R. 9382, making appropriations for the Department of Housing and Urban Development; for Space, Science, Veterans, and certain other independent executive agencies, boards, commissions, corporations, and offices for the fiscal year ending June 30, 1972, and for other purposes.

The Senate continued with the consideration of the bill.

The ACTING PRESIDENT pro tempore. Under the unanimous-consent agreement, time is now under control. Who yields time?

Mr. PASTORE. Mr. President, I suggest the absence of a quorum without the time being charged to either side.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered, and the clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. PASTORE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

ORDER OF BUSINESS

Mr. MANSFIELD. Mr. President, I seek recognition for 1 minute outside of the time allotted on the pending business.

The ACTING PRESIDENT pro tempore. Without objection, the Senator may proceed.

ORDER FOR HOLDING BILL AT DESK

Mr. MANSFIELD. Mr. President, I ask unanimous consent that when the bill (H.R. 6239), dealing with maritime lien provisions, is received by the Senate, it be held at the desk pending the report of the Senate companion bill by the Committee on Commerce. This has been cleared all the way around.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SPACE, SCIENCE, VETERANS, AND CERTAIN OTHER INDEPENDENT AGENCIES APPROPRIATIONS, 1972

The Senate continued with the consideration of the bill (H.R. 9382) making appropriations for the Department of Housing and Urban Development; for space, science, veterans, and certain other independent executive agencies, boards, commissions, corporations, and offices for the fiscal year ending June 30, 1972, and for other purposes.

Mr. MANSFIELD. Mr. President, I suggest the absence of a quorum, without the time being charged to either side.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered, and the clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. PASTORE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

Mr. PASTORE. Mr. President, a parliamentary inquiry.

The ACTING PRESIDENT pro tempore. The Senator will state the inquiry.

Mr. PASTORE. What is the pending business?

The ACTING PRESIDENT pro tempore. The pending business before the Senate is H.R. 9382.

Mr. PASTORE. Mr. President, I allot myself whatever time is necessary, under the time allotted to the bill itself, to make an opening statement and to make preliminary motions.

The ACTING PRESIDENT pro tempore. The Senator from Rhode Island is recognized.

Mr. PASTORE. Mr. President, the pending measure contains recommendations providing for new obligational authority totaling $18,677,518,000. This sum is $1,680,630,000 more than the amount appropriated in fiscal year 1971, $1,220,501,000 above the budget estimates for fiscal year 1972, and $562,315,000 greater than the sum recommended by the House of Representatives. In addition to the new obligational authority provided, the committee has also increased the limitations on contract authority for the rent supplement program by $60 million, for the homeownership assistance program—section 235—by $175 million, for the rental housing assistance program—section 236—by $200 million, and for the college housing program by $9,300,000.

For title I of the bill, which contains the appropriations for the Department of Housing and Urban Development, the committee recommends new obligational authority of $3,532,324,000. This amount is a net sum of $975,147,000 above the budget estimates, and $326 million over the House allowance. The $1,002,303,000 of the increase above the budget estimates results from the augmentation of the programs under community development—particularly, two of the categorical grant programs; namely, the model cities programs which were increased by $150 million, and the urban renewal programs which are $900 million above the budget estimates. For these two programs, as well as for the rehabilitation loan fund and the grants for neighborhood facilities, the administration requested only 6 months of funding because its budget proposal provided that these programs would be merged into the special revenue-sharing plan proposed by the administration.

Mr. President, I want to make it crystal clear as to what this means in simple English. When the administration sent up its estimates on the categorical grant programs, it did so only for a 6-month period, anticipating that we would pass legislation for special revenue sharing for the remainder of the 6 months of fiscal year 1972. The House of Representatives has provided for full funding of the categorical grant programs, in its version of the bill, because special revenue sharing has not been enacted by the Congress. We have done the same, so roughly, we are multiplying the budget estimate by two. I state that so that we will be clear when we consider how much we are approving over budget estimates.

The committee's recommendation provides for the full funding of these programs for fiscal year 1972 as I have already stated. However, the committee has included language which provides that in the event the special revenue sharing plan should subsequently be enacted into law, unobligated balances in the aforementioned categorical programs may be transferred to fund the authorities

granted in the new legislation. The $326 million by which the committee recommendation exceeds the sums contained in the House bill for the Department of Housing and Urban Development are contained in the following items:

	Increase over House bill
Low- and moderate-income sponsor fund	$2,000,000
Counseling services	1,000,000
Salaries and expenses, housing management programs	500,000
New community assistance grants	5,000,000
Urban renewal programs	300,000,000
Salaries and expenses, community development programs	1,250,000
Research and technology	15,000,000
Fair housing and equal opportunity	500,000
Administration and staff services	500,000
Contribution to the national homeownership foundation	250,000
Total increase	326,000,000

For title II of the bill, which contains appropriations for the National Aeronautics and Space Administration, the National Science Foundation, the Veterans' Administration, and certain other independent agencies, the committee recommends total new obligational authority of $15,060,194,000. This includes the Veterans' Administration. This amount is $245,354,000 over the budget estimates and $191,315,000 over the amounts recmended by the House of Representatives. In this title of the bill, the committee made reductions of $8,000 in the budget estimates of the National Aeronautics and Space Council and $31,000 of the Office of Science and Technology, and added a total of $221,393,000 above the budget estimates for the Veterans' Administration. Of the sum added above the budget estimates for the Veterans' Administration, $209,053,000 is to augment the medical care appropriation, $8 million for medical and prosthetic research, $1,340,000 for general operating expenses, and $3 million for the construction of hospital and domiciliary facilities. The increases above the House bill in title II, aggregating $191,315,000, break down as follows:

	Increase over House bill
Office of Science and Technology	$30,000
National Aeronautics and Space Administration	53,135,000
National Science Foundation	38,150,000
Veterans' Administration	100,000,000
Total increase	191,315,000

The $100 million added by the committee to the Veterans' Administration budget above the House amount provides for the increases in the medical care appropriation of $89 million, in medical and prosthetic research of $8 million, and in the construction of hospital and domiciliary facilities of $3 million.

Title III of the bill contains the appropriations for the various corporations which include the Federal Home Loan Bank Board, Federal Savings and Loan Insurance Corporation, Federal Housing Administration, and Government National Mortgage Association. The only new obligational authority provided in this section of the bill is $85 million recommended for interest adjustment payments authorized by section 101 of the Emergency Home Finance Act of 1970. This sum is the same as the budget estimate and $45 million above the amount in the House bill. The balance of the items contained in title III deals with the limitation on administrative and nonadministrative expenses of the aforementioned corporation.

That concludes my statement, Mr. President, and I am now ready to answer any questions. However, before I do so, I would like to make the following preliminary motions. Due to printing errors, it is necessary that certain perfecting amendments be made in the bill.

I, therefore, ask unanimous consent that the following perfecting amendments be made in the bill:

On page 16, line 1, the figure "$23,000,000" should be stricken and "$26,800,000" should be inserted in lieu thereof.

Under NASA Research and Program Management on page 14, line 17, strike the figure $726,635,000 and insert in lieu thereof $722,635,000.

The reason for this change on page 14 is that since we reported the bill out of committee there has been a conference between the legislative committees of the House and the Senate and this reduction was made in conference. Therefore, in order to comply with the authorization this cut is being made.

The ACTING PRESIDENT pro tempore. Is there objection to the request of the Senator from Rhode Island?

The Chair hears none and it is so ordered.

Mr. PASTORE. Mr. President, I ask unanimous consent that the committee amendments be considered and agreed to en bloc, and that the bill as thus amended be regarded, for the purposes of amendment, as original text, provided that no point of order shall be considered waived by reason of agreement to this request.

The ACTING PRESIDENT pro tempore. Is there objection? Without objection, it is so ordered.

The committee amendments agreed to en bloc are as follows:

On page 2, in line 11, strike out "$55,000,000" and insert in lieu thereof "$60,000,000";

In line 23, strike out "$165,000,000" and insert in lieu thereof "$175,000,000";

On page 3, in line 2, strike out "$165,000,000" and insert in lieu thereof "$200,000,000";

In line 5, strike out "section 106(b)" and insert in lieu thereof "sections 106(a) and (b)";

In line 7, strike out "$3,000,000" and insert the following "$500,000,000, to remain available until expended."

In line 12, strike out "$3,000,000" and insert in lieu thereof "$4,000,000";

On page 5, at the end of line 4, strike out "$16,000,000" and insert in lieu thereof "$16,500,000";

On page 6, in line 4, after the word "and", insert "sections 718 and 720 of the Housing and Urban Development Act of 1970 (84 Stat. 1799–1800);

In line 6, strike out "section 718 of the Housing and Urban Development Act of 1970 (84 Stat. 1799), $5,000,000" and insert "$10,000,000";

In line 22, after "1973" insert a colon and the following new language:

Provided, That in the event of the enactment of legislation superseding this program, any unobligated balances of this appropriation and the appropriation under this head in the Independent Offices and Department of Housing and Urban Development Appropriation Act, 1971 (P.L. 91–556), may be made available by the Secretary of Housing and Urban Development, by transfer or otherwise, for the purposes of such legislation and shall remain available until expended.

On page 7, at the end of line 10, strike out "$1,200,000,000" and insert in lieu thereof "$1,500,000,000";

In line 17, after "therefor" insert a colon and the following new language:

Provided further, That in the event of the enactment of legislation superseding this program, any unobligated balances of this appropriation may be made available by the Secretary of Housing and Urban Development, by transfer or otherwise, for the purposes of such legislation and shall remain available until expended.

On page 8, at the end of line 4, after the word "expended" insert a colon and the following new language:

Provided, That in the event of the enactment of legislation superseding this program, any unobligated balances of this appropriation may be made available by the Secretary of Housing and Urban Development, by transfer or otherwise, for the purposes of such legislation and shall remain available until expended.

In line 14, after the word "expended" insert a colon and the following new language:

Provided, That in the event of the enactment of legislation superseding this program, any unobligated balances of this appropriation may be made available to the Secretary of Housing and Urban Development, by transfer or otherwise, for the purposes of such legislation and shall remain available until expended.

On page 9, beginning in line 3, strike out *"Provided,* That no part of this appropriation may be used for financing a grant in excess of 50 per centum of the cost of any activity or project";

In line 10, strike out "$21,500,000" and insert in lieu thereof "$22,750,000";

In line 10, in line 1, strike out "$35,000,000" and insert in lieu thereof "$50,000,000";

In line 3, strike out "$2,950,000" and insert in lieu thereof "$3,771,000";

In line 15, strike out "$8,000,000" and insert in lieu thereof "$8,500,000";

On page 11, in line 4, strike out "$15,846,000" and insert in lieu thereof $16,346,000";

After line 8, insert the following new language:

"SPECIAL INSTITUTION

"CONTRIBUTION TO THE NATIONAL HOMEOWNERSHIP FOUNDATION

"For payment to the National Homeownership Foundation, established by section 107 of the Housing and Urban Development Act of 1968 (82 Stat. 491), $250,000, to remain available until expended."

On page 12, in line 7, strike out "$2,300,000" and insert in lieu thereof "$2,330,000";

On page 13, in line 12, strike out $"2,517,700,000" and insert in lieu thereof "$2,541,700,000";

In line 13, after "expended" insert a colon and the following new language:

Provided, That $39,000,000 of the amount made available shall be used only for the NERVA program in fiscal year 1972.

In line 20, strike out "$33,800,000" and insert in lieu thereof "$56,300,000";

In line 24, strike out "$7,500,000" and insert in lieu thereof "$7,900,000";

On page 14, in line 2, strike out "and";

In line 3, after the comma, insert "$2,100,000 for the expansion of the Visitor's Information Center at the Kennedy Space Center in Florida and $20,000,000 for space shuttle facilities";

In line 6, strike out "June 30, 1974" and insert in lieu thereof "expended";

In line 17, strike out "$720,000,000" and insert in lieu thereof "$726,635,000";

After line 21, insert the following new language:

"Not to exceed 5 per centum of any appropriation made available to the National Aeronautics and Space Administration by this Act may be transferred to any other such appropriation."

On page 15, in line 19, strike out "$23,000,000" and insert in lieu thereof "$25,450,000";

In line 24, strike out "$582,000,000" and insert in lieu thereof "$620,150,000";

On page 16, in line 3, after "institutes" insert "and other programs of supplementary training";

In line 5, after "teachers" insert a colon and the following new language:

"Not less than $28,800,000 shall be used only for Institutional Support of Science; and not less than $99,300,000 shall be used only for Science Education Support."

On page 17, in line 2, after "$3,000,000" insert the following new language: "to remain available until expended";

On page 19, in line 24, strike out "$2,244,700,000" and insert in lieu thereof "$2,333,700,000";

On page 20, at the end of line 16, strike out "$64,707,000" and insert in lieu thereof "$72,707,000";

On page 21, at the end of line 18, strike out "$90,418,000" and insert in lieu thereof "$93,418,000";

On page 26, in line 8, strike out "$40,000,000" and insert in lieu thereof "$85,000,000" and

In line 11, strike out $8,000,000" and insert in lieu thereof "$8,247,000".

Mr. ALLOTT. Mr. President, a parliamentary inquiry.

The ACTING PRESIDENT pro tempore. The Senator will state it.

Mr. ALLOTT. As I understand, we are under a unanimous consent agreement with respect to time.

The ACTING PRESIDENT pro tempore. The Senator is correct.

Mr. ALLOTT. Will the Chair state what that time allocation is?

The ACTING PRESIDENT pro tempore. The time allocated is one hour for one side to be controlled by the Senator from Colorado and the Senator from Rhode Island, with 30 minutes per amendment.

Mr. ALLOTT. I thank the Chair. I yield to the Chairman, who wishes to yield to the Senator from California.

Mr. PASTORE. Mr. President, again on time allotted for the bill I yield to my distinguished colleague from California.

The ACTING PRESIDENT pro tempore. The Senator from California is recognized.

Mr. CRANSTON. Mr. President, I thank the Senator for yielding. I am grateful to the Senator from Rhode Island for many things, more grateful than I can express, but I do want to express what I can of my gratitude and expression at this point.

QUALITY MEDICAL CARE FOR DISABLED VETERANS: FISCAL YEAR 1972 VA APPROPRIATIONS

Mr. President, today we are nearing the end of a long road that we started down almost 2 years ago, somewhat apprehensively I will admit, to bring first-quality medical care to our disabled veterans. If my colleagues approve the recommendation of the Appropriations Committee—as I am sure they will—and if the other body accepts our action—as I firmly believe it will—the Congress in the last 2 years will have increased the Virginia hospital and medical budget by almost $400 million over the amount originally included in the President's budget estimates for fiscal years 1971 and 1972. That is $234.1 million extra this year and $155 million extra last year, for a total added of $389.1 million. This total does not include special supplemental requests for pay raises.

This increase for 2 years is more than a total of 20 percent over the President's fiscal year 1971 budget estimate—when he requested about $1.841 billion in the four medical items. This very substantial increase will provide a sound base for the Virginia Department of Medicine and Surgery to build upon in future years and will insure quality care far beyond fiscal year 1972.

For all of this, we in the Senate, the veterans of our land, and the American people owe an enormous debt of gratitude to the compassion, sensitivity, and commitment of the distinguished Appropriations Subcommittee chairman and the ranking minority member who are floor managing this bill—H.R. 9382. I refer, of course, to the Senator from Rhode Island (Mr. PASTORE) and the Senator from Colorado (Mr. ALLOTT). I thank them personally, and I thank them on behalf of all the wounded and disabled veterans and their loved ones who cannot be here today to do so themselves, for their heroic efforts.

This debt of gratitude, for this year and last, also extends to the full committee chairman (Mr. ELLENDER), and ranking minority member (Mr. YOUNG). I thank them and all members of the Appropriations Committee for their concern and generosity.

Mr. President, the $234.1 million above the President's original budget is not all that I recommended in my June 29, 1971, testimony before the Appropriations Subcommittee. I asked for about $358.2 million more for the VA hospital and medical program. But the committee recommendation is an honorable and fair one and without any question can be effectively spent by the VA. The amount we are adding—$100 million—to the $134.1 million added in the other body, as a result of the great efforts of Chairman TEAGUE and Mr. BOLAND, over the President's original budget estimate for fiscal year 1972, should be acceptable to the other body. I implore the floor managers and the other Senate conferees to demand acceptance of the full Senate increase in conference.

I want to thank the distinguished Senator from Rhode Island for yielding to me now and for his fantastic cooperation and that of Maurice Pujol of the subcommittee staff.

Mr. President, I wish now to review the chronology of events which has brought us to this historic moment of fulfillment this morning. And I wish to reiterate my recommendations of June 29 to Senator PASTORE's subcommittee, which I inserted into the RECORD on June 30 (S. 10412) and indicate how the committee has been responsive to them, particularly in the excellent committee report (No. 92–264) language on the bill.

I had hoped after last year's experience that all would by now be well in VA medicine. I am extremely grateful to the appropriations subcommittee Chairman PASTORE and ranking member ALLOTT for all their great cooperation last year, and again this year, with respect to the VA fiscal year 1971 appropriation.

Most of my recommendations to the Pastore subcommittee for the VA fiscal year 1972 budget dealt with the VA hospital and medical program. They grew out of my experience last Congress as chairman of the Veterans' Affairs Subcommittee and in this Congress during 5 days of hearings as chairman of the Health and Hospitals Subcommittee of the new Veterans' Affairs Committee.

My basic recommendations presented on June 29 were to add the following amounts to the following appropriation items:

Medical care—$331,020,000;

Medical and prosthetic research—$18,216,184;

Medical administration and miscellaneous operating expenses—$1,100,000;

Construction of hospital and domiciliary facilities—$7,860,000; and

General operating expenses—$32,740,000.

Thus, my total recommended addition was $390,936,184, of which $358,196,184 was for the first four items—the VA hospital and medical program.

MEDICAL CARE

I believe my colleagues are generally aware of the events leading up to the widespread national concern that developed last spring over conditions in VA hospitals. The culmination of my work was appearing before Senator PASTORE's subcommittee on May 27, 1970, this ultimately resulted in the appropriation of an additional $105 million for the VA medical care item for fiscal year 1971.

Although our oversight hearings April 27–29, 1971, demonstrated that not one penny of the $105 million was spent for adding the doctors, nurses, or other health and housekeeping personnel so urgently needed, we were successful in adding $8 million in supplemental fiscal year 1971 funds enabling the VA to hire 8,645 new hospital personnel in the last 5 weeks of fiscal year 1971.

Now, we must turn to the task of providing the funds to pay the full fiscal year 1972 salaries of these 8,645 new hospital employees. Otherwise, we will, by adding the supplemental $8 million, have only somewhat speeded up recruitment, but made no lasting improvement in the quality of VA health care. Annualization of these 8,645 salaries requires approximately $97.5 million.

Mr. President, the fiscal year 1972 medical care request by the administration, although nominally $124.7 million more than was appropriated for fiscal year 1971, is in no way a step ahead. About half of the increase has already been consumed by inflation in fixed charges on

capital items, such as utility charges. And half the remaining $60 million or so has already been largely eroded by a higher average salary per employee than budgeted. Thus, the VA now has no funds for 2,518 new employees—FTEE—who were included in the fiscal year 1972 budget. This eliminates fully two-thirds of the FTEE increases—3,823—projected in the budget request.

Moreover, I wish to stress that the funding of the 8,645 new employees' salaries are absolutely necessary over and above the $120 million which the House Appropriations Committee has recommended and the other body added for medical care in order to forestall a proposed drastic cutback to 79,000 in the VA's average daily census. I applaud the House committee's action in this respect, and in mandating an 85,500 minimum average daily census in the bill. I commend both these actions, now adopted by our Appropriations Committee, to you for approval.

Regarding the census cutback in the fiscal year 1972 budget, I agree philosophically with the VA objection to the census minimum that such a requirement might run counter to sound medical judgment and that the admission or discharge of a patient to a VA hospital is properly left to a physician's professional judgment.

But that same principal supports, indeed demands a census minimum in the law to prevent the census cutback ordered by the Office of Management and Budget.

For it is in order to save money and cut back the VA that the OMB has arbitrarily required this rollback to 79,000 from a cumulative projected census of about 84,500 for fiscal year 1971.

No medical judgment is, or was, involved in this OMB decision.

Quite the opposite.

It is contrary to medical judgment.

When during this fiscal year physicians were left to decide how best to handle admissions and discharges of sick veterans, the VA cumulative average daily census through April 1971 was running at 84,647—far above the fiscal year 1971 budget estimate of 83,000.

During this period, the VA was experiencing an almost unprecedented level of demand, as evidenced by record high monthly hospital applications and actual admissions and the highest waiting list for domestic VA hospitals in 4 years. That is why the VA fiscal year 1972 budget submission to the OMB was premised on an average daily census of 84,371, not 79,000.

And that is why a minimum census requirement, such as the House inserted in the bill and the Senate Appropriations Committee approved is—quite regrettably—absolutely necessary.

Otherwise, this census cutback will be—indeed it already is being—implemented by closing beds and wards. To illustrate this beyond any doubt, in my testimony before the subcommittee, I quoted from a May 20, 1971, memorandum which shows the Birmingham, Ala., VA Hospital chief of medical service recommending closure of 58 beds, and I quote:

In compliance with the recent order to reduce the VA operating bed capacity. . . .

This hospital is authorized a fiscal year 1972 daily census of only 382 as compared with a 410 fiscal year 1971 authorized level and an actual census running around 450.

Mr. President, in connection with the bill's mandate of an 85,500 VA hospital average daily census level, I note that title II of H.R. 9382 as reported from committee—on page 19, line 25, and page 20, lines 1–5—includes under the Veterans' Administration medical care item the same language which originated in the House as follows:

Provided, That the foregoing appropriation shall not be apportioned to provide for less than an average of 97,500 operating beds in Veterans Administration hospitals or furnishing inpatient care and treatment to an average daily patient load of less than 85,500 beneficiaries during the fiscal year 1972.

The two limitations on apportionment of medical care appropriation set forth in the foregoing language, in effect, establish two separate, independent requirements—for both an operating beds apportionment can be made. Both minimums must be met before apportionment can be made.

The use of the word "or" between the two limitations in the bill means that, in the negative sense, there is to be no apportionment as long as either minimum is *not* maintained.

On the other hand, if we turn these limitations around and state them as two positive requirements they would be explained with an "and" between them to account for switching from the negative to the positive method of statement.

Nevertheless, the thought remains the same, that they are both required to be avoided or satisfied, as the case may be.

One caution, Mr. President, despite the generosity of what I hope will be the Senate's action today, we must not become complacent. We must continue to be alert to and to resist similar efforts by the Office of Management and Budget to cut back on the VA hospital and medical program.

The $120 million which was added by the other body is a restoration of funds cut by the OMB from the VA's request to it.

It will sustain the census at the level of staffing and overall care provided in fiscal year 1971.

It is quantitative, and not qualitative.

But the VA medical program cannot stand still. It either goes forward or deteriorates by trying to hold the line. It is that process of deterioration, I fear, that the OMB forecasts for the VA medical program. The OMB cut $188 million from the total VA hospital and medical budget, and has frozen all new VA construction.

The need for improvement in the quality of care is at least as great today as it was when I testified 1 year ago. To illustrate this, I called the subcommittee's attention to certain excerpts from our April 27–29, 1971, VA hospital crisis hearings.

Mr. President, I ask unanimous consent that the document containing these excerpts be printed in the RECORD at this point.

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

APPENDIX III: EXCERPTS FROM APRIL 27–29, 1971, HEARINGS BEFORE THE HEALTH AND HOSPITALS SUBCOMMITTEE OF THE VETERANS' AFFAIRS COMMITTEE ON THE VA HOSPITAL CRISIS

Over 17 months ago, one of the most effective and forceful witnesses at the oversight hearings by the Labor and Public Welfare Committee's Subcommittee on Veterans' Affairs, which I chaired, was Capt. Max Cleland, of Lithonia, Ga., U.S. Army, retired. On April 29, Captain Cleland, a triple amputee, returned to testify before the Health and Hospitals Subcommittee of the Veterans' Affairs Subcommittee, having been elected a Georgia State senator since he testified in December 1969, Senator Cleland told us:

The Atlanta VA serves metro Atlanta and North Georgia. It has the additional responsibility of being a Regional Amputee Center for the Southeast, treating mostly Vietnam veterans, though with no significant increase in staff or funds.

It is a new hospital and still has two wards not in use because of inadequate staff. Applications to get into the hospital are running almost 2,000 ahead of this period last year, but admissions are down, not up, and the waiting list is over 100. The proposed 1972 reduction would take 20 beds out of circulation that are in use now.

The VA hospital in Augusta, Georgia, was built to handle a maximum of 800 patients. It handles nearly 1,000. It suffers from inadequate staff and ward personnel and has a backlog of almost 70 patients on its waiting list.

Applications by veterans to get into the Augusta VA are up almost 1,000 over this time last year, but if funds are not restored by Congress to the VA medical budget, the Augusta VA will be forced to take over 100 beds out of circulation.

The third Georgia VA hospital is in the southern part of the State, and experiencing shortage of doctors. It has only one orthopedic surgeon for a hospital that can handle 500 patients. The current patient level is 376 and the hospital is having difficulty providing adequate staff for that number. . . .

All in all, applications of veterans seeking admission to VA hospitals in Georgia are up 3,000 over this time last year. If the current VA medical budget is not supplemented, the Georgia VA hospital will have to cut back over 170 beds and add to a state waiting list already approaching 400.

Also, at our recent hearings, we heard a second round of testimony—1 year and 1 day after their original testimony last year—from Dr. Bernhard Votteri, Fellow in Pulmonary Disease, and Dr. J. Gary Davidson, chief medical resident, Wadsworth VA Hospital in Los Angeles. Here are some most disturbing extracts from their April 29 testimony:

Dr. VOTTERI. Although some improvements have been made since we met with you last year, the operation of the hospital continues to be plagued by deficiencies in nursing staff, convalescent patient placement, anesthesia, inhalation therapy staff, medical and respiratory care units, cardiovascular surgery, renal hemodialysis, messenger and escort service and laboratory services.

We have appealed through channels at all levels and although people listened to us, appropriate corrections are not forthcoming. The situation is so critical that further temporizing is not acceptable. The physicians in training are almost totally disillusioned and tired of words without action.

If immediate action and correction are not forthcoming, the physicians in training have advised us that they will "heal-in" the hospital. Such an action which should be and

can be obviated by corrective measures now will have the effect of forcing the eligible veteran to seek aid at other hospitals. . . . The physicians state, and righly so, that if substandard care continues to be all the VA can afford to support then, in good conscience, they can no longer quietly deliver care under such restrictions. Deficiencies in staff, equipment and supplies cannot continue to be made up by the superhuman efforts of nurses, paramedical personnel, and physicians without the blame for these inequities being placed squarely on those who would remain unresponsive to the needs of the veteran.

Dr. Baldwin Lampson, Director of Hospital, UCLA, School of Medicine, in his thorough analysis of the Wadsworth Hospital in 1970 [at Senate Veterans Affairs Subcommittee hearings] pointed out that the UCLA Hospital Inhalation Therapy Staff consists of 52 people including a physician head. The Wadsworth Staff was found to be inadequate to provide direct patient treatment. In addition there was no night and weekend coverage in inhalation therapy. As a result in 1970 and still in 1971, necessary inhalation therapy must be handled by overworked and understaffed nursing service.

The situation is so urgent at the Wadsworth Hospital now that the Chief of Anesthesia and Chest Medicine have recommended that these services which are indispensible and lifesaving will have to be curtailed in the interest of reducing the spread of infection. Forcing the patient to breathe dirt and bacteria which may result in lung infections cannot and will not be tolerated. The prevention of this disaster is simple. The recommendations have been made, the solutions await only financial support.

Recently our open-heart surgery case load went to four per week. Shortly after this the Chief of Surgery was beseiged by complaints from the nursing service to reduce this, as their staffing was inadequate, both in the operating room and in the surgical intensive care unit. The Chief's initial response was an admonition to the cardiac surgeons to reduce this work to the previous level—approximately two cases a week. His stated reason was "our facilities cannot handle it."

This is the greatest plea for mediocrity that we have heard yet. As a matter of fact, Wadsworth has two fully-trained cardiac surgeons, a fully-trained open-heart-pump team capable of operating five-six major open-heart surgery cases per week.

The Cardiology Department can evaluate up to four surgical candidates per week presently, and with the opening of the new catheter laboratory in May, '71, this capability will increase to six a week.

It is obvious with the current crisis in surgery and anesthesia that our potential will not be realized and a great number of veterans will go wanting for much needed heart surgery. It seems inconceivable that a health system that has been designated as a regional care center for cardiac disease could be rendered inert by deficiencies in staffing in anesthesia and nursing. Furthermore, it is most inconceivable that the response to this crisis is to reduce the amount of health care.

Dr. DAVIDSON. The Assistant Chief, Infectious Diseases, at our hospital, has listed for your perusal, and states the following:

Listed below are the names of three patients with whom I have had direct contact, who expired at Wadsworth General Hospital during the months of March and April, 1971. While no one can say that these patients would have survived if more intensive observation and care had been provided, it is my opinion that such intensive monitoring and special nursing care was indicated, would have been available at a first-class hospital, and was not available or was provided too late and in a suboptimal fashion at this hospital. I intend this statement in no way as a criticism of the nursing personnel who cared for these patients but rather to indicate that sufficient special nursing personnel and adequate intensive care facilities are currently unavailable at this hospital.

Dr. VOTTERI. Must we come to this legislative body each year to present a chronicle of horrors to get adequate support for our veterans? The answer is a resounding no. It is unacceptable medical practice and morally wrong to continue to provide substandard care for our veterans. We hope that the needs of the veterans will at last be recognized and adequate funds and vigorous management will combine to finally rectify these inequities.

I would like to emphasize that, at this point, that all of us, as Doctors here, have completed our training in the Veterans' Hospitals, and we will be leaving to go into the community. Whether further support to the Veterans' Hospital will ever be forthcoming will have no direct effect upon us.

However, we are sincerely anxious that these gains should accrue to patients, and this is why we testified today, and this is why we testify in behalf of the persons in training at the Wadsworth hospital.

Regarding the Birmingham VA Hospital, we heard from Dr. S. Richardson Hill, vice president for health affairs of the University of Alabama and director of the Alabama Medical Center. Dr. Hill testified on April 28 as follows:

The Veterans Administration Hospital staff are dedicated and well-qualified individuals who are loyal to the Veterans Administration and to the mission for which they are held accountable; namely, quality health care for the veteran patient. The facilities which are available to them vary from excellent to poor, but the ability to employ health professionals is far less than necessary to maintain the quality of health care available either within the University Hospital or within other leading community hospitals. The simple facts are that there are insufficient numbers of staff available to do the job that must be done.

Some of the facilities, I am told, are underutilized because of the limited staff at night and on weekends and the all too frequent necessity to redistribute staff in order to meet new and emergency needs which, not infrequently, leave other crisis areas unprotected.

We, therefore, have undertaken a continual and critical review of these problems in order to determine whether or not it is fair to our health professional students to expose them to health care experiences in such an environment. I would urge this Committee to exert its influence to help provide the resources necessary for these hospitals to operate efficiently and effectively as a component part, not only of the University Medical Centers, but of the health care delivery system of our country as well. Our Veterans Administration hospitals desperately need an increased staff as well as updated technical equipment and mechanisms for maintaining continued progress in the rapidly advancing technical ability to manage patients more effectively and efficiently.

My comments have principally been related to the Veterans Administration Hospital which I know best; namely, the one in Birmingham. It is my understanding that comparable problems for the coming year are anticipated at the Montgomery, Tuscaloosa and Tuskegee, Alabama VA Hospitals, as well as other VA hospitals in the country."

. . . The staffing problems with regard to nurses and with regard to technical staff particularly and clinical laboratory, gets very low. We have sometimes no laboratory technicians within the Veterans' Administration hospital. We do have some on call but we need more staff.

Senator CRANSTON. How many beds are there in the wards there?

Dr. HILL. 30 to 40 per ward.

Senator CRANSTON. In the middle of the night how many nurses are available?

Dr. HILL. There may be one nurse available for two such wards on a floor.

Senator CRANSTON. That can lead to considerable difficulties, can't it?

Dr. HILL. Yes, it can, and they are not registered nurses.

Senator CRANSTON. How does that compare to the situation in the University Hospital?

Dr. HILL. In University Hospital there are two nurses for a 40-bed ward at night.

Senator CRANSTON. About one-fourth of the Staffing at the VA hospital?

Dr. HILL. Yes.

Another returning witness was Michael Burns, now executive director of the Paralyzed Veterans of America and himself a quadriplegic. Mr. Burns had testified on January 9, 1970, at hearings in Los Angeles by the former Veterans' Affairs Subcommittee when he was president of the California PVA. On April 28, he stated:

As a direct result of those hearings, a supplemental appropriation for the hospital care of veterans was voted favorably by the Congress. It amounted to $105 million, and was specifically intended to relieve the immediate crisis situation within the Veterans' Administration.

Those hearings and that appropriation told us that Congress cared about the plight of those left ravaged by the war, about those who gave a part of themselves in the service of their country. For this, all veterans were grateful.

The final testimony of those hearings was presented just one year ago. What has the Veterans' Administration done since? What have they told us by their actions, about how they feel about this plight?

I submit that by diverting these funds into other areas that patient care, or by simply not expending them, that the VA has told us that it still maintains that it did not need help, it did not need supplementation, and it did not want either advice or Congressional generosity.

Within this appropriation were funds specifically earmarked for use by the Spinal Cord Injury Service. Initially, $169,000 was released for five centers determined to be in the most critical need. Subsequently, other centers were included, and more funds were released. I cannot emphasize strongly enough that these funds were to be used to upgrade hospital care, primarily through the recruitment of new staff.

These funds were released. They were sent to the field. Allegedly, over $1.3 million eventually went to these ten centers to upgrade staffing.

Our reports and the Veterans' Administration's own figures prove that these monies were never spent. This money never reached the level for which it was intended.

As proof of this statement, one need only compare the staffing ratio per 100 patients in December, 1969, which averaged 1.21 for all centers to the same ratio eight months later.

August, 1970's ratio should have begun to reflect the impact of these funds. Yet, what was the ratio? A mere 1.27.

Even one year later, the December 1970 figure shows only 1.39, and at the end of March this year, it reads 1.38.

Are we to assume then, that the $1.3 million bought the Spinal Cord Injury Service .17 in staff?

Rather, I believe we should assume that the money was not spent at all. The hypocrisy of a system which tells you to believe what they say and not what you see, must be questioned. This hypocrisy must be dispensed with if we are to work together dili-

gently for the betterment of the plight of all America's veterans.

How does that situation appear to be now?

Mr. BURNS. I would not say it has changed to any great degree, except when Senators come to visit.

Senator CRANSTON. Finally, for the benefit of those who are present, who haven't visited one of those wards under the prevailing circumstances, or who have not heard a description of what happens in those wards when there is inadequate personnel, I wish you would briefly describe what happens to a veteran when there is not enough people on the staff to deal with his human needs.

Mr. BURNS. The circumstances regarding a spinal cord injury individual in a hospital, if I may, I will take Long Beach as the example, that was the place at which I was rehabilitated.

First of all, you are faced with a situation where the staff is, at best, adequate, not in the sense of their abilities, but in the numbers.

After 4 p.m., everything ceases to exist, except the very basic patient needs. That is, we must feed him, we must get him into bed, we must care for him medically, we must give him his prescribed medicine. That is all.

In Long Beach, there are five wards, 205 patients. They operate at 95 percent capacity during the winter months. They have 42 beds on a ward. During the day they average 2 RNs, 1 LPN and 6 aides.

In the evening hours, in my last visit, they were averaging 1 RN and 3 technicians.

In the night hours, between 11 and 7, 1 nurse and 2 patient care technicians.

Their sole purpose in the evening hours is to deal with the basic functions. Feed those who need the assistance in being fed, get the medication to the patients.

These patients require, especially the high-level quadriplegic, who are unable to care for themselves, constant turning. They are turned every two hours. If you take two patient care technicians, provided they are male, and provided they are strong and willing to work, they can go through a ward and turn every person in that ward in an hour, which means that leaves them another hour to attend to all of the other things they must attend to, including cleanliness of the ward. And then they must start the process over again. And this goes on for eight hours.

In the meantime, recreationwise, we might as well consider it negligible. We are talking about 24-year-olds and less, Vietnam veterans. I would hesitate to call the Vietnam veteran a new breed of veteran. He still requires the same type of things, only perhaps they are a little different these days than they were before.

Dr. Philip R. Lee, former Assistant Secretary for Health and Scientific Affairs, Department of Health, Education, and Welfare, and now chancellor of the University of California at San Francisco, also returned to tell us that the Ft. Miley VA Hospital remained seriously understaffed more than 16 months after he first testified. That hospital will now receive 37 more staff.

A strikingly clear picture of the continued deterioration of the VA hospital staffing situation was provided in a May 9, 1971, article in the Miami Herald by June Kronholz, entitled "Care 'Second to None', but Veterans Alone Neither in Waiting Nor Dying" and another piece in the same paper "As War Began to Fill the Hospitals, Pressure Mounted for Cuts in Budget."

These two pieces are extremely significant in light of the January 27, 1970, testimony to the former Veterans' Affairs Subcommittee by Dr. Douglas J. Stewart, then a second-year resident at the Miami School of Medicine. He detailed for us the shortage at that time of 25 ward secretaries, 26 inhalation therapist technicians, 50 laboratory technologists, and numerous nurses at all levels.

[From the Miami Herald, May 9, 1971]

CARE "SECOND TO NONE," BUT VETERANS ALONE NEITHER IN WAITING NOR DYING

(By June Kronholz)

The old man had cancer. You could see he was dying.

He came to the Miami Veterans Administration hospital to relieve the pain knowing that at least he could die here. He had lived alone; he didn't have to die alone.

His nights were difficult. He coughed up mouthfuls of blood and splattered his white sheets with red. In the morning a nurse would lift him onto a litter and he was wheeled around the hospital for X-rays, cell counts, and tests his doctor ordered.

His afternoons were just as hard. A volunteer wheeled him back to his room, back to a bed still soaked in dried blood and unchanged. He looked at it and remembered the pain and sorrow of dying.

"Take me out into the hall," he pleaded. "I will wait there until they can clean it up. I can't look at it. You know. . . ."

And he waited and he waited, but he wasn't alone in his waiting.

In half-empty rooms, on half-empty floors of the sparking new $18.1 million Miami hospital, waiting is not uncommon. Nearly a full year after a U.S. Senate subcommittee charged that the facility was hopelessly understaffed, conditions have changed little.

Red tape, delays, postponements and interminable waits are part of any visit.

"Our problems have their solutions in adequate staffs," explains one well-known VA doctor. "If only we could afford the staff."

The Miami VA hospital was built four years ago to house 1,026 in-patients. Today it has beds for 893 veterans, but on an average day only 640 of them are filled.

Room after room is empty or has been turned into an office or a doctor's lounge. The five-man wards hold desks or sofas or empty beds or spare equipment—or nothing at all.

Even operating at just over half its designed capacity the hospital is understaffed, under-financed and personnel are overworked.

Some 1,330 staff members—resident doctors, nurses, therapists, cooks, housekeepers and administrators—are assigned to the facility.

In addition to the 640 in-patients housed in roomy, bright five-man wards, the VA hospital cares for 550 out-patients every day—130,000 out-patients every year—with a staff of almost 300 persons.

It is these patients who wait longest. As many as 20 of them—many with bandages or casts—sit on molded plastic chairs for up to four hours to be seen by a resident doctor.

"It's like a meat market down there," growls a former Marine who had spent six hours strapped to a stretcher, his back shooting with pain, before a doctor had time to examine him.

Long waits are not limited to the clinics, however. Down the hall, in the first floor corrective therapy room as many as 60 patients a day clamor for the attention of three dedicated, over-worked technicians.

The ideal work-load for therapists in other hospitals is eight or nine patients a day, but at the VA that number is often 20. The rush, complain the patients, means incomplete treatments.

"The therapy here is good," says 20-year-old John Metz, a Vietnam veteran. "If you have the time to wait about 15 years for it."

On the upper floors the shortages continue. Only 146 registered nurses working three eight-hour shifts are available to care for the 640 patients the hospital houses daily. During daytime hours only two registered nurses are stationed on each floor section of 40 to 63 men. In the evening, that number slips to one nurse.

In intensive care, where the most critically ill patients fight for their lives, only two regisered nurses care for 10 acutely ill men—at least three nurses short by most hospital standards.

The shortages extend to housekeepers and technicians too. Beds go unchanged for hours, patients go unwashed—not because the staff wants to ignore them, but because they are so overworked they can do nothing else.

Tucked away in some of the empty upper floor wards, stored away and idle, sits a small fortune in heart monitoring equipment. "We don't have the staff to operate it," explains Dr. Elisio Perez-Stable, assistant chief of the hospital's medical service.

Not in as abundant supply as the heart monitors are wheel chairs and litters. When the supply runs low on either one—and it often does—a bedridden patient has no alternative but to cancel the blood test or therapy or X-rays his doctor ordered.

The staff and money shortages also mean needed programs must be ignored.

With one of the highest alcohol and transient rates in the country, the Miami hospital still has no alcohol rehabilitation program and a drug program is still 15 months away.

The hospital has no emergency room and no plans to add one, either.

"An out-patient who needs emergency treatment goes to Jackson Memorial Hospital for it," explains Dr. Robinson. "Then if he needs to be admitted he can come back here."

And finally, there are statistics. For every patient in the Miami VA facility there are 2.1 hospital employes—the lowest ratio of any major hospital in Dade County. Jackson Memorial Hospital boasts 3.6 employes for every patient while Mt. Sinai has a ratio of 3.5 to one.

To the patient, that means less care and to the hospital that means a lower patient turn-over rate. In most private hospitals each bed will change patients 36 times a year—a figure that means fast care and cure.

But in the VA system a change of 15 patients a year is considered admirable. A smaller staff means slower care and slower care means that fewer patients can be admitted.

Robinson and Perez-Stable nevertheless contend that the Miami VA hospital provides medical care "second to none in the city."

They probably are right. No one has questioned the hospital's medical competency.

But as only one cog in the 165-hospital VA system, the 12-story Miami facility is a victim of circumstances.

While all over the country hospital costs—for staff members, equipment, construction and maintenance—are skyrocketing, the VA budget has inched upward. And even those increases were granted by Congress over the objections of two U.S. Presidents.

The Miami hospital's $20.7 million budget for fiscal year 1970–71 represents a $3.7 million increase over last year's allotment.

But when Dr. Albert Tomasulo, former director of the hospital, learned of the increase, he told reporters it would only make matters worse for the hospital staff.

With that increase, the hospital administration opened another 210 beds on the upper floor of the 12-story building. The hospital this year is operating with an average 114 patients a day more than it was last year.

At an average cost of $68 a day for each patient's care, $2.8 million of that increase was immediately consumed. Additionally, plans were made to open a coronary care unit and an acute respiratory care unit, the hospital's extended care program was expanded from 20 to 40 beds and the first beds of what eventually will be a 40-bed ward for spinal cord injuries were opened.

By the time the new programs were funded, however, the hospital was left with an

almost minute budget for expanding its housekeeping, nursing and medical staffs.

Funds were appropriated for 70 more nurses, but the VA can barely compete with the salaries and fringe benefits offered at private hospitals and 30 of these 70 nursing jobs are consistently vacant.

More funds were provided for additional clerical help, X-rays technicians and laboratory assistants—all of whom were in seriously short supply last year. X-rays and blood tests couldn't be performed as ordered for want of technicians and vital information wasn't being recorded on patients' charts by the over-worked ward clerks.

But even with the added staff the VA cannot muster the around-the-clock operation its doctors say it needs.

"This is an 8 to 4 hospital," lamented one young physician, "and you'd better not get sick any other time."

Despite its staff shortages, the VA cannot turn away a qualified veteran—that is, one who was injured while in one of the armed services or one who served his stretch of duty during wartime, and they can't discharge him against his wishes.

"The alcoholics, the hypochondriacs, the old men with nothing else to do but come here, they all make it tougher on the rest of us," moaned a Vietnam veteran one afternoon.

To the veterans on the critical list, those staff shortages could mean the difference between receiving a blood transfusion when it's needed, or three hours later, between fast emergency nursing treatment and delayed, over-due attention, perhaps between life and death, the hospital's young doctors contend.

Dr. Robinson, however, claims that only the "frills" are hurt by staff shortages—the nicesties that patients in private hospitals pay for but that patients in government-supported facilities cannot expect.

To the men in the VA hospital, the "frills" are not as superfluous as Dr. Robinson would have them think.

A pajama-clad veteran in his 50s, confined to a wheel chair since a stroke left him almost immobile, explained it this way:

"This morning I asked the nurse if I could have a shower and shave. 'What for?', she asked, 'the doctor isn't seeing you today.'"

His hair uncombed, a two-day growth of beard on his cheeks, his pajamas stale and unchanged, he sat there.

"Do you think we want to be clean FOR somebody? Don't they think we want to be clean for ourselves?"

And then his expression changed. "Of course they know that. They're good, good people. The trouble is there just aren't enough of them."

[From the Miami Herald, May 9, 1971]

AS WAR BEGAN TO FILL THE HOSPITALS, PRESSURE MOUNTED FOR CUTS IN BUDGET

The American public turned its eye from the war to its wounded in June 1970 when a Senate Subcommittee on Veterans' Affairs declared that U.S. soldiers injured in Vietnam were receiving second-rate medical care in the nation's Veterans Administration hospitals.

Witness after witness detailed the horrors of the VA hospital system, the largest in the world.

The testimony was not all technical, either. Capt. Max Cleland of Atlanta, Ga., cautiously testing new artificial legs, strode to the microphone to tell the senators how he had lost two legs and an arm in Vietnam in 1968, then vegetated in a hospital for more than a year without so much as a wheelchair of his own.

Finally, he convinced doctors to admit him to a special Prosthetics Center in New York. There it took him 10 weeks to master his new artificial limbs. The VA, he complained had cost him a year of his life.

In another war it might not have been so. In World War II or Korea, Max Cleland might have died before he ever reached a hospital.

But in this war, helicopter teams evacuate the wounded within minutes to well-staffed, well-equipped support hospitals where miraculous treatment has saved twice as many lives as in previous wars, even though battle injuries tend to be far more devastating.

From Vietnam the wounded—more than 297,800 of them to date—are flown home and many, instead of being committed to army hospitals as in other wars, are discharged and admitted to one of the 168 VA facilities across the country.

There they face recuperations much more lengthy than in other wars where disease hospitalized almost as many men as did battlefield wounds.

In the jungles of Vietnam, where skirmishes put enemies at arms' length and landmines pepper the countryside, missing or paralyzed limbs are common injuries.

As a result of the war the VA hospitals were called upon to care for and rehabilitate thousands of battle injured men as well as old World War I and II patients—patients with cardiac, respiratory and just plain old age problems.

Today, 12 to 14 per cent of the patients in the country's VA hospitals are young Vietnam veterans.

Ironically, just as the war was increasing in intensity and the hospitals were filling with thousands of young patients, pressure to cut the VA budget began.

In 1966, Congress imposed on the VA system an arbitrary personnel ceiling that made it impossible to add more doctors and nurses—just as Vietnam casualties continued to pour in.

The objective was to try to control inflation—inflation originally caused by the war.

The Senate hearings dominated newspaper headlines for a few weeks and sent reporters scurrying through most of the VA facilities in the country.

The furor was short-lived, however, and the 1971 ($1.9 billion) was not substantially larger than the 1970 allotment ($1.7 billion).

The 1972 budget—at $2 billion—will not allow the Veterans' Administration to perk up its image, either. The entire medical budget proposed by the Nixon Administration for 1972 is less than the cost of one month of fighting in Vietnam.

Mr. CRANSTON. Mr. President, one of the most appalling and tragic pieces of evidence of inadequate care yet submitted to us is four statements from physicians at the Wadsworth VA Hospital in Los Angeles detailing the deaths of three veteran patients, and the near deaths of two others, in January and February of this year, due to inadequate staffing and equipment. The shortages of the most basic types of life-saving devices at Wadsworth Hospital underscored my recommendation to add $52 million more to eliminate equipment purchase, and maintenance and repair, backlogs.

Likewise, the enormous fee dental backlog I called to the Senate's attention a year ago was of the same magnitude as the 60,000 examinations and 30,000 treatments backed up right now, even after expenditure of $31 million above the fiscal year 1971 budget request this $31 million was taken from the $105 million we added above the President's amended budget.

The record clearly shows that the Administrator of Veterans' Affairs last June in rebuttal to my testimony firmly protested that he could not use any more fee dental money. For that matter, he also said he could not use any more equipment or maintenance and repair funding; the same hollow denials he is issuing this year. But the VA proceeded last year to spend $20.2 million and $5 million, respectively, for those two purposes from the $105 million we added to last year's budget.

I urged the subcommittee and I urge the Senate to regard similiar protests this year with such credence as last year's experience warrants—none.

Also, under the medical care item, I recommended an addition of $21,120,000, in addition to the $13.8 million recently requested by the President for the drug treatment program. This money would fund 28 more drug treatment centers than the 32 the President proposes. My recommendation included $5 million for contracts with non-VA drug rehabilitation programs for treatment and outreach purposes.

Our June 15 and 23 hearings indicated how great is the need—80,000 to 90,000 veteran addicts needing care during fiscal year 1972—and how comparatively small would be the VA's treatment capacity under the President's plan—6,000 patients by the end of the fiscal year—to meet this need. Right now, the drug rehabilitation budget of the city of New York alone is about $85 million and the State of New York spends annually a sum equivalent to the full $155 million the President is requesting, for more drug treatment for the whole Nation.

The VA has the ability to do more to fight this awful epidemic—persons to staff units are unusually available now—an epidemic which all agree has reached national crisis proportions. If this additional money is added, we would be providing for the treatment and rehabilitation of another approximately 6,000 veteran addicts, double the proposed capacity. Even then we will not come near meeting the need.

As the VA drug program expands, we must take full advantage of the expertise acquired to wage the far broader fight against alcoholism. According to Dr. Roger Egeberg, the former Assistant Secretary of Health, Education, and Welfare for Health and Scientific Affairs, alcoholism is America's No. 1 health problem. And according to the VA Chief Medical Director, there are approximately 1.3 million veteran alcoholics or alcohol abusers, most all of whom are eligible for VA hospital care. Yet the VA now has capacity to treat in alcoholism units only about 12,000 alcoholics annually. The funds I urge be added would double the VA's present treatment capability to 24,000 annually. This, again, would be modest by comparison with the need.

I also recommended to Senator PASTORE's subcommittee that we pick up where we left off last year with regard to the staff/patient ratios on spinal cord injury units. As of March 1971, the average staffing had reached 1.21 to 1 patient as compared with 1.02 to 1 a year before, and further increases to 1.7 to 1 are anticipated during fiscal year 1972. I recommended adding funds to raise the ratio to 2.0 to 1—still lower than the 2.17 to 1 patient ratio in a comparable New York City facility.

Finally, under the medical care item, in view of the aging World War II population—I recommended converting 1,000 more VA beds for nursing care use.

Mr. President, I am extremely gratified that the Appropriations Committee has recommended adding $89 million to the $134.1 million which the other body added to the medical care item as initially requested by the President. The committee explained its recommendation as follows:

In granting this increase, the committee has taken cognizance of testimony presented to it and after considerable analysis and review of the many programs involved under this item, feels that the additional $89,000,000 provided herein is needed to improve both the quantity and quality of medical care for our veterans. In this connection, the committee understands that $23,000,000 of the add-on could well be used to insure the maintenance of total average employment of 140,295 for fiscal year 1972. In addition, the committee directs that at least $6,000,000 of this added sum be used to cover the increased costs generated by increased use of drugs, medicines, supplies and materials in support of patient care.

The additional $60,000,000 may well be used to cover the cost generated by the increase in the estimated total of out-patient visits and also provide for an increase in the staffing ratio at the Veterans' Administration hospitals to a level desired by the Veterans' Administration.

In my June 29 testimony, I particularly stressed the importance of the committee report including just such specific language describing the uses to be made of additional appropriations. The language I have just quoted is certainly responsive to my request and should be effective in its goal of forestalling any repetition of the experience with the fiscal year 1971 additional $105 million, not one penny of that extra money was permitted by OMB to be spent to add badly needed VA hospital staff and almost half of it was required to be used to cover inflated costs to sustain the program level rather than to improve or expand it.

Moreover, the statement of intention by the committee in the report—"to improve the quantity and quality of medical care for our veterans"—will enable the VA to spend this money for the improvement and expansion I have recommended in the drug and alcoholic treatment programs or spinal cord injury program or for any other of the items covered in my testimony—according to the VA's estimate of the highest priority areas—as well as to maintain the enormous improvement in care made possible by the addition of the 8,645 hospital staff during the last 5 weeks of fiscal year 1971 as a result of the $8 million we added in supplemental funds for last fiscal year.

MEDICAL AND PROSTHETIC RESEARCH ITEM

My total recommendation for research was an additional $18,216,184 million. I very carefully investigated the VA's research needs and presented detailed justification to the subcommittee to support my request.

As the VA Chief Medical Director and Controller testified on June 24, the VA research budget request for fiscal year 1972 is regressive. A strong VA research program is vital to improve patient care—especially for drug treatment—both directly and indirectly by strengthening the now eroding relationships and affiliations between VA hospitals and medical schools and in helping the VA recruit top-flight professionals.

Mr. President, I am delighted that the Appropriations Committee has responded to my request by adding $8 million to the VA medical and prosthetic research item—the amount OMB deleted from the VA research request. This money is urgently needed and it will go a long way toward bolstering the VA research effort as well as improving patient care.

The committee report explained the $8 million for VA research as follows:

For medical and prosthetic research, the committee recommends an appropriation of $72,707,000, which is $8 million more than the budget estimate and the House allowance. The committee understands that this amount would permit the Veterans' Administration to hire the 365 employees it requested in its initial presentation to the Office of Management and Budget, and would permit an overall growth in the VA research program of approximately 10 percent during the forthcoming year.

MEDICAL ADMINISTRATION AND MISCELLANEOUS OPERATING EXPENSES ITEM

I recommended an additional $1.1 million for MAMO.

Mr. President, although the Appropriations Committee did not recommend adding funds to MAMO, I believe that they will ultimately agree to accept a $3 million increase for "exchange of medical information" programs. Yesterday, the Veterans' Affairs Committee ordered reported S. 2288 and H.R. 4762 to extend for another 4 years the authorization of appropriations in section 5055(c)(1) of title 38, United States Code, for $3 million annually for grants to medical schools, hospitals, and so forth for exchange of medical information. This authorization expired on June 30, 1971, and supports a valuable program. I plan to be reporting the bill very shortly from the committee.

CONSTRUCTION OF HOSPITAL AND DOMICILIARY FACILITIES ITEM

It is now 1 year since I first pointed out the lack of air conditioning in many VA hospitals qualified for air conditioning and the VA has proceeded with air-conditioning designs for only four of the 43 hospitals which are un-air-conditioned but qualified for air conditioning. It is no answer at all to sweltering patients to say that a particular hospital in the south—such as Gulfport, Miss.; Amarillo, Bonham, and Temple, Tex.; North Little Rock and Fayetteville, Ark.; and Columbia, S.C.—is scheduled for air conditioning or even replacement 5 years hence. These hospitals should be air conditioned now and I so recommended to the Appropriations Subcommittee.

Also, there are six VA hospitals ready for replacement if only the White House and OMB would lift the VA construction freeze. Despite interim alterations and improvement in certain facilities at the Bronx, N.Y., and Wadsworth, Los Angeles, hospitals—which I talked about last year—these two ancient facilities are absolutely unsuited for providing modern or even semimodern medical care. The same is true for the hospitals at Augusta, Ga.; Columbia, S.C.; Martinsburg, W. Va.; and Richmond, Va. I recommended that the design of replacement hospitals for these obsolete facilities should begin this fiscal year.

The Office of Management and Budget has already cut this item by $60 million from the VA's request. In fiscal year 1971 the VA obligated $30 million more than is proposed for obligation—$90 million—in fiscal year 1972.

I am cautious with regard to construction because I believe that OMB may very well hold up indefinitely the allotment of even the amount already in the budget and thereby let the system deteriorate and more and more hospitals become underutilized and eventually be closed down.

Congress should go on record as not being satisfied with these delays in proceeding with air conditioning and replacement designs to benefit veterans receiving inadequate care due to these outdated physical facilities.

Mr. President, the Appropriations Committee report very forcefully expressed itself on this point in adding $3 million to the VA construction of hospital and domiciliary facilities item. The committee stated:

The committee learned that it was necessary for the Veterans' Administration to borrow construction funds during the past fiscal year to cover the cost of repairing the damage caused by the recent earthquake in California at the VA hospitals in Sepulveda, San Fernando and Long Beach, and the tornado damage to the hospital at Fayetteville, North Carolina.

The $3,000,000 provided by the committee restores these funds so that projects for which these funds were initially appropriated may be completed.

The committee considered funding additional projects which, in its opinion, are sorely needed now but are presently programmed for future funding by the administration. After taking extensive testimony and having a full discussion, the committee did not recommend the appropriation of additional funds, however it directs the Veterans' Administration to accelerate its planning and budgeting for the replacement, modernization, enlarging and otherwise improving hospital and domiciliary facilities. Specifically, the committee directs that the Veterans' Administration five year projection for fiscal years 1973–78 of priority construction projects be accelerated and compressed into a three year projection for funding and other purposes, and that the fiscal year 1973 budget request be at least one-third of the sum required to fund the compressed three year program.

I congratulate the committee for cutting to the heart of the VA construction problem and directing that the projection for the next 5 fiscal years be accelerated and compressed into a 3-year program. It is my understanding that a compression will require expenditures of about $150 million annually for the next 3 years.

GENERAL OPERATING EXPENSES ITEM

This was the only nonmedical item in my recommendations. Altogether I urged that $32.74 million be added in GOE. Regarding the outreach services program—which I authorized in Public Law 91–219—at our Veterans' Affairs Subcommittee hearings last November, the Administrator of Veterans' Affairs admitted that contact employees had in-

creased only about 5 percent since the outreach program became law. The need remains great to reach out to the educationally disadvantaged veteran and urge him to enter training or education or help him to find a job. Now, only 9 percent of high school dropouts use their GI bill benefits. This is a national shame and must be remedied.

The bulk of the $11 million I recommend for data management is fully justified as cost effective expenditures to save moneys wasted in costly recurring rental of equipment.

Finally, I recommended $9.2 million be added to meet the very pressing need for more field office personnel to process applications, conduct property appraisals and generally expedite benefit work at VA regional offices. The need for this staff was fully documented in a House Veterans Affairs Committee survey and other material I submitted to the subcommittee. The other body added $7 million of the $9.2 million I requested, and the Appropriations Committee retained the House increase.

In closing I want once more to express my very deepest appreciation to all the members of the Appropriations Committee and, of course, again particularly, to Chairman PASTORE and ranking minority member ALLOTT. I want also to thank my colleague and friend in the other body, the chairman of the House Veterans' Affairs committee, OLIN E. TEAGUE, for the outstanding cooperation he and his staff have extended to me again this year as well as last. It has been a great privilege to team with "TIGER" TEAGUE once more and to have been as successful in our respective bodies as I feel we have been.

Mr. PASTORE. Mr. President, I ask unanimous consent to insert in the RECORD a letter that I received from Francis W. Stover, director of the National Legislative Service of the Veterans of Foreign Wars of the United States.

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

VETERANS OF FOREIGN WARS OF THE UNITED STATES,
Washington, D.C., July 15, 1971.

Hon. JOHN O. PASTORE,
Chairman, Housing and Urban Development, Space, Science Subcommittee, Committee on Appropriations, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reference to H.R. 9382, the Housing and Urban Development Appropriation Bill, which contains the money to operate programs of the Veterans' Administration for fiscal year 1972.

The Veterans of Foreign Wars commends your Subcommittee for favorably approving the additional $142 million approved by the House and recommending another $100 million for hospital, research, and construction programs.

Your Subcommittee and full Appropriations Committee and the Senate deserve the highest commendation for adding $8 million to the 1971 VA hospital appropriation. This was made necessary when your Subcommittee was told that the extra $105 million which the Congress so wisely added to last year's 1971 hospital budget was spent for nonrecurring budget items. The Congress had intended that this $105 million be spent on hiring additional staff and personnel in VA hospitals. The extra $8 million has permitted the Veterans Administration to hire an additional 8644 employees, of which approximately 2000 are veterans of Vietnam. Thus, the extra $8 million has helped improve veterans medical care and reduced the number of unemployed veterans, for which the record should show that your Subcommittee and the Congress deserve the highest praise.

The Veterans of Foreign Wars is extremely pleased that your Subcommittee has recommended an additional $89 million for hospital and medical care; $8 million for research; and $3 million for construction. The extra $120 million approved by the House assures that there will be no cut in veterans medical care for 1972. The $89 million assures that there will be an improvement in the quality of medical care.

There is much justification for additional funds. There has been an unprecedented increase in the demand for medical care by veterans including applications for hospitalization, hospital admissions, and the highest waiting list for VA hospitals in many years. The additional $89 million, which you have recommended, will not only help take care of this increased demand for VA hospital and medical care but will make a permanent improvement in the quality of medical care by authorizing the Veterans Administration to hire the necessary personnel to provide the highest quality medical care for veterans.

The Veterans of Foreign Wars is extremely pleased that your Subcommittee has recommended restoring $3 million for the construction of hospital and domiciliary facilities budget item and $8 million for the medical and prosthetic research item. Both of these items suffered deep cuts by the Office of Management and Budget before the VA appropriation was sent to the Congress. This additional money is urgently needed by the Veterans Administration.

The Veterans of Foreign Wars strongly supports the appropriation bill which has been recommended by your Subcommittee to your full Committee and for consideration of the full Senate.

The Veterans of Foreign Wars has always pursued the goal of medical care second to none for the veterans of this nation as provided by the Veterans Administration. The approval of the Veterans Administration appropriation, as recommended by your Subcommittee, will be a major step in this direction. It is the strong recommendation of the Veterans of Foreign Wars that this appropriation bill, as it relates to the Veterans Administration, be approved by the full Senate.

With kind personal regards, I am
Sincerely,

FRANCIS W. STOVER,
Director, National Legislative Service.

HELPING OUR VETERANS

Mr. McINTYRE. Mr. President, I am pleased to support what is contained in this legislation for the Veterans' Administration. I compliment the committee and particularly the subcommittee under my friend, the distinguished senior Senator from Rhode Island (Mr. PASTORE), for their magnificent job in reporting appropriations legislation for veterans which will at least keep us from falling behind in our debt to those who have served in the uniform of their country.

Recently, I presented to the Senate my thinking on what we should try to do for veterans this year in health and hospital care, jobs, education, drugs, pensions, costs of living increases, VA personnel, and so forth.

I am particularly pleased that in two areas of great interest—health and hospital care and adequate VA personnel—this bill has done much.

At a time when the need for hospital care for veterans is increasing, the administration proposed funds which, although somewhat greater than last year, still, because of pay increases and inflation, mean a cut in veterans medical care. It has been estimated that the funds proposed by the administration would result in reducing the number of patients who could be cared for in VA hospitals by as much as six or seven thousand a day, an average reduction of more than 40 patients per hospital, including the great VA hospital in Manchester, N.H.

The bill before us today, which I support, provides an increase of more than $200 million in medical care for veterans beyond that called for by the administration. This increase will largely do away with the need for reducing the number of beds in VA hospitals and will make it possible for the VA to hold its own in face of increasing needs and inflation.

The bill before us also provides funds for additional VA personnel. It will fund an increase of roughly 250 positions in the Veterans' Administration.

As I said earlier this year, the rapidly increasing loads at VA offices are literally swamping available personnel. Veterans often are required to make more than one trip to a VA office before they can be served. Claims which are sent to the VA offices too often are piling up on desks awaiting processing by personnel who are inundated with work.

The additional personnel provided in this legislation will do much to help the VA meet this critical workload.

Mr. President, I am pleased that this action in behalf of our veterans is moving through the Congress with such dispatch. I am gratified at the action because it helps carry out proposals which I have felt are so important if we are to repay our debt to those who have worn their Nation's uniform.

Mr. SCOTT. Mr. President, I rise today in support of the Veterans' Administration medical care appropriations. This program is fast becoming one of the VA's most important programs because of this increased withdrawal rate of Vietnam troops, many of whom have drug dependence problems.

Included in the medical care funds is the full administration request for an immediate expansion of the drug rehabilitation program for former servicemen. Nearly $17 million will be allocated for 32 drug rehabilitation units, each with 15 beds and the capacity to handle 200 outpatients.

During the current fiscal year 1972, the Veterans' Administration plans to spend about $750,000 on two drug abuse programs at the Philadelphia VA hospital and the VA hospital at University Drive in Pittsburgh. One of the buildings at the Philadelphia hospital is currently being remodeled for outpatient and day hospital programs and is expected to be in full operation in September. At the Pittsburgh hospital, the program is affiliated with the University of Pittsburgh Health Center, and has been involved

in a detoxification program for veteran addicts for about 1 year. It has been working closely during this period with community agencies which refer veterans to the VA hospital for this detoxification, after which addicts are returned to the community for outpatient care. The Western Psychiatric Institute Clinic at the University Health Center in the past year has referred veterans to the VA for a similar detoxification period. Both programs have indications of good progress for these veterans.

I am aware that one of the problems faced at the Pittsburgh hospital is the recruitment of skilled medical and paramedical people for the drug program. There is an especially acute shortage of physicians, psychiatrists, and psychologists. Twenty people are to be added to this staff for the drug program. The hospital director, once he receives funds for this program, hopes to enter into a "sharing agreement" bringing together the entire resources of the community for the drug program, with the VA supplying personnel and money.

The Philadelphia and Pittsburgh programs will be operational contingent upon the passage of these medical care appropriations. I urge speedy and favorable approval by the Senate. These drug treatment centers must be fully staffed to be of any use to our returning servicemen. The additional funds contained in this bill will certainly help.

VETERANS APPROPRIATIONS: A WELCOMED OBLIGATION

Mr. WILLIAMS. Mr. President, the Senate will soon be voting upon H.R. 9382, an appropriations bill for the Department of Housing and Urban Development, National Aeronautics and Space Administration, National Science Foundation, Veterans' Administration, and various other independent agencies. While there are many significant and urgently needed programs which are included in this particular measure, there can be no doubt that the funds earmarked for our Nation's veterans constitute the most vital and indispensible appropriations of all. The veterans of all of our wars deserve the assistance of a grateful Nation, and this is no less true today than it has been during other periods of our history. The veteran has simply done his duty and is entitled to certain benefits as a consequence. In fact, any debt which this Nation has to the returning veterans of the Indochina involvement should be compounded by the fact that to a larger extent than ever before in our history, the efforts and sacrifices which our fighting men have been called upon to make have not generally been shared by the average citizen at home.

We can certainly not deny the dedication and determination that has been exhibited by our combat troops in Vietnam, under particularly trying conditions. I am particularly pleased, therefore, to note evidence that the 92d Congress intends to continue this commitment to the veteran. Evidence can be seen not only in the creation of a new Senate committee exclusively devoted to veterans affairs, but in the several bills for increased veterans benefits which have been introduced already in this session. There are proposals for increasing educational benefits and unemployment benefits and for providing increased guidance to the returning veteran. There are also proposals for assisting veterans who have become addicted to drugs while in the military. These and many other proposals will receive very careful attention during this Congress. The increasing concern of the Congress is also seen in this current appropriations measure, which I understand contains the largest recommendation for the Veterans' Administration in its history, nearly $11 billion. But the House and the Senate have recommended an approximately 10-percent increase in funding this year to meet the increased numbers of eligible veterans, the rising costs of an additional need for medical care, and new programs resulting from recently passed legislation.

I find it unfortunate that the administration requests fell somewhat short of these appropriations recommendations, and I am particularly concerned that the area in which the President is lagging furthest behind the Congress is in the field of medical care, particularly at a time when hospital costs are rising so rapidly. The 1972 budget request was for $2,124,677,000, which, although an increase from 1971, carried with it a plan to reduce the daily patient load in VA hospitals from 85,547 in 1970 to 83,000 in 1971 and 79,000 in 1972. This was to be accomplished by reducing the length of stay of patients and accepting fewer nonservice connected cases. I am pleased that both the House and the Senate have rejected this approach. The House has recommended over $120 million more for medical care and specified that an average daily patient load of 85,000 be maintained, and the Senate Appropriations Committee has recommended over $209 million more than the administration for medical care. The Senate has also recommended higher increases in medical and prosthetic research and in hospital construction.

In addition to this support for increased appropriations for veterans, the Congress will continue to press for legislation aimed at solving another of the returning veteran's greatest problems, unemployment. A short time ago, the Congress passed the Accelerated Public Works Act, which would have led to the infusion of money for public works projects in areas where there was a substantial rate of unemployment among Vietnam veterans. The President, however, despite some glowing rhetoric about finding jobs for returning veterans, had no compunctions about vetoing this $4 billion bill. I am certain, however, that the Congress will continue to search for new ways to assist the returning veteran. The passage of this appropriations measure is but a first step in this direction.

The ACTING PRESIDENT pro tempore. Who yields time?

Mr. ALLOTT. Mr. President, I yield myself such time as I may use under my control.

The PRESIDING OFFICER. The Senator from Colorado is recognized.

Mr. ALLOTT. Mr. President, first, I would like to say again this year, what a pleasure it is to work with Senator PASTORE on this bill. He has done a wonderful job in conducting the hearings and marking up this most difficult bill, and I very much appreciate his cooperation and his leadership. He has covered the programs in the bill in his opening statement, and so I would like to mention only a few items of particular interest. Let me say first that I am in general agreement with the chairman as to the sums of money reported out by the committee.

One of the smaller programs in the HUD account, but very important, is research and technology. The committee has restored $10 million cut by the House and also added $5 million over the budget estimate to accelerate certain research programs. I feel particularly strongly in support of the restoration of the $10 million, part of which is for Operation Break-Through. I have been a strong supporter of urban research in the past, but I am convinced that in the past 2 years a solid approach and strong management has been brought to bear in carrying out research on this Nation's serious housing and urban problems. Operation Break-Through is now in its construction phase. Model resident communities with advanced housing systems are being developed in eight different areas around the country. Seventeen States have passed statewide compulsory building codes or industrialized housing laws since Operation Break-Through started, and over 20 more States have introduced or prepared such legislation. Building trades unions are signing agreements with private companies throughout the Nation to work, on an industrialized basis, in housing factories and to assemble these housing units on building sites. There has been a rollback in truck transportation rates so that the shipping of industrialized housing units, modular homes, and mobile homes can be achieved economically. HUD research in the past 2 years has demonstrated they know what the problems are, can implement programs to attack them, and can manage these programs and get results.

I wish to pay special tribute to Mr. Harold B. Finger, who is Assistant Secretary for Research and Technology in Operation Break-Through.

Another program of particular interest is the New Communities Assistance program, authorized by title VII of the Housing and Urban Development Act of 1970. I am encouraged by the national interest shown for this new approach at solving our congested population problem through rational distribution. I believe the key to the title VII program's success lies in the Federal guarantee of community development debt obligation. I will be following closely the expenditure of the amount appropriated for new communities assistance grants to ascertain the relevant benefit derived therefrom.

Mr. President, the committee made its recommendation for NASA before we had an authorization bill. This is not the best way to do business, but in the interest of early disposition of this appropriations act, it was necessary. A new departure this year is that all the particular con-

struction items carried under the appropriations entitled, "Construction of Facilities," are itemized in the bill. I think it is important that it be understood that we do not wish to tie the hands of NASA to past planning, and on this subject I will quote from our committee report:

In recommending line item appropriations for the various construction projects funded hereunder, it is not the desire of the Committee to diminish in any way the flexibility that is provided in the authorizing legislation. The Committee feels that NASA should have the necessary flexibility to cover both cost variations in individual projects and necessary reprograming to meet unforeseen requirements which are absolutely essential to NASA in the conduct of its myriad programs. Consequently, if there should be any deviation in the amounts specified for each of the items funded hereunder, notice to the Committee of such cost variations or reprograming will suffice.

I believe this makes our position clear, and in addition, we have recommended a 5 percent transfer authorization, as in past years.

As Senator PASTORE has stated, we have recommended the full budget amount for the National Science Foundation. There are those who will wish to go over this amount. In fact, the Senate authorizing committee has set a level of $706 million for this fiscal year. The House authorizing committee has passed their bill at the budget amount, and so this appropriations bill is within the lower figure that may be established by the conference committee on the authorization bill. I believe very strongly that the committee has done the right thing. By earmarking $99,300,000 for science education support the committee is again recognizing the need to stimulate and encourage the superior student in order to assure our Nation of an ample supply of scientists in the 1980's. Let me note that the committee's recommendation is $109,150,000 over the amount appropriated for fiscal year 1971.

Finally, we have, as has been stated, exceeded the budget for the VA, as did the House. For medical care we provided $89 million over the amount voted by the House, which puts this bill at $209,053,000 more than the budget estimate. I do not think it can be said that Chairman PASTORE, nor I, nor any member of this committee does not fully support the highest possible level of medical care that can efficiently and productively be provided for our veterans. Looking to the future, the committee has recommended in their report a speed-up in programed construction of hospitals and domiciliary facilities, while providing $3 million over the budget amount for this line item. The committee report language states:

The Committee considered funding additional projects which, in its opinion, are sorely needed now but are presently programmed for future funding by the Administration. After taking extensive testimony and having a full discussion, the committee did not recommend the appropriation of additional funds, however, it directs the Veterans Administration to accelerate its planning and budgeting for the replacement, modernization, enlarging and otherwise improving hospital and domiciliary facilities. Specifically, the committee directs that the Veterans Administration five year projection for fiscal years 1973–78 of priority construction projects be accelerated and compressed into a three year projection for funding and other purposes, and that the fiscal year 1973 budget request be at least one-third of the sum required to fund the compressed three year program.

As an example, I have recently visited the Denver VA Hospital, and there is no doubt in my mind, and in the minds of the hospital director, and in the minds of the planners of the VA here in Washington that this hospital must be enlarged by adding onto it.

In fact, this is programed, but we find it is programed for sometime between fiscal year 1973 and 1978, and there was no assurance that funds for design would have been included in the fiscal year 1973 budget. The report language cited directs that the VA speed up their modernization additions and replacements of VA hospitals, and I expect that the $700,000 or $800,000 needed to start design of the extension of the Denver VA hospital will be one of the items included in the fiscal year 1973 budget.

Mr. President, again let me say what a pleasure it was to work with Senator PASTORE on this bill, and I want to commend him for pushing ahead so that we in mid-July can bring this bill to the floor. I have been told by many agency heads and budget officers what a great boon this will be to their efficient management and planning to have this bill passed not later than the end of this month.

The ACTING PRESIDENT pro tempore. Who yields time?

Mr. PASTORE. Mr. President, first of all, I want to thank my colleague from Colorado for his kind remarks. I feel exactly about him as he stated about me. I do not think two men in the Senate on opposite sides of the aisle have worked with greater coordination and effectiveness than we have been able to do on this subcommittee.

Relevant to Senator ALLOTT'S comments on the new communities program, I would like to ask unanimous consent that a speech entitled "New Communities and Land Use Planning: Elements for Rational Population Distribution" delivered by the senior Senator from Colorado last Saturday to a 2-day institute on new communities sponsored by the University of Northern Colorado, be inserted in the RECORD at this point. Senator ALLOTT provides his insight on how new communities fits in with a rational national growth policy. In addition, because of his position on the Interior Committee his analysis of the pending legislation to stimulate land use planning is especially enlightening.

I recommend Senator ALLOTT'S remarks as good reading for all Senators.

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

NEW COMMUNITIES AND LAND USE PLANNING: ELEMENTS FOR RATIONAL POPULATION DISTRIBUTION

The topic of this Institute is more than a little bit intimidating. The "General Issues and Principles of New Communities" are as varied as the forms which "new communities" can take.

In coming years, I hope that every section of every State will become familiar with the concepts and categories with which you are already familiar—the "new-town-in-town," the "satellite city" and especially the "small town growth center."

This last is particularly attractive. It involves not just planning more orderly growth, but getting that planned growth where we need it most—in small towns.

It is nothing less than tragic—for young and old alike; for towns and cities alike—that many young men and women feel that they must leave their homes in small towns and migrate to cities in order to find opportunity. A new communities program that breathes new vitality in our existing pleasant smaller towns or in new smaller towns will make a substantial contribution to improving the quality of life in America.

The first task for those of us interested in "new communities" is a task of public education. All of us must join with the University of Northern Colorado in clarifying the full range of programs available under a properly comprehensive "new communities" effort.

Most of all, we must allay the suspicion that "new communities" programs will only involve communities that do not yet exist. We must emphasize that the "new communities" approach is not an alternative to coping with existing urban problems; rather, it is an alternative way of coping with those problems. It is possible for existing cities and villages—no matter how large or small—to qualify for "new communities" participation. The key element is cooperation between private developers and public officials in existing municipalities and counties.

But before such nationwide acceptance and participation can be expected, all of us who support the "new communities" concept have a job to do. We must explain that "new communities" are a practical and even a necessary response to our transition from a predominantly rural nation to a predominantly urban nation.

In addition, all of us must join with the University of Northern Colorado in demonstrating the practicality of this admittedly visionary approach to community planning.

In a sense the "new communities" concept—the idea of comprehensively planned growth—is a dramatic departure from the traditional American approach to land use and urban development. American cities, like Topsy, "just grow'd." And because we now recognize disadvantages in the way our cities have "just grow'd," we are now embarking on the kind of bold planning involved in the "new communities" program. Thus, "new communities," which depend upon a new dedication to a rational allocation of our dwindling land resources, represent a new—and long overdue—departure from traditional American approaches to community growth.

But in another sense the idea of "new communities" is an old American idea.

New York was a tiny new community of tiny houses on the tip of Manhattan Island when its namesake—York, England—was a venerable cathedral town built on Roman ruins.

When Salem, Massachusetts, was a cluster of new cabins on the edge of the wilderness, its namesake, Salem, England, was a stodgy middle-aged town just emerging from the Middle Ages.

At the end of the Revolutionary War the United States was more of a geographical expression than a nation. There were 3,000,000 Americans strung along a thin strip of a vast and unexplored Continent. In fact, 80 percent of all Americans at that time lived within 20 miles of Atlantic tidewater.

But that condition did not last. Before the last Redcoat had boarded a ship for England, the Americans began to stream across the Appalachians, the prairies, and finally the Rockies. The Westward movement

of Americans was one of the greatest mass migrations in history. And as the wave of humanity moved West, it left new communities in its wake.

The American Civil War was a four year explosion of violence on a scale absolutely unprecedented in modern times. One out of every eight Americans was a soldier, as compared with one out of twenty during the Second World War. But even in the midst of this tragic chaos, nearly a million homesteaders crossed the prairies to start new lives—and, in many cases, to start new communities.

I cite these facts for two reasons.

First, I suspect that one of the major obstacles of "new communities" is a fear—completely unfounded—that the "new communities" is an unrealistic, utopian departure from American experience.

Second, the very strongest reason for backing the "new communities" program—the strongest reason for believing that the program is practical—is that Americans are and always have been a mobile people. This is vitally important if we are to understand the real nature of our population program, and the real solution that is needed. Let me explain.

Judging by present evidence, I am not sure that we are yet in a crisis of over-population. While our current national rate of population growth is low, it is equally true that the population base to which the rate is applied is very large. The annual rate of growth has declined steadily during the last 15 years and now stands at one percent. The question is: Why, if this is true, do we feel so crowded—why do we feel as though there is a population problem?

I think the answer is that our feelings are accurate. There is a population problem, but it is not a problem of over-population. Rather, what America is suffering from is a bad distribution of our population.

This problem is real and serious, but we should all be very pleased that our problem is population distribution rather than over-population. We should be pleased because all available evidence suggests that population growth is not very responsive to government policies: we just do not know how to formulate policies which discourage population growth. On the other hand, there is considerable evidence that we know a lot about formulating policies that influence population distribution. I believe the "new communities" policy can exert a favorable influence on population distribution.

I do not need to tell you that the "new communities" idea has generated skepticism—and even derision—in some quarters. There are responsible persons who argue that "new communities" are a mirage—that they are either unnecessary or unworkable or both. I do not accept this view.

I do not deny that there are grounds for some skepticism about the feasibility of "new communities." The extensive British experience with them has not been a success. After twenty years of sustained effort, the population of British "new communities" had grown by only one percent of the national population. But we should not allow that to discourage us. "New communities" are bound to play a different role in this vast and restless nation than they do in Britain. Moreover, we are in a position to learn from the British mistakes.

What is most important and encouraging is that this Administration's commitment to "new communities" is clear. It manifests the firmness and intelligence of its commitment in three ways.

First, it is providing adequate staffing for the effective implementation of Government responsibilities. This year the Department of Housing and Urban Development will double the staff of the Office of New Communities.

Second, this Administration recognizes that the key to the success of bold undertakings like "new communities" is a partnership between Government and private developers.

Third—and most important—this Administration understands that the most vital service the Government can render to a "new communities" program is to guarantee the obligations of developers. It is especially difficult for private developers to obtain the necessary long-term financing—at acceptable interest rates—to carry them through the lean years of land acquisition. With Federal guarantees, new community development bonds are virtually risk-free for the investor. And the use of the bond market provides a vital new source of funds to supplement the banking and mortgage sources which usually are used for land development.

In addition, the Administration is formulating a program of interest grants that will enable public authorities to seek funds beyond the tax-exempt market, in the taxable bond market, to support "new communities" projects. It will do this by making up the difference between the cost of taxable and tax-exempt obligations.

Interest grants will encourage effective partnership between public and private authorities, and will not involve a significant burden on the Federal budget.

These are some of the things the Administration is doing to insure the success of the "new communities" program. But the Administration also understands that, if the "new communities" program is to succeed, it is important that the Government not do certain things.

I believe the men involved in the "new communities" project at the Government end understand that the chief threat to an intelligent and productive partnership with private enterprise is heavy-handed, overbearing controls imposed by the central government. And to the extent that the Government bureaucracy forgets this, I intend to remind them.

As far as "new communities" are concerned it is particularly important that the Federal Government practice intelligent restraint with regard to land use planning. No one has devoted more time than I have to promoting the idea of rational planning for our dwindling land resources. But we do not need land use planning that is done by remote Federal bureaucrats. Rather, the Nation needs State land use policies.

Throughout the Nation intelligent Federalism is resulting in new bodies of State law responsive to the special needs of each State. This is as it should be. And I specially admire Colorado's effort in this regard.

What I do not admire and will not support is some form of national zoning policy. The last thing we need is some Federal agency telling Denver or Omaha or Albuquerque where then can and cannot put gas stations. The Federal Government should be a partner, not a dictator in land use planning.

In this regard I want to point out that two major bills pending before the Senate Interior Committee bear misleading labels. They are called "national land use policy" bills. But both are designed to get the States to exercise *their* proper authority over land use planning.

This is not to say that there are not significant differences between the two bills.

One bill—S. 632—has two serious flaws.

First, it is excessively specific about what the *substance* of State land use policies should be. It involves unnecessary and—given the record of Federal regulations—unwise restrictions on the authority of the States.

Second, this bill would have Federal policy administered by the Water Resources Council, made up of Cabinet officers. In my judgment, this involves a bad principle of administration. When you vest authority in a multi-headed board, you blur the lines of accountability and responsibility. And when the policy being administered is as controversial as land use policy can be, then a multi-headed board becomes an instrument for buck-passing.

The second pending land use bill—S. 992—is the Administration bill.

It imposes less detailed criteria on State land use policy. It requires only that the State exercise control in three general kinds of areas: areas of critical environmental concern—such as coastal zones and estuaries; areas impacted by public facilities, such as airports or highway interchanges; and areas of anticipated new growth that will have a regional impact.

In addition, the Administration bill places administrative responsibility for Federal land use policy directly under one man—the Secretary of the Interior. This makes it possible for a strong executive to control administration, and for a determined Congress to control the executive. This bill would not impede vital cooperation between State and local planners.

A rational, cooperative State and national approach to land use planning is the *sine qua non* of an era of "new communities." I am looking forward to participating in the development of this era. And I am pleased that Dr. Powell gave me this opportunity to join you as you prepare for your own roles as pioneers in a new age of progressive community development.

Mr. SPARKMAN. Mr. President, on behalf of myself and the Senator from New York (Mr. JAVITS) I send to the desk an amendment and ask that it be reported.

The ACTING PRESIDENT pro tempore. The clerk will state the amendment.

The assistant legislative clerk read the amendment as follows:

On page 5, line 14, strike out "$59,355,000" and insert "$100,000,000".

On page 9, line 2, strike out "$100,000,000" and insert "$200,000,000".

The ACTING PRESIDENT pro tempore. Does the Senator wish the amendments to be considered en bloc?

Mr. SPARKMAN. Mr. President, if it is timely, I should like to call those amendments up now en bloc.

The ACTING PRESIDENT pro tempore. Does the Senator wish to have the amendments considered en bloc?

Mr. SPARKMAN. Yes.

The ACTING PRESIDENT pro tempore. Without objection, the amendments will be considered en bloc.

Mr. SPARKMAN. Mr. President, this amendment would increase the appropriations for comprehensive planning grants authorized by section 701 of the Housing Act of 1954 from the committee's reported recommendation of $59,355,000 to $100 million. It would also increase the appropriations for the open space land program from the committee's recommendation of $100 million to $200 million. This action would have the effect of increasing the appropriations up to the full amount requested by the President in his budget message to Congress. The sum recommended by the committee is the maximum amount which could have been appropriated under the authorization available at the time the committee reported the bill. Since that time, the Senate has approved additional authorization which permits the appropriation of the amounts in my amendment.

Mr. President, the 701 comprehensive planning grant program is one of the most widely used programs which we have ever had in housing. It provides funds to States, regional bodies, and local communities to finance the cost of local planning for urban and rural development. It is used in conjunction with Federal programs covering a wide range of community activities. Over the years, the program has been expanded so that today it is used by practically every level of local government to provide the planning support in carrying out community development and new physical improvements. According to HUD, there are more than $400 million of demand for funds from States and local planning agencies to meet the needs of this program.

Equally popular and constructive for the benefit of our local communities is the program of Federal assistance for the financing of open spaces. The President, in his message to the Congress on environment, stated his strong support for additional funds to bolster the open spaces program. He emphasized its need in connection with the program's new emphasis on the acquisition and development of additional park land in urban areas, including the provision of facilities such as swimming pools to add to the use and enjoyment of these parks. The demand for such funds is in the billions of dollars if we are to meet the needs for parks and recreational areas under consideration by our cities and suburbs. The administration is anticipating $224 million of applications for this year.

The administration urged me, as chairman of the Committee an Banking, Housing, and Urban Affairs, to report the additional authorization needed for these programs to bring them up to the President's budget level, which we did last week. The Senate proceeded to approve the committee's recommendations and approved the necessary new authority on Thursday of last week. I understand that, by this action, the Senate is within the rules in approving the additional appropriation without waiting for the House to approve the necessary authorizing legislation. It is understood, of course, that the House of Representatives would have to pass the authorizing legislation before the higher amount could be included in the final appropriation bill passed by the Congress.

Mr. President, both of these items are essential to the continuation of the federally assisted community development programs and the improvement of the environment in our Nation's cities and smaller communities throughout the Nation.

Mr. President, may I say that this was urged upon us by the administration, and we were told that it was urgent to get this measure through in order that it might be included in this appropriation bill. At the request of the administration, our committee took up and reported Senate Joint Resolution 52, and it passed the Senate last Thursday. All I am trying to do here is to place in the appropriation bill the amount that is now authorized by request of the administration.

Mr. STEVENSON. Mr. President, Senator SPARKMAN's amendment to provide an additional $40 million for the 701 comprehensive planning assistance program would bring total fiscal year 1972 appropriations for this program to $100 million—twice the fiscal year 1971 funding level, but still far short of the needs according to HUD estimates.

The traditional low funding for the 701 program has reflected the lack of importance attached to comprehensive planning in the country. Yet, to a significant extent, the absence of comprehensive planning—and particularly areawide planning—has been responsible for the disorderly, inefficient, and costly manner in which our large metropolitan areas have grown and for many of the problems which have resulted from unplanned growth.

In supporting Senator SPARKMAN's amendment, it should be clear that the Senate is considering an increase for the present 701 program and not for title II of S. 1618—the proposed State and local planning and management legislation which the administration hopes will replace 701.

Indeed, any funds appropriated for the 701 program—even if Senator SPARKMAN's amendment is not passed—must be obligated by HUD in a manner consistent with the language in the present statute, particularly the provision specifying that "planning assisted under this section shall, to the maximum extent feasible cover entire areas having common or related development facilities." The deemphasis of areawide planning which the administration appears to be considering would seem to violate the clear intent of the law.

I believe Senator SPARKMAN deserves high commendation for introducing this amendment, as well as his other amendments to increase appropriations for the open space program and the 235 and 236 low- and moderate-income housing programs.

Mr. PASTORE. Mr. President, I really have no personal objection to increasing these appropriations, but for all practical purposes, this is what we are up against. The Senator from Alabama is going to follow this request with an increase of $25 million under section 235, and an additional $25 million under section 236, above the sums recommended by the Senate Appropriations Committee.

With reference to the open space land programs—I am one of those who is very enthusiastic about the program—I think that we may do the cause greater injury than service if we do it in this way.

I would hope the Senator would listen to me attentively. In the first place, appropriation bills originate in the House. These items have not been authorized by the House. When we go to conference. I tell Senators very frankly, after we discuss this matter about 5 minutes we will have to accede to the House position. in my humble opinion, they will be opposed to it.

Insofar as sections 235 and 236 are concerned, we have a different story, for the simple reason that these amounts have been authorized, and I think we would be within our competence and our jurisdiction to appropriate them on the floor of the Senate.

I am not suggesting for a moment that the amendment proposed is subject to a point of order. It is not for the simple reason that the Senate, on the 15th of July, did authorize an amount sufficient to include the increases being suggested. The only thing I am saying to my colleague is that we will be setting a rather unfortunate precedent. I know the administration has requested it, and I am not opposed to it, but I would hope the Senator from Alabama would take into consideration whether or not this proposal ought not to be offered in a supplemental appropriation bill that would originate in the House, where I think we would have a better chance of having it accepted. Between now and then, surely this administration cannot commit more than $59 million for planning grants, nor can it commit more than the $100 million on the open space land program that is already provided in the bill.

I do not know how my colleague from Colorado feels about it, but I think we ought to be frankly discussing the matter with each other at this moment on the floor of the Senate.

I know of the pressures on the Senator from Alabama, but we are going to hit a buzz saw in the House. I feel we would be going into conference on the other matter with a little more rationality and a little more persuasiveness.

Mr. ALLOTT. Mr. President, will the Senator yield?

Mr. PASTORE. I yield.

Mr. ALLOTT. Mr. President, I should like to express myself to the Senator from Alabama along the lines of the statement of my colleague from Rhode Island.

We have in this bill today $1,680,630,000 more than was encompassed in the bill last year. It is $1,220,501,000 above the budget estimate. No one in the Senate has been more enthusiastic or a stronger advocate of the various housing programs than the distinguished Senator from Alabama, but I must say to him that I agree with the Senator from Rhode Island.

I understand that the Senator from Alabama will shortly propose an increase on the 235 and 236 programs, one or both, and those matters will have to be considered when we get to them; but with the excess over the estimates for 1972 in this bill, and the great amount over the budget of last year, I think that the increase of these items would only weaken the hands of the committee in the areas where we have already strengthened our bill, areas which I am sure the Senator approves of.

I sincerely hope that the Senator will not press this matter at this time, because it would weaken the position of the conferees with the House of Representatives.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. ALLOTT. I yield.

Mr. PASTORE. I hope I am not misunderstood on this matter, because these are all worthwhile programs, and I am for them. The only question here is that I think this particular one should originate in the House of Representatives, and we will certainly have time on the

first supplemental bill that comes up to take care of this.

I ask my friend from Colorado, if the Senator from Alabama should be of the mind to withdraw these two amendments on the premise that they be initiated and treated in the first supplemental, whether he would look sympathetically upon an increase of $25 million in each of the 235 and 236 categories, and take those to conference.

Mr. SPARKMAN. Mr. President, let me just say this: I recognize the position of the gentlemen handling this bill, both for the majority and for the minority, and, too, I am aware of the rule to which the Senator from Rhode Island has referred. I do not like the rule. I do not like the interpretation that has been put upon it, and I think it is going to cause us trouble throughout the years. I rather resent that we find ourselves in this position, with our hands tied.

However, I do wish to make this clear: I am not offering this proposal simply because I feel that I want it in there. The administration asked for it, and urged us to pass the authorizing legislation in order that it might be inserted in this bill. The majority leader, by letters that have gone out to the chairmen of the committees, has urged us to pass all of the President's so-called must bills, and this was one of them.

I think there is certainly logic in what both Senators have said, that it could be included in the first supplemental, and I certainly am not wishing to create any difficulty for the management of this bill. I do have a further amendment, and I am perfectly willing not to insist upon the present amendment, and move ahead and offer my second amendment.

Mr. PASTORE. Fine; I appreciate that.

Mr. SPARKMAN. Mr. President, I withdraw the amendment.

The ACTING PRESIDENT pro tempore. The amendment is withdrawn.

Mr. SPARKMAN. Mr. President, on behalf of myself and the Senator from New York (Mr. JAVITS), I send to the desk another amendment, and ask for its immediate consideration.

The ACTING PRESIDENT pro tempore. The amendment will be stated.

The assistant legislative clerk read as follows:

On page 2, line 23, strike out "$175,000,000" and insert "$200,000,000".

On page 3, line 2, strike out "$200,000,000" and insert "$225,000,000".

Mr. SPARKMAN. Mr. President, I ask unanimous consent that the amendments be considered en bloc.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

Mr. SPARKMAN. Mr. President, this is a request for funds in two of the most popular and, I think I can say, two of the best housing programs we have ever had, 235 and 236. And, as has been suggested by the chairman of the committee, this is a matter as to which no point of order can be raised in the conference as to its being irregular, because it has been fully authorized.

This amendment would increase the amount of contract authority available to each of the 235 and 236 programs by $25 million. The Appropriations Committee has recommended $200 million for the 236 rental program and $175 million for the 235 homeownership program. My amendment would authorize $225 million for 236 and $200 million for 235.

These two programs, which grew out of 3 months of intensive work by the Subcommittee on Housing and Urban Affairs during the summer and fall of 1967, are the two most important tools available to provide housing for the Nation's low- and moderate-income families. During the slightly less than 3 years since the Housing and Urban Act of 1968 was signed into law, they have provided several hundred thousand standard dwelling units now occupied by low- and moderate-income families who could not have otherwise afforded decent housing.

The history of the Nation's housing and urban development programs has seen no success story like the success of the 235 and 236 programs. As chairman of the Banking, Housing, and Urban Affairs Committee, I am proud of the significant part that the committee played in developing these successful interest subsidy programs. I would also like to congratulate the Appropriations Committee for the strong support it has shown these programs over the past 3 years.

The success of these programs in doing the job they were designed to do is a strong argument for keeping them running at a level commensurate with the indicated need for low- and moderate-income housing. Figures submitted to me by several organizations supporting an increase in the appropriation for these two programs indicate that at the end of fiscal year 1971, there were applications on hand in HUD for over 165,000 235 units and approximately 240,000 units under the 236 program. This backlog is almost enough in each case to exhaust the full amount that the Appropriations Committee has recommended for fiscal year 1972.

These organizations—National Association of Home Builders, National League of Cities, U.S. Conference of Mayors, NAHRO Information Center for Community Development, and National Housing Conference—in a letter sent to me yesterday have therefore urged that the full amount of funds available for these two programs be appropriated.

My amendment would do this for the 236 program, increasing the committee's recommended $200 million to $225 million. This is in recognition of the enormous backlog under the 236 program and the fact that it must also provide housing units for the elderly, because of the administration's refusal to use the 202 direct loan program for which funds have been provided separately and not used for several years.

I am also recommending that the 235 program be increased by $25 million to a level of $200 million for fiscal year 1972. Although I am sure that HUD could use the full $225 million available, the backlog for the 235 program is not quite as huge as that for the 236 program.

Mr. President, it is essential that these two programs continue to receive Congress strong support, not only in authorization acts but also in appropriation acts. These programs are the keystone to the achievement of the 10-year housing goal spelled out by the Congress in the 1968 Housing Act. If we are to produce the 6 million dwelling units for low- and moderate-income families contemplated in the 1968 act, it is important that this amendment be adopted as part of that plan laid out in 1968.

I urge all Senators to support my amendment.

Mr. JAVITS. Mr. President, I urge the Senate to approve an increase of $25 million for the section 235 homeownership assistance program, and $25 million for the section 236 rental housing assistance program. This would fund the section 235 program at $200 million, and the section 236 program at $225 million.

Recently this year, Senator HART and I fought in the Senate to add $25 million for each of these programs to the supplemental appropriations bill. This was done by the Senate but was eliminated in the conference. For fiscal 1972 the House committee has only recommended appropriations of $165 million out of an authorization of $225 million for each of the programs. The Senate committee has raised the level of 235 funding to $175 million, and the level of the 236 program to $200 million. However, I believe that these level are still inadequate to meet the rising and highly justifiable needs under the programs.

Section 235 and especially section 236 are increasingly becoming the programs which will be used to supply the bulk of the subsidized housing in the country.

Section 236 subsidy funds have literally become the lifeblood of moderate and middle income multifamily housing construction and rehabilitation in New York City and other heavily populated sections of my State. Without these subsidies, efforts by Federal and local housing agencies to overcome a disastrous housing shortage, which worsens every day, are well nigh futile.

Governor Rockefeller has recently stated that housing is New York's No. 1 problem. The State's major housing development agencies have as a result accelerated their capability to handle the volume of new construction and rehabilitation that must be achieved. The three largest agencies combined project a statewide demand for 236 funds of between $70 and $75 million as of June 30, 1972. Yet, they can expect to receive only about $25 million under existing funding levels. HUD's more conservative estimates, prepared at my request, indicate that New York City alone will require $25.6 million for projects that will be under construction by December 31, 1971. HUD's best estimate of the statewide 236 demand by December 31, 1972, is $77 million.

Against this backdrop, which I am sure is similar to the situation in many other areas around the country, an appropriation of $175 million or even $200 million is not sufficient. The problem is similar in the section 235 program where the Senate committee report states the backlog on a nationwide basis at $100 million.

A primary complaint in the urban areas of our country is lack of adequate housing—it is the root of many other

evils. In order to alleviate this problem we must fund key programs such as 235 and 236 at the highest possible level. Therefore, I urge my colleagues to approve the amendment today which would increase the two programs by $25 million each.

Mr. KENNEDY. Mr. President, I rise in support of the distinguished chairman of the Senate Banking, Housing and Urban Affairs Committee. His amendment today reflects his deep knowledge of the crisis facing this Nation in the area of housing.

It is not a new phenomenon. We have heard a host of commissions and seen the statistics year after year. We are not meeting the Nation's need for new housing. We are not meeting the need of our elderly citizens. We are not meeting the needs of the poor. We are not meeting the needs of the young.

Although the Senate Appropriations Committee should be commended for the increase over the House-approved bill of some $35 million for low-income rental housing in the section 236 program, I believe that we can do more. The committee has earmarked the 236 increase for the elderly and the handicapped, thereby recognizing the lack of adequate housing that exists among the Nation's 20 million elderly.

However, the need for adequate low- and moderate-income housing extends across all levels of society and it is apparent that we are falling short of the two-decade-old goal of providing a decent home for every American. One only has to drive through the city of Washington or the inner city of a thousand other urban and rural communities to know that our efforts are inadequate. Boarded windows, rotting timbers, buildings left to die, and nearby, families packed into one-room warrens of aging tenements.

That is enough to demonstrate the wisdom of the amendment by the Senator from Alabama, who proposes to add $25 million to section 236 and $25 million to section 235.

If additional justification for these increases were needed, the testimony of witnesses at hearings on the Housing and Urban Development Legislation of 1970, from the National League of Cities, from the National Association of Home Builders, from the National Housing Conference, and the National Rural Housing Coalition amply support these increases.

Perhaps the statement of a spokesman of the AFL–CIO should be recalled. He told the housing subcommittee last year that in 1950 nearly 2 million housing starts occurred when the population was 152 million. But now, with a population of over 200 million, we are building at a lower annual rate. By every possible standard of measurement we are coming up short.

And there is another way of measuring the need for these subsidized housing programs. That is to inquire into the backlog of applications.

Today, from the cities and from the rural areas, there are applications filed for 165,000 units of section 235 and 240,000 units of section 236. Merely meeting this backlog would use up most of the available funds.

In Massachusetts alone, there were applications during fiscal year 1971 for $16.5 million in section 236 projects but only $6.6 million could be funded, leaving a backlog of $9.9 million, or more than 9,000 units.

In Massachusetts in fiscal year 1971, there were $2.4 million in applications for section 235 projects but only $1.5 million could be funded, leaving a backlog of some $900,000 in applications for over a thousand units.

Mr. President, approval of this amendment is the least we can do if we are to answer the need for adequate housing of all of our citizens.

Mr. PASTORE. Mr. President, I have discussed this amendment with the Senator from Colorado (Mr. ALLOTT), and we are both amenable to it. I assure the Senator from Alabama that I shall fight vigorously for the retention of this amendment in conference. I do not know what the House of Representatives is going to do.

The estimate was $175 million in each category, and the House cut each figure back $10 million. We put back the $175 million figure in each category, and we raised it to $200 million in the 236 category, with a statement in the committee report urging that at least $35 million of that amount be used for housing for the elderly or handicapped, which I think is the best housing program ever conceived in this body.

When Mr. Romney was before the committee, he admitted that only one out of every five elderly citizens is being accommodated with adequate housing. I think that is a national disgrace, in this affluent country. There are countries throughout the world that have better programs than we have even though we are furnishing them with foreign aid.

This is one program I can support with all the vigor and energy required, and I am perfectly willing to accept the amendment.

Mr. ALLOTT. Mr. President, will the Senator from Rhode Island yield me 2 or 3 minutes?

Mr. SPARKMAN. Mr. President, I yield the Senator whatever time he requires.

Mr. ALLOTT. Mr. President, I just wish to say this: I endorse what Senator PASTORE has said. He and I have both been enthusiastically in favor of housing for the elderly, and we have tried to take care of them in this bill. It is necessary that we do so; we all know that.

I wish to say further also that while I suppose that I ought to sort of take a watchdog position on many of these measures, I have supported the 235 and 236 funds all along. I have not been enthusiastic about the rent supplement funds. I have yet to be convinced that the rent supplement program is as efficacious or meritorious as 235 and 236 promise to be. But I am wholly in accord with the chairman of the committee, and we will take the matter to conference.

Mr. PASTORE. Vote.

The ACTING PRESIDENT pro tempore. Do Senators yield back the remainder of their time?

Mr. SPARKMAN. I yield back the remainder of my time.

The ACTING PRESIDENT pro tempore. All remaining time having been yielded back, the question is on agreeing to the amendment of the Senator from Alabama.

The amendment was agreed to.

Mr. SPARKMAN. Mr. President, I ask unanimous consent to have printed in the RECORD a statement signed by representatives of various organizations in support of such a measure, including the National Association of Home Builders, the National League of Cities, the National Housing Conference, the U.S. Conference of Mayors, and the NAHRO Information Center for Community Development.

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

JULY 20, 1971.

DEAR SENATOR: The undersigned respectfully urge your support for an increase in the amount of contract authority authorized for the 235 and 236 programs. It is absolutely essential that the momentum which we have begun to achieve in furnishing a continued supply of housing for low and moderate income families be maintained. Two of the programs which have proven to be most effective in providing this vitally needed housing are the Section 235 and Section 236 interest subsidy programs for homeownership and rental housing.

H.R. 9382, as reported out by the Senate Appropriations Committee authorizes $200 million for the 236 program and $175 million for the 235 program. This is in contrast to the $225 million in contract authority available for fiscal year 1972 for each of the programs. There is a need for the full amount of the available authority. We understand that the unfunded backlog at the end of fiscal 1971 for the 235 program was for over 165,000 units and for the 236 programs about 240,000 units. Just funding this backlog will use up most of the available funds.

Full appropriation of the available authorization is therefore essential if the nation is to meet the Congressionally established 10-year housing goal in the 1968 Housing Act of six million dwelling units for low and moderate income families.

Sincerely,

JOHN A. STASTNY,
President,
National Association of Home Builders.

JOHN J. GUNTHER,
Executive Director,
U.S. Conference of Mayors.

ROBERT W. MAFFIN,
Executive Vice President, NAHRO Information Center for Community Development.

PATRICK HEALY,
Executive Vice President,
National League of Cities.

NATHANIEL S. KEITH,
President,
National Housing Conference.

The ACTING PRESIDENT pro tempore. The bill is open to further amendment.

Mr. PASTORE. Mr. President, I know there are going to be two more amendments, but I do not see the Senators here. I suggest the absence of a quorum, and ask unanimous consent that the time be taken out of neither side.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered. The clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. HARTKE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

Mr. HARTKE. Mr. President, I call up my amendment which is at the desk, and ask for its immediate consideration.

The ACTING PRESIDENT pro tempore. The amendment will be stated.

The assistant legislative clerk read as follows:

On page 20, line 25, strike out "$20,252,000" and insert in lieu thereof "$23,252,000".

Mr. HARTKE. Mr. President, this amendment deals with the exchange of information between the Veterans' Administration and private medical authorities throughout the United States.

This is the kind of program which began in 1966; and the difficulty in this program simply is that the money has expired and the authorization for the pilot program has expired. There is no question that the administration, the Veterans' Administration, and the President, himself, are in favor of continuation of this program.

At the outset, I wish to commend those who worked so tirelessly to assure first-class medical care for our Nation's veteran population.

Senator CRANSTON, as chairman of the Subcommittee on Health and Hospitals, has done an outstanding job in continuing his investigation into the quality and quantity of the Veterans' Administration's health system. His hearings this year together with his testimony before the Independent Offices Subcommittee of the Committee on Appropriations clearly detailed his dedication to providing the best possible medical care possible for our Nation's veterans, and his mastery of the intricate details of the subject matter.

I am gratified also of the deep attention and kind consideration which Senator PASTORE, as chairman of that committee, has given to veteran medical care. Because of his concern, veterans everywhere will be benefited by the hundred million dollars which his committee has added for medical care. I trust that in the future we can expect more in this regard, and I know that Senator PASTORE will give the same concern that he always has in this matter.

The amendment which I offer today is to add $3 million to the section for medical administration and miscellaneous operating expenses. This addition will provide for full funding of the exchange of medical information section of section 5055 of title 38. This pilot program, which was first authorized in 1966, authorizes the Administrator to enter into agreements with medical schools, hospitals, and members of the medical community for the free exchange of medical information. Utilizing closed circuit television, and individualized programed instruction, it enables continuing education of medical personnel and a cross fertilization of information and techniques between the general medical community, and the Veterans' Administration medical system. Current appropriation authority for this program expired on June 30 of this year. Legislation, however, has been introduced to extend this authority for an additional 4 years. The House Committee in reporting H.R. 9382 noted that the medical information program authority expires at the end of this fiscal year. They indicated that the administration would submit a supplemental bill at some later time to provide funds after the program was extended. Yesterday, however, the House passed H.R. 4762, which is the bill extending the authority of this pilot program. Shortly thereafter, the Veterans' Affairs Committee, of which I have the honor to be chairman, met in executive session, and ordered the bill reported favorably. Thus, I can see no reason why this viable program should be subject to possible long delays while waiting for a supplemental request. The $3 million, which will provide for full funding of the medical information exchange program can be added now to the medical administration and miscellaneous operating expense section of the budget. My amendment would thus increase that section from $20,252,000 to $23,252,000.

I urge the support of Senators in this matter so that this valuable program will suffer no delay.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. HARTKE. I yield.

Mr. PASTORE. We have been very generous with the Veterans' Administration. As a matter of fact, the House raised its budget by $120 million plus, and we went $100 million over that. But here, again, I say that the House has not considered this matter for funding. It is true that the authorization has passed the House, and it is true that the Senate committee has acted upon it. But the Senate has not acted. Therefore, it is subject to a point of order, and I must raise the point of order and suggest that it be brought up on the first supplemental.

Mr. President, I raise the point of order.

The ACTING PRESIDENT pro tempore. The point would not be in order——

Mr. PASTORE. Until the time has expired. I will wait.

Mr. HARTKE. I invite attention to the fact that this really does nothing except delay the program. There is no question that this amendment ultimately will become the law.

Mr. PASTORE. I realize that.

Mr. HARTKE. In the meantime, we deprive the veterans of their opportunity to have this continuity of exchange of these programs.

Mr. PASTORE. That is true. But the Senator must realize that we have a tremendous responsibility in the committee. The pie is only so big. We are now billions of dollars over the estimate. We have been very generous with the Veterans' Administration.

I am not saying that this is not a fine program. But I have just persuaded the Senator from Alabama to withdraw his amendment because it was not completely authorized and the House had not heard it. I cannot be inconsistent.

So far as that is concerned, when it comes up on the first supplemental, I will be for it and I will go along with the $3 million. But the Senator cannot do it this way at this time, because we will be opening the door and it will never end.

Mr. HARTKE. I do know that, technically speaking, this amendment is subject to a point of order, and I am not going to argue that point.

I appreciate the attitude of the Senator from Rhode Island in expressing his desire to go along. I would hope that some way we could keep the continuity of the medical education program going. In the meantime, it stops.

This has been one of the difficulties in too many programs in Congress—that is, that we had a stop-and-go operation. Under normal circumstances, if the bill itself would have been in good shape, we would have followed the regular procedures of authorization and expenditures.

It is probably more of an omission of the Veterans' Administration in the original instance, in not making sure that they had the authority extended early.

I know that I cannot press the point with the Senator from Rhode Island.

Mr. PASTORE. I wish the Senator would not press the point. As I said before, we would be setting a precedent that would put me in a rather awkward position if someone else comes in.

This amount has not been authorized completely. The Senate committee has acted on it, but it has not been worked on by the Senate. If we take it to conference, it will not last 2 minutes. Why hurt the program? Let us do it in the supplemental bill. That is the time to do it, and then we will get the money.

Mr. HARTKE. The authorization will be complete before the conference on this bill is complete, because there will not be any dispute on this matter, in my opinion, on the authorization. I would think that if we do not finish this bill in rapid order, we could complete the authorization before this bill were completed.

Mr. PASTORE. That has been the fault of the Senate. That is why we have had to stay here until Christmas. We reported this bill, with several of the big programs not authorized, and they have been working on these in the legislative committees for months and months. How are we ever going to get out of here unless the authorization committees do their work? I cannot help it if the committee has not authorized it. If there is a lack of continuity, it is not our fault. It is up to that committee to bring out the legislation, and then let us authorize it. This has happened before. I have said this many times on the floor of the Senate.

Even now we do not have an authorization for the National Science Foundation. That is what we have been up against. The Appropriations Committees are expected to do their work, I think the legislative committee ought to—well, I could use some harsh language, but I shall not.

Mr. HARTKE. I am fully aware of the situation. I do not want to press the point, if the Senator from Rhode Island cannot see his way clear.

I hope they would reconsider this on the debate and before we go to third reading——

Mr. PASTORE. I do not want to make that promise. If this matter comes up on the supplemental bill, it will have my 100 percent support. Outside of that, I raise a point of order.

Mr. HARTKE. I withdraw the amendment, then.

The ACTING PRESIDENT pro tempore. The amendment is withdrawn.

Who yields time?

Mr. MAGNUSON. Mr. President, I send an amendment to the desk and ask that it be stated.

The ACTING PRESIDENT pro tempore. The amendment will be stated.

The legislative clerk read as follows:

At page 15, line 24, strike $620,150,000 and insert in lieu thereof $645,150,000.

Mr. MAGNUSON. Mr. President, I ask unanimous consent that the name of the Senator from Massachusetts (Mr. KENNEDY) be added as a cosponsor of the amendment.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

Mr. MAGNUSON. Mr. President, the reason I am sponsoring this amendment with the distinguished Senator from Massachusetts, which adds $25 million for the so-called dropout program, is that last year Congress approved the so-called Mansfield amendment which required the Department of Defense, the Atomic Energy Commission, and NASA to halt basic research that was not directly connected with their mission. I think the Senator from Washington voted for it. Most of this research has been picked up by the National Science Foundation. The mission agencies mentioned above have dropped support of fundamental research—that is, basic research projects—totaling $100 million.

The Director of the NSF stated before the Senate Committee on Labor and Public Welfare that 75 percent of this $100 million ought to be supported. The NSF budget request contained an allowance $40 million to fund that part of this research which NSF considers most important. Thus, at least $35 million of important research would fall between the cracks unless the Senate approves this amendment. Senator KENNEDY'S subcommittee increased the NSF authorization by $35 million to allow this important basic rsearch to be continued by the NSF.

The appropriation bill provides $623.15 million but it has not provided the additional $35 million authorized.

The Senate Appropriations Committee has approved increases made by the House Appropriations Committee for science education support programs totaling $38.8 million. This $38.8 million will probably be taken out of the basic scientific research project support program.

This reprograming will add to the deficit in science research support; the reduction could total $73.5 million.

Mr. President, this cut in basic research comes at a time when every Member of the Congress knows that thousands of scientists and engineers across the Nation are already unemployed.

I believe an increase in this budget item is needed and required to show these skilled professionals that Congress recognizes its responsibilities to provide jobs and research opportunities. I also believe that this Nation has tremendous research needs. I am particularly concerned about environmental, social science, engineering, oceanography, biology, and chemistry research. The problems of the environment alone are staggering and treating the symptoms, as we do today, will never provide the basic prescription needed in order to prevent the continued destruction and degradation of the air, water, and land.

Mr. President, I also have a deep interest in this matter—and this has nothing to do with the merits or demerits of the projects that have been declared sound—because in my State of Washington we have a tremendous unemployment problem. We have a technological and scientific "Appalachia" going on out there. The unemployment figures as of last week were 16.8 percent. That means about 22 percent, when we add up those that do not go down and ask for unemployment compensation as yet. Many Senators have been talking about unemployed engineers. This amendment would provide an opportunity for the money to become available to meet the kind of rhetoric which we have heard so much in this Chamber in debate on controversial projects.

Twenty-five million dollars is only a token and certainly will not meet the full need, but I hope that the Senate will approve it.

Mr. President, I might say for the RECORD that this also involves projects in many of the large universities about which several Senators have talked to me concerning the program, because the universities in their areas have had some of these projects that were dropped, or had to be dropped by the Mansfield amendment—and I think the Mansfield amendment is in the right direction—but we do have to provide these basic research projects and fund them somewhere else.

Mr. PASTORE. Mr. President, I will make my position very clear.

The House has authorized the amount that came up as a budget estimate of $620,150,000. The Senate legislative committee authorized $706 million. Last year, we appropriated $511 million. The program has been growing and growing and growing. We have had no final conference on the authorizing legislation and we do not know what the final figures will be. The fact is, the amount authorized by the House might come out of the forthcoming conference. Our committee has recommended the budget estimate and the sum authorized by the House.

The House has recommended an appropriation of $582,000,000, which is $38,150,000 less than the sum contained in the pending measure. We restored the amount cut by the House and wrote in the report that the program for "Institutional Support for Science" and "Science Education Support" be implemented in the amounts of $28,800,000 and $99,300,000 respectively.

The distinguished Senator from Washington is a member of the conference. I know that this is going to be a hot potato when it gets to conference but if he will handle that hot potato—and I have talked this over with the Senator from Colorado (Mr. ALLOTT)—we will be willing to take it to conference.

Mr. MAGNUSON. I thank the Senator. I am used to handling hot potatoes. Some of them may drop.

Mr. PASTORE. I will say this, that if this comes to a yea-and-nay vote, I will have to move to lay it on the table.

Mr. ALLOTT. Mr. President, this is a ticklish situation and points up again how important it is that the legislative committees in Congress act and get the authorizations out, because here again we are in a never-never land.

I want to say, because I want it in the RECORD, that last year $513 million was appropriated. Now, with our committee recommendation at $623 million, we are asked to put it up $35 million more, which will be $658,150,000.

Without this money, the bill is already 22 percent over the bill for last year—22 percent in 1 year. We are caught on the horns of the so-called Mansfield amendment which passed a couple of years ago. That amendment required certain agencies to divest themselves of certain research. We have been hit over the head here with the fact that $100 million has been canceled out of certain research in the various departments of Government, including the Department of Defense and the AEC.

However, the statement of the National Science Foundation is that about 75 percent of them, they believe, are worthy of being financed by the National Science Foundation. That has been the argument used by people who want to raise this by $75 million, or way above that; but I point out that nowhere in the record does the National Science Foundation say that it has assumed $75 million will be cut from the contracts, but that only 75 percent of the $100 million, in their opinion, are worthy of consideration by the National Science Foundation.

Other than that, I want to make the record perfectly clear that I agree with my chairman.

Mr. KENNEDY. Mr. President, there is a very serious problem within the $623.15 million program budget being recommended for the National Science Foundation for fiscal year 1972. The total amount does match the total requested by the President. However, let me quickly point out the budget as reported out to this body is neceessarily different than that contained in the President's request. Whereas the NSF requested $12.0 million for its program of institutional support for science, the proposed appropriation legislation requires that $28.8 million of the sum appropriated be used for that program. Additionally, whereas the administration requested $77.3 million for NSF's science education support programs, the legislation now contains a mandatory floor of $99.3 million. The education programs are badly needed, and great public support for them has been generated. The increases for these two programs total $38.8 million above the amounts included in the NSF total of $623.15 million. Unless additional funds are appro-

priated above the total request, the $38.8 million will have to be obtained by cuts in NSF's basic scientific research project support program. I am sure this is not the intent of this body, especially in view of the following facts.

Funds allowed for the basic research program of NSF in the fiscal year 1972 budget request fall far short of what is needed. In testimony before the Special Subcommittee on the National Science Foundation of the Senate Committee on Labor and Public Welfare, which I chair, the Director of the National Science Foundation, Dr. William D. McElroy, presented convincing evidence that, during the most recent 2 fiscal years, the mission agencies of Government are dropping support of fundamental research projects totaling some $100 million. A detailed listing of these projects is contained in the subcommittee hearing report on S. 1968. I have with me today two summary tables showing, by State and Federal department, the dollar value of the additional research NSF is being requested to support and I ask unanimous consent that they may be printed in the RECORD.

The PRESIDING OFFICER. Without objection, it is so ordered.

(See exhibit 1.)

Mr. KENNEDY. The National Science Foundation budget request contained an allowance of $40 million to fund that part of this research which NSF considers most important to continue in the national interest. In testimony before the NSF Special Subcommittee, the Director of NSF stated that a minimum of 75 percent of the $100 million ought to be supported. As you know, NSF utilizes not just its own staff, but also those scientists nationwide who are qualified in all of the disciplines and subdisciplines of science to advise on which research programs ought to be supported. These are very considered judgments. In view of the deficit of $35 million in quality research which should be supported but which cannot be under the administration's request, the final authorization bill passed by this body, then, contained an additional $35 million for this purpose.

The appropriation bill for $623.15 million now being considered does not include the added $35 million, nor does it include funds for the internal reprograming I described earlier of $38.8 million which means that if the bill before us is passed unaltered, there will be a deficit of science research support of at least $73.8 million. Much concern has been expressed by myself and many of my worthy colleagues on the very costly unemployment of potentially productive scientists and engineers, which would be aggravated if this bill is passed unamended. I am sure it is not the intent of this body to further exacerbate that problem by having NSF, the major source of fundamental science research in the country, start fiscal year 1972 with a deficit approaching $75 million. The effective way to solve an unemployment problem is to provide worthwhile productive employment which allows the unemployed to make maximum contributions in terms of their capabilities. The programs of NSF afford just such an opportunity for highly skilled persons.

For these reasons I urge that an additional $25 million be added to the NSF appropriation bill under consideration. This will not cure the entire NSF deficit; however, I feel that it will greatly alleviate a serious problem.

EXHIBIT 1

Mission agency research support reductions

Alabama	$186,000
Alaska	513,000
Arizona	626,000
Arkansas	10,000
California	12,608,000
Colorado	1,163,000
Connecticut	2,146,000
Delaware	102,000
Florida	2,815,000
Georgia	664,000
Hawaii	239,000
Idaho	35,000
Illinois	3,264,000
Indiana	494,000
Iowa	787,000
Kansas	77,000
Kentucky	484,000
Louisiana	173,000
Maine	42,000
Maryland	2,388,000
Massachusetts	12,473,000
Michigan	1,773,000
Minnesota	825,000
Mississippi	30,000
Missouri	803,000
Montana	165,000
Nebraska	100,000
Nevada	349,000
New Hampshire	260,000
New Jersey	4,650,000
New Mexico	1,734,000
New York	7,857,000
North Carolina	1,429,000
North Dakota	40,000
Ohio	726,000
Oklahoma	515,000
Oregon	664,000
Pennsylvania	2,668,000
Rhode Island	786,000
South Carolina	220,000
South Dakota	376,000
Tennessee	563,000
Texas	2,182,000
Utah	839,000
Vermont	310,000
Virginia	655,000
Washington	435,000
West Virginia	140,000
Wisconsin	1,580,000
Wyoming	115,000
District of Columbia	1,220,000
Subtotal, United States	75,298,000
Foreign	114,000
Subtotal	75,412,000
Additional projects being dropped by mission agencies, not yet identified by State:	
Department of Defense	15,000,000
Atomic Energy Commission	9,000,000
Total	99,412,000

NATIONAL SCIENCE FOUNDATION

Research project support reductions by other agencies

[In thousands of dollars]

Department of Defense	$54,959
Department of Health, Education and Welfare	10,287
Atomic Energy Commission	24,819
National Aeronautics and Space Administration	7,707
Department of Interior	630
Veterans' Administration	101
Department of Commerce	909
Total	99,412

DROPOUTS AND THE NATIONAL SCIENCE FOUNDATION

Mr. PACKWOOD. Mr. President, I rise today as a sponsor of the amendment to provide additional funds in the National Science Foundation budget necessary to continue high quality ongoing institutional research which as of this moment is in danger of abandonment by several mission-oriented agencies, most notably the Defense Department, NASA, and the AEC. Normally, I would not urge such increased funding, but the situation before us requires such action.

The National Science Foundation has broad authority to insure continued U.S. strength in the Nation's science and engineering research programs. However, in spite of the legislative mandate given the NSF by the Congress, the major Federal funding for fundamental research in the sciences and engineering has, for many years, been provided by the weapons development and space agencies, in particular, the Department of Defense, the Atomic Energy Commission, and the National Aeronautics and Space Administration. However, during the last 18 months, there has been a dramatic change in the character of the research support programs of these and other mission agencies. This results from the fact that these agencies are discontinuing or drastically reducing their support for research projects that are not clearly and directly related to the achievement of a specific mission objective of the agency. Almost without exception, the researchers involved are turning to NSF for funding.

The administration's fiscal year 1972 budget request for NSF includes an allowance of $40 million to take care of this so-called dropout problem. The National Science Foundation Subcommittee examined this problem in detail. NSF testimony including specific and detailed information on the projects affected, the institutions involved, and other pertinent data indicated that research projects totaling $100 million will have fallen in this category by fiscal year 1972. The Director of NSP stated in response to questions raised by the subcommittee that at least $75 million of the $100 million in projects being dropped by the mission agencies is of such high quality and importance as to merit NSF support. Therefore, a minimum $35 million increase above the NSF $622 million budget request is needed to fund the work of the many outstanding scientific investigators requiring support. An additional $25 million will permit the NSF to at least approach this goal.

I should stress that the $75 million in projects that would qualify for NSF support represent very important fundamental research efforts. They are being conducted by some of the finest research teams in the Nation. These investigators and teams are at the forefront of science and their continuation, I believe, is vital to the national interest. Moreover, their support is being discontinued by the mission agencies with the full expectation that NSF will be able to provide the necessary level of support.

There seems to be general agreement

that the shifting of a larger portion of the Federal support responsibility for fundamental research from the mission agencies to NSF is appropriate, particularly in view of the responsibilities given to NSF in its enabling legislation. But it should be clear that NSF cannot be expected to meet the additional research support responsibilities which I have described unless the Congress appropriates the funds and other resources actually needed. As I have pointed out, the $40 million included in the NSF budget to support important research no longer funded by mission agencies is at least $35 million below the amount needed by NSF to deal effectively with this problem. This is a serious efficiency.

I sponsored an amendment to increase the total NSF fiscal year 1972 authorization legislation by $35 million over the amount of $671,516,215 included in the May 26, 1971, version of S. 1968 bringing the revised authorization to a new total of $706,516,215. This action was given unanimous approval by the NSF Subcommittee and the full Labor and Public Welfare Committee and passed the Senate without objection. I took this action in order to provide a continuing base of support for the high quality research formerly supported by the mission agencies and to insure that these research efforts which are vital to continued U.S. strength in the sciences and engineering are not abandoned. Therefore, the authorization exists for you to appropriate the level of funding actually needed by NSF to deal with the dropout problem. It is my sincere hope that the Senate will approve the full amount of the Foundation's appropriation request of $622 million plus another $25 million to at least partially take care of the minimum support requirements resulting from the shifts in mission agency support of fundamental research for a new total of $647 million.

Mr. PASTORE. Mr. President, I yield back the remainder of my time.

Mr. MAGNUSON. Mr. President, I yield back the remainder of my time.

The ACTING PRESIDENT pro tempore. All time has been yielded back on the amendment. The question is on agreeing to the amendment of the Senator from Washington.

The amendment was agreed to.

The ACTING PRESIDENT pro tempore. The bill is open to further amendment.

Mr. ALLOTT. Mr. President, on the bottom of page 19 of the bill, and on page 20, there is an appropriation for medical care for the Veterans' Administration. The provision at the bottom of page 19 reads as follows:

Provided, That the foregoing appropriation shall not be apportioned to provide for less than an average of 97,500 operating beds in Veterans Administration hospitals or furnishing inpatient care and treatment to an average daily patient load of less than 85,500 beneficiaries during the fiscal year 1972:

Mr. President, the committee took extensive testimony on the needs in this area, and after we considered it fully, we decided that, in view of the fact that this particular proviso is stated in the alternative rather than in the conjunctive, we thought it was workable and viable. That is my understanding of the situation, and I should like to ask the chairman if that is his understanding also.

Mr. PASTORE. Mr. President, I agree with the Senator. In reading English, "or" does not mean "and."

Mr. ALLOTT. The Senator is correct, I thank him.

Mr. TOWER. Mr. President, I rise in support of the bill, H.R. 9382, the Department of Housing and Urban Development-Space-Science appropriation bill for fiscal year 1972.

I have particular interest in title I of this bill which allocates funds for the continued operation of the Department of Housing and Urban Development inasmuch as several most important pieces of legislation are now pending before the Housing and Urban Affairs Subcommittee which when enacted by the Congress will alter appreciably the current structure of the Department. I refer to the Urban Community Development Revenue Sharing Act (S. 1618) and the Housing Consolidation and Simplification Act (S. 2049). Anticipating enactment of special revenue sharing prior to the close of this calendar year, the administration has requested funds for the urban development programs for only the first 6 months of fiscal year 1972. It is my hope that the subcommittee will begin hearings at an early date on each of these bills I have metioned with the intent of reporting a housing bill for consideration by the full Senate in the early autumn. Pending such congressional action, however, the House has passed a full-year appropriation for the urban development programs and the Senate Appropriations Committee now recommends that this body take similar action. I am most pleased to note that the committee has inserted language in the bill which provides that upon enactment of the special revenue-sharing plan into law, unobligated balances in those programs included within revenue sharing would be transferred to fund the authorities granted in the new legislation.

Mr. President, it is most important that a budget program is developed in which the amounts allocated for the production of housing contribute to a well-balanced housing program consistent with the attainment of national housing goals. Certainly the allocations in the bill under consideration as reported by the Senate Appropriations Committee represent such a balanced program.

I urge the adoption of this most important appropriations bill.

Mr. FULBRIGHT. Mr. President, I have been greatly concerned about the lack of funding, and the deferral by the administration of available funds, for urban development programs. There are in Arkansas a number of needed projects in the housing and urban development field which have been long delayed.

I am pleased that the Committee on Appropriations has increased the amounts for urban renewal and the various housing programs, including low-income housing and housing for the elderly.

I am hopeful that these provisions will be approved and that the administration will act promptly in utilizing this funding.

In recent weeks I have heard from numerous State and community leaders in Arkansas about the need for HUD funds. Gov. Dale Bumpers has informed me that the need for public housing in Arkansas is "critical." Local officials throughout the State are concerned about the delay on long-pending applications for funding for housing and urban renewal programs.

Mr. President, I ask unanimous consent to have printed in the RECORD letters from Governor Bumpers and from local leaders in Jonesboro, Franklin County, Jacksonville, Fort Smith, Crawford County, Mena and Polk County, Ark.

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

STATE OF ARKANSAS,
Little Rock, Ark., June 24, 1971.

Re Public Housing.
Hon. J. WILLIAM FULBRIGHT,
New Senate Office Building,
Washington, D.C.

DEAR SENATOR FULBRIGHT: I have been informed that the total allocation for public housing for Arkansas will be 2,500 units and there are presently applications on file in the area office in Little Rock for 10,000 units.

I personally feel that our local need is critical. I will certainly appreciate any assistance you may be able to give in this matter.

Sincerely,

DALE BUMPERS.

JUNE 10, 1971.

Hon. J. W. FULBRIGHT,
U.S. Senate,
Washington, D.C.

DEAR SENATOR FULBRIGHT: The people of Jonesboro are becoming quite concerned with our lack of progress in getting approval from HUD of our first Urban Renewal Project, Project Ark. 115, and our application for 450 low-rent housing units, Project No. 5-HPP. There seems to be a feeling developing that their local housing authority has been dragging its feet. I, as Chairman, of this local housing authority am not in agreement, as in my opinion we have done everything we could to obtain approval. However, I can understand the people's feeling of disappointment at our lack of progress as our applications have been filed with HUD for well over a year.

The Little Rock office of HUD keeps telling us that there has been no funding of new projects since our applications have been filed, yet it seems almost weekly I see references in the papers to the effect that other towns in the State are receiving funds. I realize that these news items may be referring to older projects. I, also, appreciate the fact that there has been no general release of funds from the new Housing Bill which the President signed on January 2nd, but nevertheless felt in view of our situation that there might be some way you could offer us some encouragement.

In your letter of October 12, 1970, to me, you stated that you had contacted HUD Officials expressing your interest in approval of these projects. If there is any word of encouragement that you can give us at all, I would certainly appreciate it.

Yours truly,

A. L. CRAFTON,
Chairman, Jonesboro Urban Renewal and Housing Authority.

OZARK, ARK.,
June 15 1971.

Hon. W. J. FULBRIGHT,
Senator, U.S. Senate Building,
Washington D.C.

DEAR SIR: Since you represent the people in this area, I feel you will be interested to know that a Housing Authority Project has been organized in Franklin county, for the purpose of acquiring a grant toward construction of low-income rental units within the county.

Some progress has been made, an organization has been set up, consisting of a Chairman, Vice Chairman, Secretary and two additional Commissioners, who are working along with me, as County Judge and other interested persons.

Promotion of this particular project would be of tremendous benefit to worthy persons, especially elderly persons who are unable otherwise to live in adequate houses.

Any help you can be in this matter will certainly be appreciated.

If you can find time in your busy schedule, please advise.

Sincerely,

J. P. MCFERRAN,
Franklin County Judge.

JACKSONVILLE, ARK.,
June 8, 1971.

Hon. J. WILLIAM FULBRIGHT,
Senator from Arkansas,
Senate Office Building,
Washington, D.C.

DEAR SIR: We have been advised that the Housing Authority of Jacksonville, has presented their plan to the Housing Urban Development in Washington, D.C. to finance a high-rise, low rent complex for the elderly over sixty two years of age.

This would be Jacksonville's first high-rise complex. The ground floor would be utilized by the Jacksonville Health Clinic, providing care for the indigent, family planning, a well baby clinic, and mental health care.

The physicians of this community are in support of this project and strongly urge your support also. Any help you can give would be greatly appreciated.

Sincerely yours,

C. L. CROSS,
Administrator.

JACKSONVILLE, ARK.,
June 10, 1971.

Senator J. WILLIAM FULBRIGHT,
Senate Office Building,
Washington, D.C.

DEAR SENATOR FULBRIGHT: I am writing concerning a real need in our city concerning plans for a high-rise complex for the elderly. It is my understanding that we do not have anything of this nature here which means an increased need with passing time.

Please help in whatever way you can to help bring this to this location. If there is any way that I can be of help in this matter or any other problem which you have I will be happy to do what I can.

Sincerely,

MASON BONDURANT.

FORT SMITH, ARK.,
June 16, 1971.

Hon. J. W. FULBRIGHT,
U.S. Senate,
Washington, D.C.

DEAR BILL: I am writing to enlist your aid and cooperation in behalf of the Fort Smith Housing Authority to obtain funding for its application for 140 additional units for housing for the elderly. This is a critical need in Fort Smith, which should be met as soon as possible.

I am advised that even this number of additional units will not be sufficient to fill all applications on file, but release of the funds for the construction of these units will do much to relieve the emergency. Anything you can do will be greatly appreciated.

Sincerely yours,

THOMAS HARPER.

FORT SMITH, ARK.,
June 14, 1971.

Hon. J. W. FULBRIGHT,
U.S. Senate,
Washington, D.C.

DEAR SENATOR FULBRIGHT: We understand from various sources of information that the long-awaited appropriation for low-rent housing is not too far in the future. The Fort Smith Housing Authority, as you are aware, has an application properly certified for 140 units for the elderly. We have on file more than 200 applications from elderly, and no accommodations for them. We feel that the situation in Fort Smith is critical, and any manner in which you could assist us for funds to build these units would most certainly be appreciated.

We have a development in our public housing program here in Fort Smith that was completed in 1968 comprising 280 units, built and designed especially for Social Security age people, and this development has been 100% occupied since its completion. These 140 units will be an addition to the present 280 units, and the total appropriation will be for living units only as we already have adequate administration, maintenance and community facilities on the existing site. The funding for these 140 additional units is a *must* if the needs of the elderly people in our area are met. The Local Authority feels that it is our responsibility to do everything in our power to secure these units, and without your help this cannot be accomplished.

If at any time our Fort Smith Housing Authority Board of Commissioners and personnel can be of assistance to you, please let us know.

Sincerely yours,

TOM FUTRAL,
Chairman.

MENA, ARK.,
June 15, 1971.

Hon. W. J. FULBRIGHT,
U.S. Senate, Senate Building,
Washington, D.C.

YOUR HONOR: We are in dire need of low-rent housing in Mena and Polk County Arkansas.

We have Housing Authorities for both the City and County.

We have made applications to H.U.D. for program reservations for housing some six months ago, but to date have not received the reservations.

We feel that we really have a greater need for elderly housing than regular, as we have a high percentage of our people in this category. Our last record is some 18% elderly.

We also feel that monies will be released soon after July 1, for housing and would greatly appreciate anything that you may do to help us in getting this needed housing.

Yours truly,

VERNON RODGERS,
Executive Director.

VAN BUREN, ARK.,
June 16, 1971.

Hon. J. W. FULBRIGHT,
Senate Office Building,
Washington, D.C.

DEAR SENATOR: Crawford County is in critical need of low-rent housing for persons on fixed income such as social security recipients and the disabled.

With our economy expanding more rapidly than we are able to supply housing it is practically impossible for persons, regardless of income, to find suitable house, either for purchase or rental.

It is my understanding that federal funds will be available for this type housing sometimes during the months of July and August, and I would certainly appreciate any effort on your part to see that this area of Arkansas is allocated a substantial portion of these funds for construction in Crawford County.

The Crawford County Housing Authority, of which Mr. Jim Snoddy of Van Buren is chairman, has an application submitted for what they feel would meet the minimum need.

Any consideration given this request would certainly be appreciated, not only by me personally, but the majority of the citizens of Crawford County.

With kindest personal regards, I am,

Sincerely yours,

MILTON WILLIS,
County Judge, Crawford County, Ark.

FORT SMITH, ARK.,
June 17, 1971.

Sen. J. W. FULBRIGHT,
U.S. Senate,
Washington, D.C.

DEAR SENATOR FULBRIGHT: I was one of the founders and served as the first president of the local American Association of Retired Persons for two terms.

It is my understanding that the long awaited appropriation for low rent housing is not too far in the future. You are possibly aware of the fact that the Fort Smith Housing Authority has an application properly certified and approved for 140 units for the elderly. They have now on file more than 200 applications from elderly persons and no accommodations for them.

We feel that the situation in Fort Smith is critical and any way in which you could assis' in the release of these funds for building units would be in the interest of good government and highly appreciated.

We have a development here in Fort Smith in our public housing program that was completed in 1968 comprising 280 units built and designed especially for Social Security aged people. This 140 units will be in addition to the present 280 units and the total appropriation will be for living units only, as we already have adequate administration, maintenance and community facilities on the existing site. The funding of these additional 140 units is a must if the needs of the elderly in our area are met.

We must have your help in this most worthy cause. We feel that you will do what you can and we thank you in advance for your support.

Very sincerely,

J. CLIB BARTON.

FORT SMITH, ARK.,
June 25, 1971.

Senator J. W. FULBRIGHT,
New Senate Office Building,
Washington, D.C.

DEAR SENATOR FULBRIGHT: The Fort Smith Chamber of Commerce has had a housing study subcommittee for quite sometime and the members have been concerned about the lack of available low rent housing in our community. In recent discussions with members of the Fort Smith Housing Authority, we find that they have on file over 200 applications from elderly citizens for low rent housing accommodations. At the present time the housing authority has absolutely no units available for these applicants. In 1968 the Fort Smith Housing Authority built 280 units for the elderly. This complex has been 100 percent occupied since its completion and we feel that we must build additional units for the elderly to meet the present demand.

Th Fort Smith Housing Authority has submitted an application for constructing an additional 140 units which would be added to the present 280 units to help meet some of the demand in our city. I am writing you to ask you to do what you can to insure that we receive the funding necessary to begin construction of these additional housing

units. We feel that the need, as evidenced by the statistics is critical and we hope that you can help insure the success of this proposed project.

I certainly will appreciate your help on this matter.

Sincerely,

H. L. HEMBREY III,
President.

JONESBORO, ARK.,
July 15, 1971.

Hon. J. W. FULBRIGHT,
Senator, Senate Office Building, Washington, D.C.

Re: Urban Renewal, Jonesboro, Ark.

DEAR SENATOR: I personally am deeply concerned that the Urban Renewal application for downtown Jonesboro seems to be stymied. It is my understanding that it has been pending for a long time. There are a lot of very old and dilapidated buildings involved.

I will be appreciative of any information you can get or anything you can do to start the application moving again.

Sincerely,

ROY PENIX.

Mr. MONDALE. Mr. President, the HUD-Independent Offices appropriations bill now before the Senate contains approximately $137 million for further development of NASA's space shuttle and station. As I have stated before, this figure is merely the tip of a $20 to $25 billion iceberg—the beginning of another manned space extravaganza.

Senator CASE, Senator JAVITS, Senator PROXMIRE, and I have attempted to stop this project for the past 2 years. Unfortunately, we have not been successful.

On June 29, 1971, our amendment to the NASA authorization bill deleting funds for the shuttle and station was defeated in the Senate by a substantial margin. Since we see no prospect for a change in that vote this year, we have decided that there is no useful purpose in raising our amendment at this time.

We continue to believe, however, that the shuttle and station is a project without justification—and that it will burden the American taxpayer for years to come. And we also believe that when the annual budget requests for the shuttle alone start approaching the $1 billion figure—as they will in fiscal year 1974, according to NASA's own estimates—the Congress will find that it can no longer permit the incredible waste represented by this project.

In order to avoid such waste, we will continue to press this issue next year. The tragedy is that before public pressure begins to build in opposition to this project—as I think it will—we may have already wasted hundreds of millions of dollars on its development.

To NASA, the shuttle and station represent a return to the $6 to $7 billion annual space budgets of the peak Apollo years. The Agency disregards the testimony of Dr. James Van Allen and other distinguished space scientists that, for $2 billion per year, we can have a truly useful and scientifically productive space program by relying on unmanned, instrumented flights.

In its desperation to get this project funded, NASA has repeatedly changed its purpose and justification—not to meet scientific or technological demands, but to make it politically salable.

First, we were told that the shuttle's primary purpose was to serve as a logistical truck carrying men and supplies to a permanent space station in earth orbit.

Then, when it was pointed out that the shuttle and station depended on the feasibility of long duration manned space flight—which would not be determined until the completion of the Skylab missions in 1973—NASA told us that the shuttle has been decoupled from the station—that it could be justified on its own merits.

And finally, in response to budgetary pressures, NASA announced several weeks ago that it was considering abandoning the two-stage reusable shuttle in favor of a vehicle with only a reusable second stage—despite the fact that NASA's arguments that the shuttle would save money were based on the assumption that both of its stages would be reusable.

But regardless of the type of shuttle NASA wants, it is difficult to see how a project which is now estimated to cost $13 billion will save money. And in the one independent study of this proposal, the Rand Corp. concluded that the shuttle's development "is not easy to justify"—that "criteria other than cost should be used" to evaluate its desirability.

Prior to the release of this Rand report, NASA consistently claimed that the shuttle's primary justification was to reduce the cost of space transportation.

After the release of this report, NASA informed us that it was "not seeking to justify the shuttle on purely economic grounds"—and that the shuttle's principal justification was a "new capability—for versatile and efficient operations in space."

Once again, we have been treated to another case of "now you see it, now you don't."

The scientific community has not been fooled. In its recent report on the future of the space program, the Space Science Board of the National Academy of Sciences concluded that—

> It is clear that space science and applications by themselves are insufficient to justify the cost of developing the shuttle.

And since the vote on the NASA authorization, the Federation of American Scientists—a nonpartisan organization of 2,000 scientists and engineers—has announced its opposition to the shuttle. The Federation concluded that—

> The shuttle should not be granted the $120 million sought this year until the investment value of the scheme is shown, not merely in terms of launches per year, but in terms of foreseen and desired uses of heavy launched payloads. The sum asked is not yet very large, but it is the thin end of a wedge which will widen eighty-fold by 1978.

Mr. President, I ask unanimous consent that the full text of the statement by the Federation of American Scientists be inserted in the RECORD at this point.

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

FEDERATION OF AMERICAN SCIENTISTS:[1] FAS OPPOSES THE SPACE SHUTTLE[2]

The space shuttle is a joint NASA-USAF proposal to develop, by 1978, a rocket craft system which would be able to launch payloads of up to thirty tons into low space orbit every week. The craft would be manned by crews (and even a few passengers) who would work under near-airliner conditions. The vehicles are intended for a service lifetime of around one hundred flights.

The design which now seems most likely includes two manned stages. They take off with the orbiter riding piggy-back on the bigger booster, but they land independently. The giant booster is rather like the biggest airplane, the C5A, but it carries tanks of liquid rocket fuels instead of a cabin, so that it weighs around five times as much as the C5A at take-off—about as much as a fifty-car freight train. The piggyback orbiter is about the size of an intercity jet, with a big cabin for payload. It separates from the booster about forty miles up, and can continue into orbit a few hundred miles up, release its load, and re-enter flaming like a meteor, yet capable of safe repeated use after servicing.

The project is a sizeable one; the cost estimates [1] run to about nine or ten billion dollars for R&D and testing (spent mainly before 1978) and some four to six billions more (spent mainly from 1978 to 1990) to buy and operate four or five pairs of vehicles from a single base on both NASA and USAF missions. [2]

Why build it?

The space shuttle will not do anything for NASA that is different in kind from what we can already do. It cannot launch manned moon flights; they are too heavy. It can, of course, place very heavy loads into low orbit by making repeated trips, bringing along men to assemble the parts. It can make routine such tasks as the launching, inspection, and even retrieval of satellites—from orbit. Its main promise is to place good sized payloads—all but the largest and the smallest—into low orbit much more cheaply than the present one-shot rocketry can do.

For the Air Force, it has an undisclosed importance. An old project called Dyna-soar, and the more recent Manned Orbiting Laboratory (MOL), neither of which went beyond early stages, showed that the Air Force foresees missions for Air Force officers in orbit. Indeed, by NASA–USAF agreement, the specifications for the present shuttle include an Air Force requirement for the ability to land at the take-off base after just one earth orbit. This demands a provision for cross-orbit flying about fifteen hundred miles to make up for the turning of the earth, and adds about ten percent to the shuttle cost [3]. How far reconnaissance or weapons delivery are intended here, or how far this is merely a plan for quick abort, we are not told. But it makes plain that the Air Force interest includes men in orbit—either in the shuttle orbiter alone, or also in larger, more permanent, orbiting stations served by the shuttle.

Secretary of the Air Force Seamans testified in March 1971 [3]:

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[1] The Federation of American Scientists is a non-partisan, non-profit organization of 2,000 scientists and engineers concerned with problems of science and society. It was founded in 1946.

[2] This statement was prepared by an Ad Hoc Committee on the Space Shuttle chaired by Philip Morrison, Professor of Physics, MIT. The other members were Eugene B. Skolnikoff, Chairman of the Department of Political Science, MIT, and Leon Trilling, Professor of Aeronautics, MIT. This statement has been approved by the Executive Council of the Federation.

"I cannot sit here this afternoon and say that the space transportation system is an essential military requirement. I think—I believe—that it is important to national security. I hope it goes ahead."

Most observers—we would enthusiastically agree—see certain of the civil applications of orbiting devices as investments of undoubted economic advantage to the USA and to all the world. These include particularly weather, earth monitoring, and communication satellites. Such satellites are often most advantageously stationed in synchronous orbit, so that they seem to hover more than 20,000 miles up. The shuttle cannot place satellites directly into such high orbit; a third part of the system, the space tug, is planned to drag payloads from low orbits to high ones. This device is also to be re-useable. Its design is simplified, since it is not manned nor need it re-enter the atmosphere. The estimated cost of the tug is under one-tenth the total shuttle cost, and its development is programed for some years later. (One would like to see a study of this device on its own, without the manned shuttle, refueled in orbit automatically, for it appears to have natural advantages for commercial use.)

The issues of cost.

Note first of all that the shuttle proposal differs inherently from plans like Apollo. Apollo was justified on other than economic grounds, but the shuttle is justified largely in cost terms. A severe cost overrun would therefore threaten the success of the whole project, even if shuttle performance were fully satisfactory. Worse, a high development cost might become the basis for an uneconomic expansion of the whole space program, on the grounds that such a large investment can be recaptured only by heavy use.

The overrun on the big airplane, C5A, and the rise of estimates on the MOL by a factor 2, suggest the difficulties which might lie ahead. The shuttle can probably be built. But it seems that the development cost is difficult to estimate in advance. A shorter service life might well emerge also, given the high demands of manned flight on reliability and safety, and the planned re-use of a vehicle which enters white-hot, so that it must be fitted with either remarkably refractory or ingeniously replaceable surfaces, reliably strong and of correct shape.

Second, and even more important, the expensive investment foreseen—without overrun—can be justified only by a high level of continued use. Each launch is estimated to cost eight or ten million (1970) dollars over and above the R&D costs. Thus, for small payloads of about .1 ton, a solid-fuel Scout rocket whose launch costs under one million would continue to be useful. But a launch of five tons, using some version of the Titan system, now costs about 20 million dollars. Since the shuttle can orbit 30 tons for about 8 or 10 million, it reduces costs enough to pay for itself—earning ten per cent per year on the taxpayers' investment, at a launch rate of about forty launches per year [4]—provided we really intend to put more than a thousand tons per year into orbit.

Taking as a baseline the years 1969 and 1970, we put well under that payload into orbit, with just about forty launches, civil and military, per year. Five or ten tons were of unmanned civilian instruments. Military satellites—on which there are no full public data but which are probably for the very important purposes of reconnaissance—were both of recoverable and radio-link kind. They amount to about twenty launches maximum, and since they were launched with vehicles smaller than Titan, they represent a total of under fifty tons. Big Bird, scheduled for launch soon, will weigh a dozen tons; it will require a Titan launch. But it lasts several months. The tendency is plain: larger payload, longer lifetime. Grand total of unmanned payload in orbit: less than fifty tons per year. The Apollo launches amount in addition to around 200 tons of *manned* vehicles and their support per year.

Even looking ahead, if we were to fill up the stationary equatorial orbit with a score of advanced weather and communication satellites—and the world probably will in some decades—it does not seem that we would find more than some 200 or 300 tons in orbit by 1990. Surely these devices would be designed to last some years in orbit. That implies a commercial launch volume of fifty or a hundred tons per year maximum. Add to that military unmanned satellites of advanced type, again ten tons or more, with useful lives, of half a year or so. We could maintain several of them at once, for a launch volume of sixty tons per year more. Add scores of smaller satellites, and scientific and technical satellites and probes in numbers well beyond present research hopes. One finds a launch rate under 250 tons per year, short by a factor of five of the minimum economical capacity of the shuttle! Such a program with presently-developed rockets would certainly cost more than shuttle operation, about 0.5 or 0.6 billion, while the forecast shuttle cost is only about $0.4 billion. But that bookkeeping saving is swamped by a heavy development cost to be regained, more than $0.7 billion per year, spread over the period 1978–1990.

Only one conclusion remains: *The shuttle is justifiable only by a plan for substantial manned occupation of orbit,* a program several times larger than the Apollo program measured in tons orbited per year, a launch cost of about 1.5 billion dollars per year. Perhaps this is to mean big military-civilian manned space stations, outweighing the Soviet Salyut, with crews of dozens of men. Perhaps there are other military needs; if so, the Air Force ought to present its case explicitly. Yet until now no one has given any convincing rationale for what man can do in space, for peaceful or for military purposes, which cannot be done more cheaply and with less human risk by instruments, at least near earth and within the next 20 years.

Projects like big manned telescopes and ballbearing manufacture, to mention some imaginative proposals, can be tried out on an *ad hoc* basis without the shuttle, if their proponents can justify them. The one-time expense might be sizeable, but far cheaper than the full shuttle.

It might be argued that we should do R&D just because we cannot foresee the needs of the future. This is not always a poor argument; but this particular program, tied to a large increase in everyday capability, rather than to an exploratory venture into unknown territory, is little related to such a position.

The burden lies with the shuttle proponents: why does the U.S. need a new capacity to place man into earth orbit in the late 70's much larger than we have yet had? This elephant of a project remains a white elephant without a clear answer to that question.

CONCLUSION

We believe that the shuttle should not be granted the $120 million sought this year until the investment value of the scheme is shown, not merely in terms of launches per year, but in terms of foreseen and desired uses of heavy launched payloads. The sum asked is not yet very large, but it is the thin end of a wedge which will widen eighty-fold by 1978.

SOURCES

1. Testimony of Dale Myers, Associate Administrator for Manned Space Flight, pp. 405 to 409, NASA Authorization Hearings, S. 720, March 30, 1971, Senate Comm. on Aero and Space Sciences.
2. Mathematica Inc. Study, from NASA release, cited in NY Times, 16 Ju 1971.
3. Same hearings, p. 363.
4. Hearings, p. 409.

Mr. MONDALE. Mr. President, the shuttle/station is a classic example of a program and an agency in search of a mission. We are being asked to spend billions—not to meet real and pressing needs—but to give NASA the prestige and visibility which result from multi-billion dollar budgets.

It may be argued that $137.6 million in this year's budget—which will soon increase by 10 and 20 times—is nothing to get excited about. But then I see people in my State and elsewhere—

Who are losing homes because of spiraling taxes;

Who cannot afford decent education for their children;

And who are experiencing the decline of almost every public service from transportation to police protection.

And I wonder why few seem to realize or care that $137 million is—

Twenty-seven million dollars more than the Federal Government plans to spend in fiscal year 1972 for education of the handicapped;

Over three times the budget of OEO's emergency food program—which the administration is seeking to terminate;

And $12 million more than the administration had budgeted for Federal air pollution programs.

Hopefully, when the cost of completion implications of the shuttle and station are understood, the massive distortion of priorities represented by this project will become clear. For the $13 billion cost of the shuttle alone, we could quadruple the Federal Government's combined annual outlays to fight crime, pollution, and cancer. Is a space shuttle four times more important than safe streets, clean air and water, and freedom from deadly diseases?

Those of us opposing this project are accused of being "antispace"—despite the fact that we favor an unmanned, instrumented space program which, for a fraction of the cost of manned space flight, has produced almost every human and scientific benefit resulting from the space program.

We are also accused of being "anti-technology."

But in a democracy, people have a right to demand that technology serves real human needs—that it not lead us by the nose to spend billions doing things just because they are possible.

That is why the SST was finally defeated—and that is why I believe the shuttle and station will eventually meet the same fate.

Mr. JAVITS. Mr. President, I would like to congratulate the Appropriations Committee and especially Senators PASTORE and ALLOTT and the other members of the subcommittee handling this bill for their exceptionally fine job in funding many of the valuable housing programs at high levels which will allow these programs to proceed at an even faster pace in this fiscal year.

When I testified before the subcommittee on June 29, 1971, I recommended

that numerous items in the House-passed appropriations bill be increased and I am pleased to see that in most of the important cases this was done.

For the urban renewal program the House amount was increased by $300 million to $1.5 billion. Even though this is not adequate with a backlog of $2.7 billion in applications, it will go a long way toward helping to clear the backlog, especially if the $200 million appropriated last year for urban renewal but which was impounded, is released by the administration as it should be.

In the rent supplement program, the House amount was increased by $5 million to give a total contract authority of $60 million. While I had hoped that this important program would have been given authority to contract up to $80 million, I commend the committee for its increase over the House figure.

I am also pleased that the committee increased the House amount of $3 million for counseling services under the section 237 program to $4 million and also increased the $3 million appropriation for the low- and moderate-income sponsor fund by $2 million to be used for advice and assistance to nonprofit groups and low- and moderate-income families under section 903 of the Housing Act of 1970.

One of the pressing problems in many areas of New York State and especially New York City is that of abandoned housing and I believe the committee's action in adding $15 million to the House figure of $35 million for research and technology deserves special praise. I had urged that $10 million be used for research into the abandoned building problem, $10 million for the experiment with the new housing allowance and $5 million for research into lead-based paint poisoning, one of the serious problems in many areas of the Nation's cities. The committee did add an additional $5 million over the budget request to accelerate research in those areas and I would hope that HUD will concentrate its efforts on these critical problems.

I am also pleased that the committee went along with the House recommendation of an additional $500,000 added to the budget for training assistance to continue the urban fellowship program. This program is necessary if we are to provide the technical housing specialists who will be out in the field helping to generate needed housing.

I am also pleased that the committee increased the House amount of $8 million for fair housing and equal opportunity by $500,000 although I had hoped that the figure would be increased to the budget request of $9,254,000. This is a very important program which must be vigorously pursued if our citizens are to be granted equal access to all types of housing.

While there were certain items that I was disappointed in and which were the subject of amendments today, the committee is to be commended for their fine job in attempting to fund key programs at the highest practical level. I trust that Senators PASTORE, ALLOTT, and others will convince their House counterparts on the conference committee of the wisdom of adequately funding Federal housing programs so vital to the housing crisis for our people.

VETERANS' ADMINISTRATION HOSPITALS

Mr. BYRD of West Virginia. Mr. President, I want to thank the chairman and the other members of the subcommittee for including language in the committee report, at my request, directing the Veterans' Administration to accelerate their construction and replacement of VA hospitals.

I wrote to the committee on February 25, 1971, and I later appeared before the subcommittee and testified in support of planning funds for the replacement of the Veterans' Administration hospital at Martinsburg, W. Va. The testimony of the Administrator and other officials of the VA fully justified the need for replacement of this facility. They admitted that those buildings, which were first constructed as temporary structures in 1943, are inadequate and unsafe.

I feel very strongly that these facilities need replacing. I do, however, understand the committee's problem in not being able to include this facility in preference to others which are in an equally deplorable condition. I am informed, however, that the directions in the committee report will result in funds being included in the fiscal year 1973 budget for planning a replacement for Martinsburg.

I thank the chairman and the other members of the subcommittee for their courteous reception when I testified before the subcommittee, their consideration of my request, and for the inclusion of this language which means that priority construction of hospitals, such as Martinsburg, will be accelerated by 2 to 3 years.

The language in the committee report is as follows:

> The committee considered funding additional projects which, in its opinion, are sorely needed now but are presently programmed for future funding by the Administration. After taking extensive testimony and having a full discussion, the committee did not recommend the appropriation of additional funds, however it directs the Veterans Administration to accelerate its planning and budgeting for the replacement, modernization, enlarging and otherwise improving hospital and domiciliary facilities. Specifically, the committee directs that the Veterans Administration five year projection for fiscal years 1973–78 of priority construction projects be accelerated and compressed into a three year projection for funding and other purposes, and that the fiscal year 1973 budget request be at least one-third of the sum required to fund the compressed three year program.

The ACTING PRESIDENT pro tempore. The bill is open to further amendment. If there be no further amendment to be proposed, the question is on the engrossment of the amendments and third reading of the bill.

The amendments were ordered to be engrossed and the bill read a third time.

The bill (H.R. 9382) was read the third time.

Mr. PASTORE. Mr. President, I yield back the remainder of my time.

Mr. ALLOTT. Mr. President, I yield back the remainder of my time.

The ACTING PRESIDENT pro tempore. All time has expired. The bill having been read the third time, the question is, Shall the bill pass? On this question the yeas and nays have been ordered and the clerk will call the roll.

The legislative clerk called the roll.

Mr. BYRD of West Virginia. I announce that the Senator from Indiana (Mr. BAYH), the Senator from Oklahoma (Mr. HARRIS), the Senator from Minnesota (Mr. HUMPHREY), the Senator from Washington (Mr. JACKSON), the Senator from Louisiana (Mr. LONG), the Senator from Montana (Mr. METCALF), and the Senator from Connecticut (Mr. RIBICOFF) are necessarily absent.

I further announce that, if present and voting, the Senator from Indiana (Mr. BAYH), the Senator from Oklahoma (Mr. HARRIS), the Senator from Minnesota (Mr. HUMPHREY), the Senator from Washington (Mr. JACKSON), the Senator from Louisiana (Mr. LONG), the Senator from Montana (Mr. METCALF), and the Senator from Connecticut (Mr. RIBICOFF) would each vote "yea."

Mr. GRIFFIN. I announce that the Senator from South Carolina (Mr. THURMOND) is absent on official business.

The Senator from South Dakota (Mr. MUNDT) is absent because of illness.

The Senator from Utah (Mr. BENNETT), the Senator from Kentucky (Mr. COOPER), the Senator from Arizona (Mr. FANNIN) and the Senator from Maine (Mrs. SMITH) are detained on official business.

If present and voting, the Senator from Utah (Mr. BENNETT), the Senator from Arizona (Mr. FANNIN), the Sentaor from Maine (Mrs. SMITH) and the Senator from South Carolina (Mr. THURMOND) would each vote "yea."

The result was announced—yeas 87, nays 0, as follows:

[No. 155 Leg.]

YEAS—87

Aiken	Ervin	Montoya
Allen	Fong	Moss
Allott	Fulbright	Muskie
Anderson	Gambrell	Nelson
Baker	Goldwater	Packwood
Beall	Gravel	Pastore
Bellmon	Griffin	Pearson
Bentsen	Gurney	Pell
Bible	Hansen	Percy
Boggs	Hart	Prouty
Brock	Hartke	Proxmire
Brooke	Hatfield	Randolph
Buckley	Hollings	Roth
Burdick	Hruska	Saxbe
Byrd, Va.	Hughes	Schweiker
Byrd, W. Va.	Inouye	Scott
Cannon	Javits	Sparkman
Case	Jordan, N.C.	Spong
Chiles	Jordan, Idaho	Stennis
Church	Kennedy	Stevens
Cook	Magnuson	Stevenson
Cotton	Mansfield	Symington
Cranston	Mathias	Taft
Curtis	McClellan	Talmadge
Dole	McGee	Tower
Dominick	McGovern	Tunney
Eagleton	McIntyre	Weicker
Eastland	Miller	Williams
Ellender	Mondale	Young

NAYS—0

NOT VOTING—13

Bayh	Humphrey	Ribicoff
Bennett	Jackson	Smith
Cooper	Long	Thurmond
Fannin	Metcalf	
Harris	Mundt	

So the bill (H.R. 9382) was passed.

Mr. PASTORE. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. MANSFIELD. Mr. President, I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. PASTORE. Mr. President, I move that the Senate insist on its amendments and request a conference with the House of Representatives on the disagreeing votes thereon, and that the Chair be authorized to appoint conferees on the part of the Senate.

The motion was agreed to; and the Presiding Officer appointed Mr. PASTORE, Mr. MAGNUSON, Mr. ELLENDER, Mr. STENNIS, Mr. ANDERSON, Mr. ALLOTT, Mrs. SMITH, Mr. HRUSKA, and Mr. YOUNG conferees on the part of the Senate.

Mr. MANSFIELD. Mr. President, will the Senator yield to me?

Mr. PASTORE. I yield.

Mr. MANSFIELD. Mr. President, all I want to say—and I will have more to say later—it that this is the most expeditious, effective, and efficient handling of a bill that has occurred this year, and I want to commend the distinguished senior Senator from Rhode Island for his outstanding skill and managerial ability, but this time he even outstripped himself.

Mr. PASTORE. Mr. President, I want to thank the majority leader and to remind him that I am not a candidate until 1976. [Laughter.]

Mr. MANSFIELD. It had nothing to do with that.

Mr. HUMPHREY. Mr. President, the Senate has just approved the Department of Housing and Urban Development's appropriation for fiscal year 1972. Included in the appropriation is $60 million for community planning and management. This appropriation is about $40 million below the budget estimate, but because of limited authorization, the $60 million represents the maximum amount that can now be included in an appropriation bill.

Mr. President, I believe that more money is necessary for effective community planning. I note that the Senate has increased the authorization level of this program, and I expect the House will pass the legislation raising the authorization.

The committee reports state that the committee will consider a supplemental budget request for additional funds. The Senate will then be able to move with all dispatch on this matter.

In my position as chairman of the Senate Subcommittee on Rural Development, I have felt some need for the Appropriation Committee to earmark funds for rural areawide planning and developments districts under section 701. The subcommittee did not see fit to earmark, which may be a wise decision, however, the committee report did add language to the effect that "the maximum possible be used for cities and towns in the rural areas of our country."

I have maintained a longstanding interest in rural planning. I am convinced that one way out of the present crisis of our cities is rural renewal. And, I believe that multicounty planning units can, through their analysis, studies, and program development, help solve some of the pressing migration and development problems that plague rural areas.

The importance of this language on page 10 of the report cannot be overstated. While I shall not complain at this time that a specified amount was not earmarked for rural areas, I do want to take note that if sufficient funds are not utilized for planning grants to areawide planning and development districts containing rural areas, it may become necessary to resort to do some earmarking in the later appropriation act.

Mr. President, I commend the chairman, Mr. PASTORE, and his subcommittee, for an excellent job in preparing and presenting this important appropriations bill.

History has recorded a praiseworthy partnership of progress between the work of Senator PASTORE, chairman of the Appropriations Subcommittee handling this bill, and the chairman of the Banking, Housing, and Urban Affairs Committee, the senior Senator from Alabama, Mr. SPARKMAN.

I well recall, during my first year in the Senate in 1949, how the Senator from Alabama worked with the then Secretary of Agriculture Charles F. Brannan to hold the first hearings on what later has become known as rural areas development.

Those hearings, like so many others conducted by the imaginative and innovative Senator from Alabama, led to the enactment of a great deal of legislation beneficial to rural as well as urban areas. The successful rural housing program of the Department of Agriculture had its beginning in legislation that year. Also, at those hearings the seed was sown that led later to enactment of the Area Redevelopment Act and to what we now know as the Economic Development Administration.

The Senator from Alabama, Mr. SPARKMAN, and the chairman of the subcommittee, Mr. PASTORE, have never rested on their oars. Beneficial programs have been continuously expanded in scope, usefulness, and volume, although, I am sure, they would be first to say that we have never been able to fund any of these programs anywhere near up to the extent of the need for them.

Mr. President, I invite the attention of the Senate to the particularly innovative and meaningful provision that is specifically mentioned in the committee report on page 10. In 1968, the Congress enacted and the President signed an especially progressive amendment to the comprehensive planning grants program, sometimes called "the program."

As the Senators will recall, responding to the leadership of the then chairman of the Committee on Agriculture and Forestry, Mr. ELLENDER, this body twice passed legislation setting up a special program for grants to rural community development and planning districts along with technical assistance.

While that proposed legislation did not become law, the Senator from Alabama, Mr. SPARKMAN, in 1968, working with the Senator from Louisiana, Mr. ELLENDER, was able to incorporate the essential features of the Senate-passed rural community development districts bill into amendment to the section 701 legislation.

As the Senate will also recall, last year, under the able and aggressive leadership of the now chairman of the Senate Committee on Agriculture and Forestry, the Senator from Georgia, Mr. TALMADGE, the Congress passed, and the President signed, a significantly solemn statement of policy concerning balanced rural-urban growth and the placing of rural development efforts at the highest priority.

Title IX, section 901(a) of the Agricultural Act of 1970 states:

> The Congress commits itself to a sound balance between rural and urban America. The Congress considers this balance between rural and urban America so essential to the peace, prosperity, and welfare of all our citizens that the highest priority must be given to the revitalization and development of rural areas.

The statement I have quoted from page 10 of the committee report reaffirms the policy adopted a year ago.

As you know, the chairman of the Committee on Agriculture and Forestry, Mr. TALMADGE, led his committee to establish a Rural Development Subcommittee. We have been holding some hearings here in Washington and out over the country. We expect to hold some more hearings because we have so much to learn of what needs to be done to implement the attainment of the goals of the rural development of the title IX balanced growth policy.

But we have already learned enough to know that the committee is right when it urges the expenditure of "the maximum amount possible" of the 701 planning money "for cities and towns in the rural areas of our country." Areawide comprehensive planning lags behind in rural America.

Mr. President, the Senators are aware, I am sure, of the growing number of States that have established areawide—substate—districts for the purpose of planning and development in rural as well as urban areas. Our Rural Development Subcommittee has found that these areawide planning and development districts are making an increasingly useful and significant contribution to rural community development on an orderly and efficient basis.

More and more of the specialized functional planning activities and funds are being assigned to these districts for combination with the comprehensive planning funds appropriated for section 701.

This Senator believes that these areawide planning and development districts in largely rural areas are making a great contribution to a better America. He is convinced that the general planning money available to them should be increased.

This Senator is convinced that this is the mechanism within a democracy by

which the mutual interests of rural areas and urban areas are discovered, rationalized, and implemented. This areawide district planning approach is the way we may achieve an overall national plan for balanced rural-urban growth because within each district the balance must be drawn and if drawn, district by district, the result is statewide and national plans for balanced rural urban growth.

If we look to the achievement of national goals through such a balanced approach we do not need to allow a competitiveness to develop between central cities, suburbs, and rural areas for the budget dollar.

What we all really want is a better America with a freedom of residence for all to choose where they want to work and live, with a good choice available between equally attractive situations in rural areas and city centers as well as the suburbs.

May I again commend the chairman of the subcommittee for the job he and his subcommittee have done in preparing and presenting this bill. For emphasis may I restate my strong support for the language I have quoted on page 10 of the committee report. I join with the committee in suggesting that "the maximum amount possible be used for cities and towns in the rural areas of our country." I would only add that I hope that a maximum possible of such funds will be made useful to cities and towns in the rural areas through the machinery of the areawide planning and development district as specifically provided in section 701, as amended by the Housing and Urban Development Act of 1968. When the necessary authorizing legislation is enacted I hope we may review and pass a supplemental appropriation raising the comprehensive planning funds for comprehensive planning in rural areas and communities to a more nearly adequate figure.

ATOMIC ENERGY COMMISSION AUTHORIZATIONS, 1972

The PRESIDING OFFICER. Under the previous order, the Chair lays before the Senate H.R. 9388, which the clerk will state by title.

The legislative clerk read the bill by title, as follows:

A bill (H.R. 9388) to authorize appropriations to the Atomic Energy Commission in accordance with sec. 261 of the Atomic Energy Act of 1954, as amended, and for other purposes.

The Senate proceeded to consider the bill.

The PRESIDING OFFICER. The time is under control. Who yields time?

Mr. PASTORE. Mr. President, I suggest the absence of a quorum, without the time being taken from either side.

The PRESIDING OFFICER. Without objection, it is so ordered. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. PASTORE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

PRIVILEGE OF THE FLOOR

Mr. PASTORE. Mr. President, I ask unanimous consent that Col. Seymour Schwiller, of the Atomic Energy Commission, on loan to the Joint Committee on Atomic Energy staff, be given the privilege of the floor during the time the Atomic Energy authorization bill is being considered in the Senate.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PASTORE. Mr. President, the bill before us, H.R. 9388, is a bill authorizing appropriations for the Atomic Energy Commission for fiscal year 1972, and for other purposes, is identical to the bill reported by the Senate members of the Joint Committee, namely, S. 2150, with the exception of an amendment to subsection 105(d) approved by the other body relating to the liquid metal fast breeder reactor—LMFBR—demontration program. The amendment would:

First, remove a $20 million ceiling on Commission assistance to the first demonstration plant in the form of services, facilities and equipment which are otherwise available to or planned by the Commission under its base research and development program;

Second, prohibit the use of research and development base program assistance for any end capital items in the demonstration plant; and

Third, provide that such research and development assistance as is undertaken shall in no event exceed 50 percent of the estimated capital costs of the plant.

That amendment was offered by the committee in furtherance of the commitment to complete the successful demonstration of the LMFBR by 1980 as announced by the President in his June 4 energy message. It would not increase the amount authorized by the bill for the breeder demonstration or any other AEC program. It merely lifts a now unrealistic ceiling which the Joint Committee recently learned was an impediment to the consummation a Government-industry arrangement to construct a demonstration breeder reactor.

I might say parenthetically at this point that I do not think there is any objection to it. It is noncontroversial.

The Atomic Energy Commission's authorization request for fiscal year 1972 was initially submitted to the Congress on January 29, 1971; it was amended on May 6 and again on June 10, 1971. The amended request called for authorization of $1,980,751,000 for operating expenses and $303,226,000 for plant and capital equipment, making a total requested authorization of $2,283,977,000. This request represented a reduction of $32,430,000, or 1.4 percent, from the $2,316,407,000 authorized for fiscal year 1971.

While the submission of these two budget amendments substantially delayed the Joint Committee in reporting the AEC fiscal 1972 authorization bill, the additional time provided the committee with an opportunity to conduct an exceptionally thorough review of the budget request.

The bill before you is a sound and prudent measure. It is also a stringent measure, notwithstanding the committee's recommendation of a $37.2 million increase—1.6 percent—above the administration request. That is only $4.7—0.2 percent—above last year.

The bill would authorize appropriations to the AEC in the total amount of $2,321,187,000 for fiscal year 1972, including the additional $50 million announced in the President's energy message for the LMFBR demonstration program and increases in prior years' authorizations. In terms of purchasing power the fiscal 1972 authorization would be about 6 percent less than last year because of inflation, and is the most austere of all the AEC authorization measures reported by the Joint Committee in the last 7 years.

The recommended authorization for the Commission generally reflects estimated costs in two broad categories of effort; namely, civilian and military applications. Military applications include primarily the nuclear weapons and naval propulsion reactors programs as well as a portion of the nuclear materials program. I am pleased to advise that for the first time in 4 years, over one-half—51 percent—of the program costs will be for civilian applications. I am sure you all join me in the prayer that our future requirements for national defense will permit this percentage for civilian uses to increase in the coming years.

Included in the civilian category is $116.4 million for operating costs and $27.5 million for plant and capital equipment specifically associated with the Nation's high energy physics program for which the Atomic Energy Commission acts as principal executive agent on behalf of the entire Federal Establishment. This represents about 6.2 percent of the total authorization recommended.

As will be noted in the tables on pages 3 and 4 of the report, the committee has recommended both increases and decreases in the funds to be authorized for many of the AEC's programs. Details of the committee's actions on plant and capital equipment appear in the table on pages 55 and 56.

Mr. President, I ask unanimous consent to have printed at this point in the RECORD the tabulations on pages 3 and 4 of the report showing in thousands of dollars the authorization of operating expenses and plant and capital equipment.

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

OPERATING EXPENSES

The following table summarizes the AEC's requests for operating funds authorization under its major programs and the Joint Committee's action thereon:

AUTHORIZATION OF OPERATING EXPENSES [1]

[In thousands of dollars]

Program	AEC authorization request [2]	Committee recommendations	Change	Page number
Nuclear materials	389,436	389,436	0	7
Weapons	848,622	848,622	0	17
Reactor development				19
Civilian power reactors	161,800	164,300	+2,500	20
Cooperative power	50,000	50,000	0	24
General reactor technology	44,500	44,500	0	26
Nuclear safety	42,940	42,940	0	26
Operational services	1,721	1,721	0	29
Subtotal, civilian power related	300,961	303,461	+2,500	
Space nuclear propulsion	15,000	52,000	+37,000	30
Space electric power development	21,600	23,100	+1,500	32
Terrestrial electric power development	1,000	500	−500	34
Naval propulsion	140,000	140,000	0	35
Total, reactor development	478,561	519,061	+40,500	
Physical research				37
High-energy physics	116,400	116,400	0	38
Medium-energy physics	13,100	13,100	0	39
Low-energy physics	25,300	25,300	0	40
Mathematics and computer	4,800	4,800	0	40
Chemistry	49,000	49,000	0	40
Metallurgy and materials	25,200	25,200	0	41
Controlled thermonuclear	29,800	29,800	0	41
Total, physical research	263,600	263,600	0	
Biology and medicine	88,395	89,165	+770	42
Training, education, and information	12,343	12,343	0	45
Isotopes development	5,900	5,900	0	45
Civilian applications of nuclear explosives	5,000	8,100	+3,100	47
Community	4,540	5,200	+660	49
Regulation	17,151	17,151	0	50
Program direction and administration	122,723	122,723	0	52
Security investigations	8,128	8,128	0	52
Cost of work for others	21,859	21,859	0	52
Revenues applied	−221,400	−221,400	0	53
Changes in selected resources	36,893	51,683	+14,790	54
Unobligated balance brought forward	−101,000	−116,900	−15,000	54
Total authorization	1,980,751	2,025,571	+44,820	

[1] A table showing the Atomic Energy Commission's appropriations request for operating expenses for fiscal year 1972 and the effects of the authorization recommendations of Joint Committee on this appropriations request, is set forth as appendix A to this report on p. 79.

[2] Includes amounts submitted in amendments of May 6 and June 10, 1971.

PLANT AND CAPITAL EQUIPMENT

The following table summarizes the AEC's request for authorization for "Plant and capital equipment" under its major programs, and the Joint Committee's action thereon. More detailed information on the specific construction projects proposed, together with the committee's comments and recommendations thereon, is presented in Part XVII of this report entitled, "Plant and capital equipment," beginning on page 55.

PLANT AND CAPITAL EQUIPMENT AUTHORIZATIONS [1]

[In thousands of dollars]

	AEC request	Committee recommendations	Change
New construction projects [2]	103,930	81,120	−22,810
Capital equipment not related to construction	160,296	153,296	−7,000
Increases in prior-year project authorizations:			
Project 66-4-a, sodium pump test facility (from $6,800,000 to $12,500,000)	5,700	5,700	0
Project 70-5-a, conversion of heating plant to natural gas, Argonne National Laboratory, Illinois (from $560,000 to $860,000)	300	300	0
Project 71-1-e, gaseous diffusion production support facilities (from $14,700,000 to $45,700,000)	0	31,000	+31,000
Project 71-1-f, process equipment modifications, gaseous diffusion plants (from $6,400,000 to $10,400,000)	0	4,000	+4,000
Project 71-9 fire, safety, and adequacy of operating conditions projects, various locations (from $25,500,000 to $58,500,000) [2]	33,000	20,200	−12,800
Total plant and capital equipment authorization	303,226	295,616	−7,610

[1] A table showing the Atomic Energy Commission's appropriations request for fiscal year 1972 and the effects of the authorization recommendations of the Joint Committee on this appropriation request is set forth in appendix A to this report on p. 80.

[2] Two subprojects, whose total estimated cost is $3,350,000, were requested by the AEC as part of project 71-9, but the Joint Committee is recommending their authorization as separate new construction projects. The totals for new construction projects and project 71-9 are adjusted accordingly.

The following table presents a capsule summary of the authorization requested by the Commission for fiscal year 1972 and the effect of the committee's recommendations thereon:

Program	AEC request	Committee recommendations	Change
Operating expenses	$1,980,751,000	$2,025,571,000	+$44,820,000
Plant and capital equipment	303,226,000	295,616,000	−7,610,000
Total	2,283,977,000	2,321,187,000	+37,210,000

Mr. PASTORE. Mr. President, I am aware that there are a number of amendments to be offered on this bill. Therefore, unless my colleagues have any questions about the bill or the report thereon, I shall not take any additional time for further explanation. The pending bill was reported by the members of the Joint Committee without dissent. It was approved overwhelmingly by the other body last Thursday. The 82-page committee report spells out in detail the Atomic Energy Commission's fiscal year 1972 program as approved by the Joint Committee.

I ask unanimous consent to have printed at this point in the RECORD the section-by-section analysis of the bill as contained in the report (S. Rept. 92-249).

There being no objection, the section-by-section analysis was ordered to be printed in the RECORD, as follows:

SECTION-BY-SECTION ANALYSIS

Section 101

Section 101 of the bill authorizes appropriations to the Atomic Energy Commission, in accordance with the provisions of section 261 of the Atomic Energy Act of 1954, as amended, for "Operating expenses" and "Plant and capital equipment."

Section 101(a) of the bill deals with the authorization of appropriations for "Operating expenses." The Commission's authorization request under this heading was presented to the committee in terms of costs to be incurred during fiscal year 1972, adjusted in total to the obligations to be incurred during the fiscal year.

The Joint Committee is recommending authorization of $2,025,571,000 for "Operating expenses," not to exceed $116,400,000 in operating costs for the high-energy physics program category. It is the Joint Committee's intent that the amount specified for any program or category shall be exceeded only in accordance with specific arrangements which have been developed between the Commission and the committee. These arrangements include provisions for periodic reporting to the committee of changes in estimates of authorized programs. These informal procedures, embodied in an exchange of correspondence beween the Atomic Energy Commission and the committee, have operated efficiently. It is the Joint Committee's belief that legislative measures or other formal devices that would impose legal limitations upon the reprograming of Commission funds are not necessary at this time. It is the committee's intent that the procedures specified in this exchange of correspondence shall remain in effect during fiscal year 1972.

It is intended that costs incurred pursuant to the authorization contained in this act

shall be generally in accordance with the analysis of the proposed bills submitted by the AEC and other background and explanatory materials furnished by the Commission in justification of the AEC's fiscal year 1972 authorization bill.

Plant and capital equipment obligations are provided in two sections of the bill. Under section 101(b), authorization is provided for new construction projects and capital equipment not related to construction. This authorization, together with the change in a prior-year project authorization provided for in section 105, comprise the total authorization for plant and capital equipment provided in this bill. The AEC's request for authorization for these purposes was presented on the basis of new obligational authority required. New construction projects authorized under subsections (1) through (6) of section 101(b) of the bill total $81,120,000.

It is intended that the projects under this authorization be related, as in previous year, to the analysis of the proposed bills submitted by the AEC and other background and explanatory materials furnished by the Commission in justification of the AEC authorization bill. It is not intended to prevent technical and engineering changes which are considered necessary or desirable by the Commission consistent with the scope and purpose of the project concerned.

Pursuant to section 101(b)(7), appropriations are authorized for capital equipment not related to construction in the amount of $153,296,000. This equipment is necessary to replace obsolete or wornout equipment at AEC installations. Additional equipment is required to meet the needs of expanding programs and changing technology. Examples of typical equipment include machine tools, computers, and office equipment. The Joint Committee expects to receive a report from the Commission at least semiannually on obligations incurred pursuant to this authorization.

Section 102

Section 102 of the bill provides limitations similar to those in prior authorization acts.

Subsection (a) provides that the Commission is authorized to start projects set forth in certain subsections of section 101 only if the currently estimated cost of the project does not exceed by more than 25 percent the estimated cost for that project set forth in the bill.

Subsection (b) provides limitations on general plant projects authorized by subsection 101(b)(6), whereby the Commission may start such projects only if the currently estimated cost of such project does not exceed $500,000 and the maximum currently estimated cost of any building included in such project does not exceed $100,000; provided that the building cost limitation may be exceeded if the Commission determines that it is necessary in the interest of efficiency and economy. Additionally, section 102(b) provides that the total cost of all general plant projects shall not exceed the estimated cost set forth in subsection 101(b)(6) by more than 10 percent.

Under arrangements previously agreed to by the Commission and the Joint Committee, the Commission shall report to the Joint Committee and the Appropriations Committee after the close of each fiscal year concerning the use of general plant project funds, and such report shall identify each project for which the proposed new authority has been utilized.

Section 103

Section 103 of the bill authorizes the Commission to undertake engineering design (titles I and II) on construction projects which have been included in a proposed authorization bill transmitted to the Congress by the Commission. It is understood that this work would be undertaken on projects which the Commission deems are of such urgency that physical construction should be initiated as soon as appropriations for the project have been approved.

Section 104

Section 104 of the bill provides authorization for the transfer of amounts between the "Operating expenses" and the "Plant and capital equipment" appropriations as provided in the appropriation acts. The AEC appropriation acts have, in past years, provided that not to exceed 5 percent of the appropriations for "Operating expenses" and "Plant and capital equipment" could be transferred between such appropriations, provided, however, that neither appropriation could be increased by more than 5 percent by any such transfer. It is understood that any such transfer shall be reported promptly to the Joint Committee on Atomic Energy.

Section 105

Section 105 of the bill amends prior AEC authorization acts as follows:

(*a*) Section 101 of Public Law 89–32, as amended, is further amended by (1) striking therefrom the figure "$2,658,821,000", and substituting therefor the figure "$2,664,521,000"; (2) striking from subsection (b) thereof the figure "$398,045,000", and substituting therefor the figure "$403,745,000"; and (3) striking from subsection (b)(4) for project 66–4–a, sodium pump test facility, the words "for design and Phase I construction," and further striking the figure "$6,800,000" and substituting therefor the figure $12,500,000".

(*b*) Section 101 of Public Law 91–44, as amended, is further amended by striking from subsection (b)(5) thereof the figure "$560,000" for project 70–5–a, conversion of heating plant to natural gas, Argonne National Laboratory, Illinois, and substituting therefor the figure "$860,000".

(*c*) Section 101 of Public Law 91–273, as amended, is further amended by (1) striking from subsection (b)(1) thereof the figure "$14,700,000" for project 71–1–e, gaseous diffusion production support facilities, and substituting therefor the figure "$45,700,000"; (2) striking from subsection (b)(1) thereof the figure "$6,400,000" for project 71–1–f, process equipment modifications, and substituting therefor the figure "$10,400,000"; and (3) striking from subsection (b)(9) thereof the figure "$25,500,000" for project 71–9, fire, safety, and adequacy of operating conditions projects, various locations, and substituting therefor the figure "$45,700,000".

(*d*) Section 106 of Public Law 91–273, as amended, is amended by striking from subsection (a) thereof the figure "$50,000,000" wherever it appears therein and substituting thereof the figure "$100,000,000".

Section 106

Section 106 rescinds, except to the extent funds have already been obligated, the authorization for construction of the isotopic space systems facility, Sandia Base, N. Mex. The original authorization of $2,250,000 was contained in Public Law 90–56, the fiscal year 1968 authorization act, under construction project line item 68–3–b. The amount rescinded is $2 million which is being applied to reduce new obligational authority requested for fiscal year 1972. This project is no longer necessary.

Section 107

Section 107 authorizes the Commission to enter into an arrangement, for a period not to exceed seven years, for the continued operation of Enrico Fermi Atomic Power Plant Unit 1 using fuel materials to be leased by the AEC with fuel use charges waived up to a total amount of $9.1 million subject to future adjustment for any AEC changes in fuel prices or use charges. The arrangement also is to provide for research and development activities of programmatic interest to the AEC.

TITLE II

Section 201

Section 201 of this bill would amend Sections 31 and 33 of the Atomic Energy Act of 1954, as amended, to authorize the Commission to conduct research and development activities relating to the preservation and enhancement of a viable environment by developing more efficient methods to meet the Nation's energy needs.

Under existing authority contained in section 33, the Commission provides nonnuclear research for others in the fields of public health and safety which includes environmental matters. This research for others is provided on a reimbursable basis and is subject to certain statutory limitations which generally require a showing that AEC's special competence is particularly needed by those seeking the research assistance. Existing authority under section 31 does not permit AEC to conduct in its facilities for its own account research and development activities in nonnuclear missions.

The President, in his Energy Message of June 4, 1971, stated that the key to meeting the Nation's twin goals of supplying adequate energy and protecting the environment in the decades ahead will be a balanced and imaginative research and development program. He also said that the Atomic Energy Commission would perform related energy research which may be appropriate as part of the Nation's overall energy program.

The national laboratories of the AEC are major national assets which were created, exist, and are needed for AEC's nuclear missions. These laboratories are staffed by outstanding scientists in both the physical and life sciences and they are equipped with facilities that are unique in many respects. The amendments to sections 31 and 33 would allow the Commission to use these national laboratories, either for its own account or for others, to assist in the balanced and imaginative research and development efforts which are needed for the Nation to continue to know the blessings of both a high-energy civilization and a beautiful and healthy environment. Fields such as underground electric transmission and magnetohydrodynamic power cycles are illustrative examples of the variety of research projects which could be undertaken by AEC in these national laboratories.

No additional funds are requested because of these amendments. Rather the amendments simply provide additional authority for AEC to utilize the talent and scientific resources of its national laboratories to facilitate research and development for clean energy.

Mr. PASTORE. Mr. President, I want to make it clear that this bill does include the cost of the so-called Cannikin underground test to be conducted at Amchitka in the Aleutians Chain. I want it clear that there is no intent on anyone's part here to conceal that fact in any way.

Mr. AIKEN. Mr. President, will the Senator yield me 5 minutes?

Mr. PASTORE. I yield 5 minutes to the Senator from Vermont.

Mr. AIKEN. Mr. President, I compliment the distinguished chairman of the Joint Committee on his truly effective summary of the Atomic Energy Commission's fiscal year 1972 authorization bill as reported by the Joint Committee.

This measure has received a very thorough examination by the Joint Committee. Every effort has been made to assure the maximum national benefit for each dollar included in the authorization. I will mention briefly the major

changes in the bill recommended by our committee.

Our uranium enrichment facilities are a major national asset. The three gaseous diffusion plants that comprise the enrichment complex have cost the Government billions of dollars in research, development, and construction funds. They must be maintained, improved, and augmented to the fullest extent necessary to meet the civilian power and other needs of our country and to permit the Atomic Energy Commission to continue to supply our friends abroad with the enriched materials required for their civilian nuclear powerplants.

Only $21 million is presently available for the improvement program, notwithstanding AEC recommendations in each of the past 3 years that many times that amount be included in the President's budget request. We cannot run the risk of a nuclear fuel shortage near the end of this decade. The Joint Committee's recommendation of $35 million for the improvement program will enable the AEC to move forward in expanding our enrichment capacity at a rate which the Committee deems absolutely essential.

The other major increase in funding recommended by the Joint Committee is an additional $37 million in operating costs for the space nuclear proplusion program. The primary effort within that program is the development of a nuclear engine for rocket vehicle application—the NERVA program.

The President's budget proposed $15 million for space propulsion, which would have been a reduction of 65 percent below the estimated costs for fiscal 1971. A similar reduction was recommended in the National Aeronautics and Space Administration budget—NASA and AEC each provide about one-half of the funding for the program.

The Joint Committee has long supported the efforts of these two agencies to develop a reusable and refuelable space nuclear propulsion system which would be uniquely qualified for space missions planned as part of our future space program. The Committee believes it is necessary that the Commission-funded portion of the NERVA program proceed in harmony with NASA's level of effort. Therefore, it has recommended increases for the AEC space propulsion program to bring it up to the level of the AEC's request to the Office of Management and Budget and comparable to the authorization of funding for NASA approved by both bodies. The Committee's views are set forth in detail on pages 30–32 of the report.

Another program for which the Joint Committee believes additional funding is required is Plowshare—the peaceful uses of nuclear explosives. Authorization of additional $3.1 million is recommended on pages 47–49 of the report to enable the Commission to proceed effectively with a natural gas stimulation program and initiate geothermal research and development activities.

Nuclear explosive stimulation of otherwise inaccessible natural gas located in the Rocky Mountain region would more than double proven reserves in the "lower 48" States.

I wish to say, Mr. President, that for a long time I had my fingers crossed on this program, feeling that it might be generally considered as a grant or gift to the oil companies. But since I find that practically all of the tests are conducted on federally owned lands, if the production of gas or even oil can be substantially increased, the royalties on those products will very likely more than offset the costs of the tests themselves. So, since learning that, I have become an advocate of this program for the United States.

The aforementioned program increases are offset in large part by reductions of $21.5 million for the national radioactive waste repository at Lyons, Kans.; $12.8 million for the new plutonium recovery facility at Rocky Flats, Colo.; and $7 million for capital equipment not related to construction. Other reductions were made in several other line items, primarily construction projects.

Mr. President, the Joint Committee has made a thorough analysis of the AEC authorization bill. I believe that the redistribution of priorities made by the Joint Committee will enable the AEC to carry out a well-balanced and effective program. Therefore, I urge passage of this measure.

I commend again the chairman of the Joint Committee for the very efficient work he has done, not only on this measure but in managing the bill which has just passed relating to HUD, which has certainly made something of a record.

I have noticed lately that appropriation bills coming over from the House of Representatives are sometimes reported to the Senate almost immediately after they are received over here. As long as Members like Senator PASTORE, BIBLE, and ELLENDER, Mrs. SMTH, YOUNG, HRUSKA, and others, are handling our appropriation bills, we ought to be able to finish our work within a reasonable length of time and not be required to stay in session until Christmas.

Mr. PASTORE. I thank the Senator. He is very kind.

Mr. AIKEN. The leaders of our Appropriation Committee are certainly making something of a record. I know I am a little out of order on this bill, but I commend them just the same.

Mr. HANSEN. Mr. President, will the Senator yield me just a moment?

Mr. AIKEN. I yield.

Mr. HANSEN. Mr. President, I commend the distinguished Senator from Vermont for his observations. He displays his characteristic astuteness in concluding, as he does, that it makes good sense for this country to encourage the atomic stimulation of the production of natural gas. I could not agree with him more.

The fact is, as everyone knows who has taken the trouble to look into it, that we are in short supply in our energy reserves in this country. A critical shortage is impending of natural gas. It is the most important and the cleanest fuel of all, insofar as heating and many industrial processes are concerned.

If we can take steps as indicated in this report and stimulate the increased production of natural gas, we will have hit a double blow in this country: First, we will have increased very substantially the energy reserves in the United States, and, second, we will have increased the reserves of the cleanest fuel we have.

I want to add my commendation to the distinguished chairman and to the Senator from Vermont.

Mr. AIKEN. I thank the Senator from Wyoming for his generous remarks.

I hope the Senator from Vermont never loses the ability to change his mind once the facts are made clear.

Mr. SCOTT. Mr. President, I send an amendment to the desk, for myself, the junior Senator from Pennsylvania (Mr. SCHWEIKER), and the junior Senator from New Jersey (Mr. WILLIAMS).

The PRESIDING OFFICER (Mr. TUNNEY). The amendment will be stated.

The legislative clerk read as follows:

On page 1, line 7, strike out "$2,025,571,000" and insert in its place "$2,026,071,000".

Mr. SCOTT. I yield myself 5 minutes.

Mr. President, I have sent to the desk an amendment increasing the Atomic Energy Commission's authorized operating expenses by $500,000, to a new total of $2,026,071,000. The purpose of the amendment is to fund fully, at the $1 million administration requested level, the terrestrial electrical power development program which provides for the development of a radioisotopic power system for use in a cardiac pacemaker.

Mr. President, this important AEC reactor development program is a good, sound project to develop nuclear cardiac pacemakers. It is one that holds a promise of relatively immediate benefit to thousands of people who are dependent upon electronic pacemakers for the stimulation of their hearts. At present these people are faced with the uncomfortable prospect of frequent and regular surgical replacement of the pacemaker, which includes a chemical battery. The resultant surgical risk and trauma is particularly undesirable for elderly citizens, who are normally the recipients of these devices.

I am aware that the Joint Committee on Atomic Energy, in its initial review, felt that this program could be conducted at a level of $500,000. However, in my opinion, if such a course were followed, the result would be to effect a minimum delay of at least 1 year in generally licensable human implantations within the United States. Such a delay would thus defer the benefits that the general introduction of these devices into wide usage would represent. Accordingly, this amendment, if adopted, should virtually assure the establishment of preliminary nuclear safety licensing guidelines as well as the accumulation of sufficient animal and laboratory experimental work with nuclear powered pacemakers as a next step prior to human implantation.

Mr. President, a great deal of the work on the cardiac pacemaker has been done by the Nuclear Materials and Equipment Corp.—NUMEC—of Apollo, Pa. Since 1966, the first year of the program's operation, NUMEC has received nearly

$3 million in Federal funds to carry out its work. A cut in funding now would render this vital program useless and inoperative.

I urge the Senate to adopt this amendment, and I hope that the distinguished manager of the bill will see fit to accept it.

Mr. PASTORE. Mr. President, the administration request on this was a million dollars. The Joint Committee went into this matter in quite some detail. We did not give it the priority that we had to give to others because we thought that because five companies are now working on this, a choice ought to be made; and if we reduced it to $500,000, that would be sufficient. But since that time, quite a bit of pressure has been brought—sincere, legitimate pressure—to the effect that we had gone so far and this would be a wrong time to slow it down. Frankly, the way I feel about it is that if we are going to consider this and allow for any doubt, I think it ought to be on the side of saving human life.

I have talked it over with the Senator from Vermont, and we have agreed to accept this amendment.

Mr. SCOTT. I understand that this is satisfactory to the senior Senator from Vermont.

Mr. AIKEN. Yes. I think the amendment offered by the minority leader is very humane and worthwhile, and I am glad to join the Senator from Rhode Island in accepting it.

Mr. SCOTT. I thank both Senators for their very compassionate consideration of this amendment, and I call for a vote.

The PRESIDING OFFICER (Mr. GAMBRELL). Is all time yielded back?

Mr. SCOTT. I yield back the remainder of my time.

Mr. PASTORE. I yield back the remainder of my time.

The PRESIDING OFFICER. All time on the amendment has been yielded back.

The question is on agreeing to the amendment of the Senator from Pennsylvania.

The amendment was agreed to.

Mr. BIBLE. Mr. President, will the Senator from Rhode Island yield me 2 or 3 minutes?

Mr. PASTORE. I yield 3 minutes on the bill to the Senator from Nevada.

Mr. BIBLE. I simply want to take this opportunity to commend the Senator from Rhode Island, the Senator from Vermont, and other members of the joint committee for the wonderful work they have done on this bill.

This is the first year I have been privileged to serve on this joint committee, and I want to single out the project in which I have shown some interest for a number of years—the geothermal steam project.

This has a potential of unlimited electric energy to be produced from the earth. This is a project for which the committee has allowed $500,000, embarking on a program which may be of great assistance in helping us meet our energy shortages.

The $500,000 is added for embarking on a program, with an estimated Government cost of $25 million, aimed at the recovery and utilization of geothermal energy for generation of electric power. Initial efforts will be directed at resolution of the major technical questions identified in the recently completed industry-Government feasibility study which evaluated dry geothermal deposits. Wet or natural steam deposits will be studied in a follow-on project.

Much of the data to be acquired relative to tapping geothermal resources has common application with natural gas stimulation technology, such as basic "clean" device development, multiple explosive engineering, connected chimney flow effects, and residual entrained radioactivity. Other aspects will be unique to geothermal applications. Included in this category are improved exploration techniques for location and definition of potential geothermal sites, special drilling techniques for hot rock, and particular device characteristics for high-temperature environments. Seismic engineering of Plowshare to reduce ground motion effects is, of course, involved in all applications, but will have particular significance in geothermal projects where the generating plant may be close to the stimulation site.

I thank the chairman and the other members of the committee for this initial effort in a program which could have unlimited possibilities of meeting the energy crunch of the future. It is a step in the right direction, and I salute the chairman.

Mr. PASTORE. I thank the Senator from Nevada. He has always been very cooperative and helpful, and we appreciate his association and his counsel and help.

Mr. BIBLE. I thank the Senator.

Mr. BAKER. Mr. President, will the Senator yield?

Mr. PASTORE. I yield.

Mr. BAKER. Mr. President, as the most junior member of the joint committee from this body, I have seen a great deal in my brief service, and I want to take this opportunity to commend the members of the Joint Committee on Atomic Energy—Republicans and Democrats alike—and Members from the other body for their diligent attention to the vast array of complex detail and problems.

A number of controversial issues in this bill presumably will be dealt with by this body today. The bill as reported has received the careful and diligent, and I think worthwhile, attention of all the members of the committee during the past several months, and I commend them—I especially commend Senator PASTORE, the chairman of the Joint Committee, and Senator AIKEN, the ranking Republican—for their careful attention to the complexities of this undertaking.

I should like to touch very briefly on two points which are included in this bill and are of particular significance to my State and, I believe, to the entire Nation. The first deals with the so-called cascade improvement program.

CASCADE IMPROVEMENT PROGRAM

A fundamental issue of major national significance is the need for funds to improve and thereby expand the capacity of the Nation's uranium enrichment facilities on a timely basis. These facilities—the three U.S. gaseous diffusion plants—are the sole source of enriched uranium for fuel to power nuclear reactors. Enriched uranium is also used in nuclear weapons and Navy submarine reactors. The Joint Committee has recommended authorization of an additional $35 million in construction funds to move forward with a cascade improvement program which will provide needed additional enrichment capacity.

The gaseous diffusion plants have cost the Government and the taxpayers billions of dollars in research, development, and construction funds. They are truly a national asset which should continue to provide enriched uranium at low cost to meet domestic and foreign needs for many years to come. The product of these plants is essential to the Nation's future supply of abundant, low-cost energy.

As many Senators know, uranium is enriched—that is, the percentage of fissionable material is increased—by means of a gaseous diffusion process which remains highly classified. Developments in the technology associated with this process have provided us with the ability to increase the production capacity of the three existing plants by improving the cascades—the actual diffusion machinery—without increasing the electric power level at which they are operated.

The CIP is the first of several steps which must be taken to increase our capacity to meet the rapidly growing demand for enriched uranium. It is a large-scale project which will take several years to complete, but it will provide additional capacity at the lowest cost of any means presently available.

Substantial funding will be necessary to assure the U.S. Government's capability to meet its foreign and domestic commitments and anticipated future demands for low-cost uranium enrichment services.

While our gaseous diffusion plants do provide a source of material for our nuclear weapons, such uses draw on only a very small percentage of the plant capacity. More than 90 percent of the enriched uranium will be used as fuel in domestic and foreign nuclear reactors. The capacity of the diffusion plants has a finite limit. Such capacity will be exceeded by demand both foreign and domestic by the mid-1970's. In fact, all or nearly all of that capacity will be committed by the end of this year. The AEC has estimated that, by the end of 1978, the demand will outstrip AEC's ability to supply all customers from both current production and preproduced inventory.

I need not remind the Members of this body of the crisis our Nation faces in providing an adequate supply of low-cost electric energy. Nuclear powerplants will play a major role in solving that crisis—but not without the enriched uranium they need as fuel. Without the timely improvement of the gaseous diffusion plants, there will not be adequate nuclear fuel for those electric powerplants.

Recent orders for nuclear electric powerplants have experienced a sharp surge as evidenced by the fact that in the first 4 months of 1971, U.S. utilities ordered 13 new nuclear plants totaling about 12,800 MWE capacity compared

with new orders in all of 1970 of 14 units with a total capacity of about 14,300 MWE. If this pattern continues, the AEC's forecast of nuclear power growth, on which its enrichment capacity planning is based, could well fall far short of actual nuclear generating capacity installed. The result could be an enrichment capacity deficiency and thus a nuclear fuel shortage akin to the fossil fuel shortage recently experienced, together with the attendant cost spirals.

In addition to meeting our own needs for enriched uranium, the U.S. Government is committed under agreements for cooperation to supply nuclear fuel or enrichment services to more than 20 friendly nations for use in their own nuclear electric power stations. Their needs for nuclear fuel also are growing rapidly.

Unfortunately, within the last 2 years, we have had to reduce the scope of our guarantee to supply enriched fuel to these other nations. Last year, the United States reduced from 5 years to 3 years the period within which construction must begin on foreign reactors in order to qualify them for inclusion in a fuel commitment. This year the AEC adopted a policy that our future agreements will no longer be an undertaking to supply the fuel requirements of specified foreign reactors. Instead future agreements will represent an undertaking to enter into fuel supply contracts subject to the availability of enrichment capacity at the time a decision to construct a reactor is made. In other words, our Government will no longer make any commitment to another nation to supply nuclear fuel until a contract for that fuel has actually been executed.

The AEC has advised the Joint Committee that:

> This step was taken in recognition of the fact that the commitments that would be involved in the agreements under negotiation, when coupled with existing foreign and domestic commitments for the supply of enriching services, would essentially match the capability of the existing gaseous diffusion plants under certain assumptions of operating conditions and fuel cycle requirements.

What this means is that other nations in the future will have much less firm assurance that the United States will be able to supply their nuclear fuel needs.

Since the future need to expand uranium enrichment capacity first became apparent, both the executive branch and the Joint Committee have avowed intentions that new capacity shall come on the line contemporaneously or in advance of its need. No one wants to risk a nuclear fuel gap.

President Nixon, in his energy message to the Congress on June 4, 1971, announced that the $16.1 million appropriated for fiscal 1971 to begin the CIP, but impounded for several months by the OMB, would be released for use in fiscal 1972. This has been accomplished. Also very significant is the fact that the President asserted in his energy message that:

> The Government must carry out its responsibility to ensure that our enrichment capacity expands at a rate consistent with expected demands.

However, in its fiscal year 1972 budget submission to OMB the Commission proposed that $152 million be authorized for CIP and that $68 million be appropriated for fiscal year 1972. The Office of Management and Budget rejected this proposal, and the administration's formal budget request included no new funding for CIP in fiscal year 1972.

Members of the Joint Committee, who have come after many years to expect the unexpected in most facets of the atomic energy program, including enrichment matters, have continued to press for a rate of improvement that would minimize the risk of needs going unmet at some point in the future. The committee has tried to make it clear through its authorization recommendations and through its reports to the Congress that immediate commencement of the improvement program is the only route by which such risks can be avoided. It is the view of the Joint Committee that there is only a slight possibility that the new capacity will be brought on line before it is needed and that proceeding now with the program will not only provide provident insurance against nuclear fuel shortages but will also be more economical in that earlier investments will be made at lower cost than later ones upon which inflation would have had time to act.

In recommending an additional $35 million for the CIP in fiscal 1972, the Joint Committee has responded much as it did last year when it added the $16.1 million to begin the CIP.

I join my colleagues on the Joint Committee by strongly urging that the Congress authorize and appropriate the full $35 million and that, if the funds are authorized and appropriated, the Office of Management and Budget make them available to the AEC without delay. The Joint Committee will view the actions of the executive with respect to these funds as an accurate measure of the true commitment of the administration to the improvement program and of its determination to meet the Nation's energy needs.

A statement on the gaseous diffusion plants would not be complete without a discussion of the financial benefits which the Government will realize from the sale of enrichment services. Our enrichment plants are producers of tremendous amounts of revenue for the Federal Government. The CIP will further reduce the cost of providing enrichment services with the result that even greater net cash returns will be realized. The net cash flow from the sale of enrichment services is expected to amount to more than $300 million in the year 1980 on sales of about $1 billion in that year alone, providing that sufficient enrichment capacity is made available by means such as installation of the CIP.

I urge Senators to support the Joint Committee's recommendation to move forward with this important program now before it is too late.

TITLE II. EXPANDED RESEARCH AUTHORITY FOR AEC NATIONAL LABORATORIES

Now, Mr. President, section 201 of the bill would amend sections 31 and 33 of the Atomic Energy Act of 1954 so that the Commission, on its own account or at the request of others, could use its unique national laboratories to perform research and development work relating to the preservation and enhancement of a viable environment by developing more efficient methods to meet the Nation's energy needs. AEC, as a result of a 1967 amendment to section 33, is authorized to perform such work for others, provided that it determines that private facilities or laboratories are inadequate for the intended purpose.

The amendments involve no increase in the funds to be authorized. The amendments are in keeping with the President's energy message of June 4, 1971, which recognized: First, the need for an imaginative research and development program to meet the twin goals of both a high-energy civilization and a beautiful and healthy environment; and second, the role of AEC in performing energy research as part of the overall energy program.

The national laboratories must, of course, continue to exist under AEC control to perform their primary missions in the nuclear field. Existing authority does not permit utilization by AEC of these unmatched scientific resources to assist in the solutions of nonnuclear energy and environmental problems for its own account. The amendments would permit AEC to make maximum use of available talent and facilities.

I ask unanimous consent to have printed in the RECORD a summary of the capability of AEC laboratories in environmental and energy research and development programs.

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

SUMMARY OF THE CAPABILITY OF AEC LABORATORIES IN ENVIRONMENTAL AND ENERGY RESEARCH AND DEVELOPMENT PROGRAMS

The AEC and its laboratories have a significant research and development capability that could be effectively applied in the advancement of existing energy technologies as well as the development of new ones. The AEC laboratories are national assets. Their staffs include highly competent professionals, in both the basic sciences and engineering fields, with wide experience in managing and conducting research and development programs as well as a broad range of energy related projects. These laboratories have shown their capability to undertake an entire developmental task from the inception of the basic scientific idea, through the necessary development of materials, and through engineering, building and operating of prototypical hardware and test facilities, including those capable of producing useful amounts of power.

The AEC and its laboratories have successfully achieved many extremely complex scientific and engineering goals. Many of the large and complex projects were accomplished through closely coordinated and cooperative efforts with industrial organization and other government agencies. The development of central station nuclear power plant technology, of advanced test reactors, of nuclear submarine and surface ship plants, and of space power plants constitute accomplishments of major worldwide technological significance. Their achievement required the coordination and integration of many complex and interrelated efforts, such as in physics, metallurgy, heat transfer, reactor core design, coolant technology, fuel utilization, component development, instrumentation, control techniques and many others.

Large investments have been made at these laboratories in plant and capital equipment—

much of which is of unique value. As of June 30, 1970, the AEC's investment in research facilities totalled $3.2 billion. Of this amount, $2.3 billion was invested in the major Government-owned laboratories. These facilities include research reactors, accelerators, general laboratory buildings, equipment and research devices.

The table below gives some indication of the plant investment and number of scientists and engineers in the major AEC laboratories. It is important to note that these laboratories vary significantly in their orientation; some are basic research oriented, others are project engineering oriented, and several are multi-purpose oriented.

Laboratories	Cost of completed plant June 30, 1970 (millions)	Number of scientists and engineers (1970 national survey)
Ames Research Laboratory	$25.3	190
Argonne National Laboratory	385.4	1,479
Bettis Atomic Power Laboratory	141.8	1,313
Brookhaven National Laboratory	248.0	719
Idaho Nuclear Corporation	181.0	446
Knolls Atomic Power Laboratory	151.1	868
Lawrence Radiation Laboratory	367.5	1,927
Los Alamos Scientific Laboratory	282.2	1,594
Oak Ridge National Laboratory	$363.7	1,317
Pacific Northwest Laboratory [1]	110.1	573
Savannah River Laboratory	80.0	314
Stanford Linear Accelerator	146.7	218

[1] Includes the Hanford Engineering Development Laboratory

The activities at these laboratories have been primarily related to the development of technology related to the utilization of nuclear energy. A limited amount of R&D has been conducted for other Government agencies in several non-nuclear areas; for example, Oak Ridge National Laboratory has conducted research on desalting of sea water for the Department of Interior and on ultracentrifuge development for the Department of Health, Education, and Welfare. In 1967, the Congress, on the initiative of the Joint Committee on Atomic Energy, amended the Atomic Energy Act to specifically permit the AEC to help others in the resolution of environmental and health related problems, regardless of any nuclear relevance. It has been estimated that about $11.4 million of environmental and health related research will be conducted at AEC laboratories in FY 1971, as shown in the attached table.

Some specific examples of the type of environmental and energy R&D that could be conducted in AEC laboratories are:

WASTE TREATMENT AND DISPOSAL

Research has been conducted on isotopic systems for measuring sulfur content in coal and detecting SO_2 gas released from power plants. Developing technology for the control of combustion products from fossil fuel plants would be a logical task for assignment to the competent engineering staffs of the laboratories.

NEW ENERGY SYSTEMS

AEC engineering oriented laboratories could assist in development of magnetohydrodynamics and other means of improving power plant efficiencies; of fuel cells, coal gasification, oil shale recovery, solar, and other new energy technologies.

ADVANCED SITING PRACTICES

AEC laboratories have pioneered in the study of advanced siting concepts, such as offshore islands and energy centers. These concepts could have wide application, and many aspects of their utilization could be examined in further detail.

Laboratory and sponsor	Title	1971 costs
Argonne National Laboratory:		
Department of Defense	Battery for Vehicular Propulsion	$150,000
Do	Two Phase MHD System	70,000
Environmental Protection Agency	A Study of the Fate of Carbon Monoxide in the Atmosphere.	29,000
Do	Air Pollution Episode Control Planning Agreement No. 690003.	118,000
Do	Air Pollution Land-Use Planning	74,000
Do	Chicago Air Model	11,000
Do	Development of the Integrated Puff Atmospheric Dispersion Model Computer System.	60,000
Do	Fluidized Bed Treatment of Coal	383,000
Department of Health, Education, and Welfare.	Artificial Kidney	125,000
Do	Braille Reader	146,000
Do	Implantable Secondary Battery	192,000
Coordinating Research Council, Inc.	A Study of the Fate of Carbon Monoxide in the Atmosphere.	63,000
Brookhaven National Laboratory:		
Department of Defense	Studies on Meningococcus Polysaccharides	25,000
Environmental Protection Agency	Ozone Treatment of Acid Mine Drainage	20,000
Do	Stable Tracers for SO_2	119,000
Department of Health, Education, and Welfare.	Chemical Dissection and Therapy of Brain Disorders.	108,000
Do	Radiation Studies re Cancer & Radiobiology—Training Grant.	60,000
Department of the Interior	Concrete Polymer	285,000
National Aeronautics and Space Administration.	Low g Effects on Tradescantia	83,000
National Science Foundation	Superconducting Electrical Power Transmission Studies.	40,000
Department of Transportation	Development and Use of the BNL Dose Equivalent Meter for Measurement of Radiation Levels at Elevations of 20,000–70,000 Feet.	30,000
American Heart Association	Environmental Genetic Interactions in Hypertension.	12,000
The Population Clinic Rockefeller University.	Effects of Progestogens on Serum	26,000
Lawrence Radiation Laboratory—Berkeley: National Aeronautics and Space Administration.	Heme Catabolism	27,000
Los Alamos Scientific Laboratory:		
Department of Health, Education, and Welfare.	Application of High-Speed Flow-System Methods of Cell Analysis and Sorting to Cancer-Related Cell Populations.	150,000
Do	Microfluorometry of Cell Cultures	78,000
Do	Study of Potential of Reversibly-Arrested Cell Populations for the Screening of Certain Anti-Neoplastic Agents.	17,000
Oak Ridge National Laboratory:		
Environmental Protection Agency	Application of Cross-Flow Filtration to Pollution Control Problems.	102,000
Do	Automated Analysis of Polluted Water	74,000
Do	Cooperative Gas Aerosol Study	13,000
Do	Hydrodynamic Control of Flux of Cellulose Acetate Membranes Used in Hyperfiltration of Municipal Sewage Effluents.	82,000
Do	Hyperfiltration of Sewage Effluent	80,000
Do	SO_2 Absorbers	31,000
Do	The Development of Electrochemical Air Monitors for Chlorine and Chlorides.	25,000
Department of Health, Education, and Welfare.	Biological Separations	$563,000
Do	Clinical Analyzer	271,000
Do	Co-Carcinogenesis	1,717,000
Do	Desalting Protein Solutions	32,000
Do	Electron Microscopy	121,000
Do	Environmental Mutagen Information Center	20,000
Do	Isolation of Viral Units	11,000
Do	Mammalian Mutagenesis	110,000
Do	Molecular Anatomy-Body Fluids	414,000
Do	NIAID Leprosy Program	48,000
Do	Smoking and Health	140,000
Do	Toxicology Information Query Response Center.	100,000
Do	Ultracentrifuge Development	759,000
Do	UV-Analyzer Prototype	14,000
Department of Housing and Urban Development (HUD).	Solid Waste Disposal	24,000
Do	Tunnel Technology	62,000
Do	Urban Growth Patterns Research	195,000
Do	Urban Use of Themal Energy	66,000
Department of the Interior	Engineering Development of Hyperfiltration with Dynamic Membranes.	100,000
National Aeronautic and Space Administration	Space Flight Clinical Laboratory System	50,000
National Science Foundation	International Biological Program-Ecology	968,000
Do	The Environment and Technological Assessment.	1,496,000
Atomic Bomb Casualty Commission: Department of Health, Education, and Welfare.	Cardiovascular Study	28,000
Oak Ridge Associated Universities:		
Department of Defense	Infections in Treated Patients	83,000
Department of Health, Education, and Welfare.	Chromosome Breakage	60,000
National Aeronautic and Space Administration.	Whole Body Irradiation	210,000
National Multiple Sclerosis Society.	Occurrence, Biosynthesis, and Biocleavage of Ether-Linked Lipids in Biomembranes: Their Role in Multiple Sclerosis and Related Neurological.	25,000
Pacific Northwest Laboratory:		
Department of Defense	Critical Atmospheric Turbulence	114,000
Environmental Protection Agency	National Precipitation Washout of Sulfur Dioxide.	94,000
Department of Health, Education, and Welfare.	Dissipation of Heat	35,000
Do	Uranium Mining Hazards	421,000
Puerto Rico Nuclear Center: Department of Agriculture.	Irradiation Control of Sugarcane Borer	6,000
Savannah River Operations Office: Environmental Protection Agency.	Construction of 6 Stream Channels	40,000
University of Rochester Atomic Energy Project: Department of Health, Education, and Welfare.	Uranium Mining Hazards	119,000
Total for the 68 projects listed		11,424,000

Mr. BAKER. Mr. President, I thank the distinguished manager of the bill for his service and for yielding to me at this time so that I might pay my respects to the efforts of the Joint Committee.

Mr. PASTORE. I thank the Senator from Tennessee very much.

The PRESIDING OFFICER (Mr. GAMBRELL). Who yields time?

Mr. PASTORE. Mr. President, the bill is open to amendment. If anyone has an amendment, he should bring it up at this time.

AMENDMENT NO. 260

Mr. GRAVEL. Mr. President, I send to the desk a modification of amendment No. 260 and ask that it be stated.

The PRESIDING OFFICER. The amendment as modified will be stated.

The assistant legislative clerk read the modification as follows:

At the end of the bill insert the following:

SEC. 301. No funds authorized to be appropriated under this Act shall be used to detonate any underground nuclear test scheduled to be conducted on Amchitka Island, Alaska, before May 31, 1972: *Provided, however,* That the President may schedule such a test on the grounds of compelling national security requirements: *Provided, further,* That the President shall submit to the Congress no later than sixty days prior to the scheduled test a report on these requirements.

The PRESIDING OFFICER (Mr. GAMBRELL). Will the Senator from Alaska advise the Chair if this is one of the amendments on which there is a time limitation prescribed of 1 hour?

Mr. GRAVEL. That is correct, Mr. President, a time limitation on this amendment of 1 hour.

The PRESIDING OFFICER. Who yields time?

Mr. GRAVEL. Mr. President, by way of explanation, this amendment is the amendment of the Senator from Hawaii (Mr. INOUYE), No. 262, which I have adopted and think is the wiser course of action, at this point in time, than the amendment I propose.

I would hope that the chairman might accept the amendment. I think it is moderate, as it merely seeks to delay testing. There will be nothing lost in the way of knowledge by the delay. It might add to a proper climate in the world prior to the President's forthcoming trip to mainland China. Thus, I think it would leave all possible options open and would be the better part of wisdom to undertake this particular course of action.

I would be happy to hear the response of the chairman and, depending on that response, will proceed with my presentation.

Mr. PASTORE. Mr. President, I am very happy to respond.

First, is the Cannikin test necessary? That is the first question.

Second, if it is necessary, why must it be delayed until May 31?

Third, why should we spend $18 million for a delay that has not been justified? That is what the delay will cost.

Now, Mr. President, today I circulated to every Senator's office an explanation of the necessity for the test. I have been connected with the Joint Committee on Atomic Energy since 1952 and I have said time and time and time again: Woe be it to mankind when man, through his God-given creative ability, was able to split the elements of the earth to create this tremendous power. Woe to him if he cannot contain and restrain this power.

Out of it was born the atomic bomb.

Perhaps we would have been better off if the bomb had never been born.

But the bomb was born.

Perhaps we would have been a lot better off if we had retained a monopoly of the bomb, but we have not. There are now five members of the nuclear club; namely, ourselves, the Russians, the British, the French, and now the Red Chinese.

Mr. President, the committee agonized over this test—and when I use the word "agonized" I use it advisedly—because I voted against phase 2. I realize that there are many other people sincerely against the antiballistic-missile system and they have their reasons that, in many instances, make a great deal of commonsense. I cannot question that.

But the fact still remains that the highest authorities in our country, the men who have the responsibility to guarantee the security of this country, have stated that the test is absolutely necessary—I repeat, absolutely necessary—if we are going to have the Safeguard system.

A great many people believe that we should not have the Safeguard system at all, and if they vote against the test I shall understand that they will be carrying out their original idea; but it has become the policy and the program of this country, whether I like it or not, to have the Safeguard system.

If we are going to have the Safeguard system, then we are going to have this test.

Mr. President, I have a statement which, at my request, was sent to me by the AEC, which I have circulated to every Senator, and I ask unanimous consent to have it printed in the RECORD.

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

THE NECESSITY FOR THE CANNIKIN EXPERIMENT

The nuclear device to be tested in the CANNIKIN event, scheduled for the fall at Amchitka Island, is related to the optimum development of a warhead for the SPARTAN missile of our SAFEGUARD Ballistic Missile Defense Program. The measurements of device performance which will be obtained from the test are essential to our optimum defense deployments of safeguards for protection of our MINUTEMAN missile sites. Several nuclear tests have been conducted in the program leading to this requirement, but they did not have the hardware improvements incorporated in the present design nor were they at the yield level to demonstrate proper final performance. This device is the most intricate and complicated configuration ever undertaken in the weapons program and incorporates a design that is different from any other nuclear weapon ever produced.

Nuclear weapons produce energy output and effects in various forms such as thermal radiation, neutrons, fission products, x-rays, gamma rays, and shock waves. In the CANNIKIN experiment, it is vital that these various outputs be measured to be certain that the constituent parts satisfy the requirements of the device design.

This system is designed for exoatmospheric intercept with x-rays as the kill mechanism. This intercept mode puts two important constraints on the warhead: (1) it must have a low fission output in order to reduce radar blackout effects and (2) a large fraction of its output should be x-rays to increase lethality and make it more difficult for the attacker to harden his reentry vehicles. Full understanding of the x-ray output spectrum is important to successful operational planning. CANNIKIN objectives include determining the yield of the warhead and making extensive x-ray output measurements.

The principal reasons for the full yield test are:

To minimize the possibility of stockpiling a defective design. There is a chance that there is some deficiency in the warhead which has not been found in spite of extensive design calculations and testing of the warhead at partial yield. There is no way to demonstrate that such a defect does not exist other than by testing at full yield. Theoretical calculations indicate a good physics package, but a design as complicated as this could provide serious surprises. Although it is difficult to lay out a history of all past test failures, a recent example in 1967 was the full yield proof test of the MINUTEMAN III warhead which produced only 40% of the predicted yield and resulted in a redesign before final proof test and production. Therefore, failure to do the CANNIKIN test would result in a drastically reduced confidence in the performance of the system.

To measure the yield. The test should permit the yield to be measured to an accuracy of plus or minus 15%. Without a test of the fully fueled design, one would have to rely on calculations and extrapolation of the results of testing at lower yields. The uncertainty of the calculations is difficult to estimate but in the absence of a full yield test, it would probably be possible to specify the yield only to plus or minus 25–30 percent.

To measure the x-ray flux and spectrum. The main uncertainty in x-ray output is the uncertainty in yield. If CANNIKIN were not conducted, one would be forced to rely on theoretical calculations to determine x-ray flux and spectrum without the benefit of any meaningful experimental data.

I would like to comment on some safety aspects of CANNIKIN.

A number of individuals and private organizations have recently questioned whether it is safe for the AEC to go ahead with the detonation of the CANNIKIN device at Amchitka. Some have charged that the AEC is acting with disregard for safety in its planning for CANNIKIN. These are serious charges which have led me to look into the AEC's study and investigation about the safety of CANNIKIN. I have found that the AEC has been conducting active investigations of all aspects of the CANNIKIN test safety since early 1967, studying these matters with extraordinary thoroughness. An important part of these investigations was the MILROW experiment which was conducted at Amchitka in 1969 for the sole purpose of verifying whether the larger CANNIKIN test could be conducted safely. This experiment accomplished the purpose of confirming preshot predictions as to the minimal effects of that megaton explosion.

Throughout its test operations the AEC utilizes the best advice and counsel that it can obtain in regard to safety. In planning for CANNIKIN the AEC has obtained the services of appropriate Federal agencies, of scientists at several universities and of several independently recognized experts from a variety of scientific disciplines. For CANNIKIN, a Standing Panel of Consultants for the AEC has performed a review of the effects predicted on the geology, groundwater, ecology, and natural and man-made structures from ground motion and radiation hazards. In addition, because of the seismic nature of the Aleutians, the Special Panel for

Seismology has reviewed and advised upon programs which the AEC has conducted to study the seismological effects of CANNIKIN. For the most part, these experts were selected from candidates recommended by the National Academy of Sciences.

The Panel of Consultants as well as the Special Panel for Seismology was made up of individuals from the U.S. Geological Survey, University of California, University of Illinois, St. Louis University, University of Nevada, Washington State University, University of Michigan, Columbia University, California Institute of Technology, Palo Alto Medical Clinic, Scripps Institution of Oceanography, Sheppard T. Powell and Associates, and Shannon and Wilson, Inc. They represent such disciplines and subdisiplines as radiobiology, soil mechanics, structural engineering, geophysics, hydrology, radiation medicine, ecology, geology, oceanography, tsunaminology, seismology, and hydrogeology. All told the talents of some 60 recognized scientific and technical advisors and participants have been involved to varying degrees with deliberations on these subjects for the AEC's conclusions as to the safety of the CANNIKIN test. In addition, several hundred AEC and AEC contractor personnel have been engaged in direct performance of studies.

It is on the basis of these extensive investigations that the AEC has been able to state in its environmental statement for CANNIKIN that the CANNIKIN test can be fired without important detrimental impact. I am personally convinced that this conclusion is amply supported by facts, the most important of which are reported within the environmental statement.

The decision on the requirement for this system was made some time ago. Until such time as intelligent international understanding can be reached which makes such weapons developments unnecessary, we have no other choice. If we are to develop and deploy an effective system, we must have this test.

Mr. PASTORE. Mr. President, I also have a letter written by David Packard, the Deputy Secretary of Defense on July 19, 1971, and I am going to read that letter:

DEAR SENATOR PASTORE: This is in response to your request for my views on the importance of the CANNIKIN nuclear test to the national defense.

The nuclear device to be tested in the CANNIKIN event is for the development of a war head for the Sparton missile of the Safeguard ballistic missile defense program, a program that Congress approved. The measurements of device performance which will be obtained from the tests are essential in my view, to the optimum defensive deployments of Safeguard for protection of the Minuteman missile sites.

Sincerely,

_____.

Mr. President, how can I dispute such testimony?

Here we are, we have the AEC investigation and study of this question from top to bottom—and it is all contained in the memorandum—that they called upon the National Academy of Sciences to nominate their great scientists to investigate this, and we wanted the colleges and universities to look into it and to survey the ecology problem.

In 1969, we shot off a device in order to qualify the island for the Cannikin test. We have already dug the hole. It has a room 50 feet wide at the bottom and is 6,000 feet deep. We have spent almost $165 million.

Now, Mr. President, I do not know what the Senate will do, but to come in here at the 11th hour and expect me to accept an amendment that delays a test that I have been told is absolutely necessary, how can I accept that, I say to my good friend from Alaska? How can I do that? To please whom, to answer what—and, why the date?

If Cannikin is not necessary, then let us delete it from the bill; but if it is necessary, then let us leave it in the bill.

If Safeguard needs to exist, then let us vote for it.

If Safeguard does not need to exist, then let us vote against it.

That is how simple it is.

I hope that answers my good friend from Alaska. He is a sincere individual and I know how he feels about this. It is 1,400 miles from the nearest major city in his State.

I also want to say to my good friend from Hawaii that no one regards him more highly than I do, and I know what his problem is. But he is on the Armed Services Committee and I know how he feels about Safeguard, and I think he knows how I feel about it.

These are the facts of life, Mr. President. I have this responsibility as manager of the bill.

What else can I say?

What else can I say that I have not already said?

Mr. GRAVEL. Mr. President, I yield such time as he may need to the distinguished Senator from Hawaii (Mr. INOUYE).

Mr. INOUYE. Mr. President, I have listened to the statement of my very dear friend from Rhode Island with great care.

His first question was, Is Cannikin important?

I think that is a good question, because the President of the United States has not yet decided whether Cannikin is important. A special committee, made up of Under Secretaries, as the chairman is well aware, has been appointed.

This committee has been given the responsibility of providing the President with some guidance to form a conclusion, that I gather as of this moment the President has not formed, whether the test is advisable or not.

I am well aware that to postpone this test would cost money. For the record, I believe that it would cost about $15 million. My response to that is very simple. If this is the price tag for peace, I think it is very cheap.

The date of May 31, 1972, was very carefully selected because it was the day that we may see some news emanating from Peking. As the President indicated, he very gladly accepted the invitation of Premier Chou En-lai to visit Peking. This was to come about before May 31, 1972.

I believe we would be assisting the President and assisting the world if we did everything to take away every conceivable obstacle to peace and every conceivable obstacle to this journey to Peking.

Second, we have been advised that the SALT discussions are moving along rather successfully. However, there is some promise and some hope, I would think, that this postponement would bring about greater promise and greater hope.

Finally, it should be noted that in this amendment there is a very important proviso, and this is in response to the fears that have been expressed by some of those who are in favor of the test.

It says, if I may read it:

Provided, however, That the President may schedule such a test on the grounds of compelling national security requirements; *Provided, further*, That the President shall submit to the Congress no later than 60 days prior to the scheduled test a report on these requirements.

If, sometime between now and, say, a week from now, the President finds that there is some compelling national security requirement that makes it necessary that he go through with the test, then so be it.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. INOUYE. I gladly yield to my chairman.

Mr. PASTORE. The President's power works both ways. The test is set for October. But if tomorrow or the next day or any day up to the October test day the President determines there is no national need for the test the President can stop it—freeze it.

The President has the authority as the Commander in Chief and as the President of the United States to stop the test any time up until it takes place. That is well understood.

Mr. INOUYE. Mr. President, I am well aware, as the chairman noted, that the President has the authority to stop the test any time he wants to. However, I think it would be well for the House of Representatives and the Senate of the United States to express to the President a sentiment which I feel is now held by a significant number of Americans. I think it would be well to tell the President that we want his journey to Peking for peace to be successful and that we in the Senate will try by this amendment to take away what we consider to be an obstacle to that journey.

It is, of course, for these simple reasons that we hope that the Chairman will accept the amendment. It would not tie the President's hands. It states that he may, if he feels there is a compelling requirement to do this, go ahead with the test.

I think the time has come for the Senate of the United States to indicate to the President that we are concerned about the Cannikin test.

Mr. President, if I may be a bit personal and speak as a Senator from Hawaii, I should like to advise the Senate that the State of Hawaii, unlike most other States, has suffered from tsunamis, sometimes known as tidal waves. And many of the tidal waves have been caused by earthquakes occurring somewhere in Alaska, especially in the Amchitka chain.

Mr. President, in 1946 as a result of an earthquake in the Aleutians, we lost 159 men, women, and children. We had tidal waves in 1952 and in 1957. All this is something that is very real to the people of Hawaii. It is not guesswork for us.

So when all of our eminent scientists try to assure the Nation and the people of Hawaii that the likelihood of this explosion generating a tidal wave is remote, we are not convinced as long as there is a possibility, no matter how remote it is. We shall be looking to this black date when this test is carried out with great fear. And if this multimegaton blast should generate an earthquake which in turn generates a tidal wave, then the Congress of the United States might have many questions to answer.

I would hate to be in that position. I would hope that the committee would go along with the amendment which I consider to be reasonable and moderate. It is in no way restrictive of the President. It just sets forth very simply the mood of the Senate. I hope that my compassionate chairman will agree to accept the amendment.

Mr. PASTORE. Mr. President, may I read an excerpt from the memorandum from the Atomic Energy Commission:

Throughout its test operations the AEC utilizes the best advice and counsel that it can obtain in regard to safety. In planning for CANNIKAN the AEC has obtained the services of appropriate Federal agencies, of scientists at several universities and of several independently recognized experts from a variety of scientific disciplines. For CANNIKIN, a Standing Panel of Consultants for the AEC has performed a review of the effects predicted on the geology, groundwater, ecology, and natural and man-made structures from ground motion and radiation hazards. In addition, because of the seismic nature of the Aleutians, the Special Panel for Seismology has reviewed and advised upon programs which the AEC has conducted to study the seismological effects of CANNIKAN. For the most part, these experts were selected from candidates recommended by the National Academy of Sciences. The Panel of Consultants as well as the Special Panel for Seismology was made up of individuals from the U.S. Geological Survey, University of California, University of Illinois, St. Louis University, University of Nevada, Washington State University, University of Michigan, Columbia University, California Institute of Technology, Palo Alto Medical Clinic, Scripps Institution of Oceanography, Sheppard T. Powell and Associates, and Shannon and Wilson, Inc. They represent such disciplines and subdisciplines as radiobiology, soil mechanics, structural engineering, geophysics, hydrology, radiation medicine, ecology, geology, oceanography, tsunaminology, seismology, and hydrogeology. All told the talents of some 60 recognized scientific and technical advisors and participants have been involved to varying degrees with deliberations on these subjects for the AEC's conclusion as to the safety of the CANNIKAN test. In addition, several hundred AEC and AEC contractor personnel have been engaged in direct performance of studies.

Mr. President, if we decide this is necessary, how much more do we have to do?

Mr. BAKER. Mr. President, will the Senator yield?

Mr. PASTORE. I yield to the Senator from Tennessee.

Mr. BAKER. Mr. President, on this particular point, it was my privilege to be in Alaska in April of this year in the course of conducting hearings of the Economic Development Subcommittee of the Committee on Public Works. We held hearings in Fairbanks, Anchorage, at Point Barrow, and other points in the great State of Alaska. Also, being a member of the Joint Committee on Atomic Energy, I requested, and was granted, the privilege to fly from Anchorage to Amchitka in the Aleutians in order to examine the test site, which I did on April 10 of this year.

At that time I had the opportunity to see and examine first hand the shaft that has been dug for the Cannikin test, to see the extraordinary measures and the significant investment the United States has already made in this test, and to see the careful preparations that have been made for this test.

It was my privilege to visit the site of two previous tests at Amchitka. The Milrow event of October 1969 at Amchitka had a yield of approximately one megaton at a depth of 4,000 feet; and the Long Shot test conducted in 1965 on Amchitka was at a depth of about 1,000 feet with approximately 80 kilotons.

I can speak firsthand of these experiments because I made it my business to go to the test site and to stand physically on the locations of them.

It was pointed out in my observation of these test sites that Milrow, which was a significant test at 4,000 feet with 1 megaton, caused no radioactivity at all. I stood on the site of Milrow and saw firsthand the slight concavity of the earth around there. The Milrow event of October 1969 at Amchitka had a magnitude of 6.5, but in the cluster of small aftershocks in the vicinity of the explosion, the largest magnitude was something about 4.3.

I do not say this to impress anyone with my bravado, nor do I intend to ask the chairman of the committee to permit me to attend the test of Cannikin to demonstrate my bravado but because I want to see firsthand preparations made for safety of the United States and the results of our best efforts. And we are making our best efforts in this respect. I say that without fear or trepidation. If there is going to be a sea wave or an earthquake I want to see it happen. That is how much faith I have. That is how it has been explained to me.

In that respect I would like to point out these things.

Mr. INOUYE. Mr. President, will the Senator yield?

Mr. BAKER. I shall yield in a moment. First, in connection with sea wave activity in the Pacific it is pointed out there has never been a tsunami generated in the Rat Islands by an earth shock of magnitude less than 8, about 10 times greater than that expected from Cannikin. From March 1900 through May 21, 1971, there were 40 earthquakes in the Aleutian chain with magnitude 7, or greater.

On April 1, 1946, a magnitude 7.5 earthquake, about 5 times greater than expected from Cannikin, occurred south of Unimak Island, the first island in the Aleutian chain and 800 miles east of Amchitka, causing a devastating tsunami with waves as high as 105 feet. On March 9, 1957 a magnitude 8.3 earthquake, over 10 times greater than expected from Cannikin, produced waves about 40 feet high at a site south of the Andreanof Islands, about 450 miles east of Amchitka. In February and March of 1956, there were two earthquakes 60–70 miles west of Amchitka with magnitudes of 7.75 and 7.3, which caused runups locally of 5 feet and 1.5 feet, respectively. A quake on May 2, 1971, of magnitude 7.1 close to Amchitka caused no sea wave whatsoever. The water waves generated during the Milrow test—magnitude 6.5—did not exceed ⅜ inch in deep water and none in shallow water.

Mr. President, I wish to move to another subject in connection with a point made by the Senator from Alaska on the need for the test, but before I do I would like to honor the request of the Senator from Hawaii that I yield to him.

Mr. INOUYE. I would like to note that from the information of tests I received, they did not have the explosive power as great as the one in Cannikin. It should be noted that the tests that are scheduled for Cannikin will be an exploding device with an exploding power about 1,000 times more powerful than the Senator is discussing.

We have never in history exploded a 5 megaton device underground and no matter what scientists say, as long as there is this remote possibility, I hate to take that chance.

We are going to explode 5 megatons, and as the Senator is well aware, a 5 megaton explosive device is 1,000 times greater than the one we exploded on Amchitka.

Mr. GRAVEL. The magnitude will be 6.8 to 7.2 on the Richter scale. By comparison, the great 1969 earthquake in Alaska started out with 6.5 on the Richter scale and went to 8.4 on the Richter scale. The September 11, 1969, earthquake in the Aleutian Islands started with 5.2 on the Richter scale and peaked at 6.6 on the Richter scale. It should be noted that the 5-megaton blast Cannikin will be larger than the original triggering event of both of those earthquakes.

Mr. BAKER. I thank the Senator for his observation. I would like to make one or two further comments about the observations by the distinguished Senator from Hawaii.

While Cannikin will be greater than any bomb detonated underground by the United States, it will be only five times greater than the Milrow test which was conducted on this island. It will be lower than the detonation by the Russians on October 14, 1970, at Novaya Zemlya, which was an underground device which had an estimated yield of up to 6 megatons. The published facts on Cannikin are that it will be less than 5 megatons.

On the question of the parallelism between earthquakes on the one hand and the nuclear tests on the other, I suggest there is a vast difference between the localized impact of a single detonation versus the more generalized effect from a natural earthquake.

There never has been an aftershock from and nuclear detonation by the United States or any other country that was more than about one one-hundredth of the original magnitude on the Richter scale. There is no direct parallelism be-

tween a natural earthquake, as such, and a point detonation of underground test.

At this time I would like to yield to the Senator from Alaska and then I have one final point on necessity for the test.

Mr. GRAVEL. Mr. President, with respect to the point on the Soviet blast, Dr. Seaborg stated that it took place in a nonearthquake or nonseismic area. I do not think any parallel can be made with Amchitka.

Mr. President, how much time do we have remaining?

The PRESIDING OFFICER. The Senator from Alaska has 18 minutes remaining and the chairman has 15 minutes remaining.

Mr. BAKER. Mr. President, will the Senator yield to me?

Mr. PASTORE. The Senator can take all the time he needs on his direct statement but if he is asked to yield by the opponents I hope that time comes from the time of the other side.

Mr. BAKER. Mr. President, on the necessity for this test, I am delighted to see a letter from the Deputy Secretary of Defense, David Packard and the accompanying AEC memorandum and other documents.

I recall that a great deal of time was given to the debate on the deployment of the ABM system, first and second phase, and that a good part of the debate was done in executive session. I am delighted to see that there is a statement by Deputy Secretary of Defense David Packard that what we are dealing with is a test to produce high intensity X-radiation calculated to destroy incoming reentry vehicles and to get away from the idea that we are engaged in some sort of ball game where we try to shoot down incoming missiles.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. BAKER. I yield.

Mr. PASTORE. That is very important. Without this X-ray capability, we may have a totally ineffective system.

Mr. BAKER. And upon the X-ray bombardment in an exoatmospheric situation, which is the design of the Spartan warhead which has to be tested at Cannikin to see if it works, rests the only hope that we are going to have an effective ABM system. We are not going to shoot down missiles one by one to prevent attacks on the United States, and we may intercept their path by this technique, but if we are ever to justify any sort of defensive weaponry for the United States, it has to be based on the developments in the Cannikin test and the others or the whole ABM system goes out the window.

I conclude, as I started, by saying that the United States is the strongest, most powerful, most moral Nation on earth, and it rankles me that many urge us to put our entire defense posture on an ICBM mentality—that is, that we can make more offensive weapons strike Moscow than they can make strike the United States, which does not seem to me to befit the United States as the most moral Nation, and that we must find some other way than to hold 100 million Russians captive and hostage to our ICBM capability.

ABM is the way. ABM must be tested. ABM may or may not succeed, but we will never know unless we detonate Cannikin to see if it is possible to put our national defense posture on that weaponry.

I thank the Senator for yielding.

Mr. GRAVEL. Mr. President, I yield 5 minutes to the Senator from Hawaii (Mr. FONG). If he is not already listed as a cosponsor of the amendment, I ask unanimous consent that he may be so listed.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. FONG. Mr. President, as a cosponsor of amendment 260 to the pending AEC authorization bill, S. 2150, I rise to urge my colleagues to support this amendment.

The pending amendment would delay the five-megaton Cannikin test, now scheduled for October at Amchitka Island, Alaska, until late next spring unless national security considerations intervene, in which event Congress will be notified and have an opportunity to render a fresh judgment on the matter as it then stands.

Specifically, amendment 260 provides that no funds authorized to be appropriated under the Atomic Energy Commission Authorization Act shall be used before May 31, 1972, to detonate any underground nuclear test to be held on Amchitka Island.

A proviso in the amendment however provides that the President may schedule such a test on the grounds of compelling national security requirements, if he first submits to Congress, no less than 60 days prior to the test, a report on these requirements.

Recent events dictate that, as a minimal step, the Cannikin test should be postponed. Only last Thursday, President Nixon electrified the Nation with his dramatic announcement of his "Opening to the East," his impending visit to the People's Republic of China.

The progress in the SALT talks, the reduction of fighting in Vietnam, the somewhat more flexible postures at the Paris peace talks, and the improved outlook in the Middle East are other hopeful signs that the great powers may be moving into a period of general detente.

In the present encouraging atmosphere in international relations, the scheduled Cannikin nuclear blast strikes a highly discordant note. The postponement proposed in this amendment is far more in tune with today's currents and tides toward international rapport.

Actually, while I am cosponsoring this amendment to postpone the Amchitka test, which I trust my colleagues will support, I am strongly opposed to the holding of this test, even more than I opposed the holding there of the 1969 Milrow test, which involved only a 1-megaton nuclear device. The Cannikin test involves a 5-megaton device.

I am particularly concerned, even more so now, about the possibility that the test explosion might generate a tsunami, or seismic tidal wave, which would bring widespread destruction and possible loss of life in my mid-Pacific State of Hawaii and in the other areas in and around the Pacific Basin.

Four times in the last 25 years tsunamis have struck Hawaii's shores. Each time there has been severe property damage. Twice there has been a tragic loss of lives.

The environmental impact statement on the Cannikin test, issued by the Atomic Energy Commission, terms the risk of tsunami damage "negligible," but it does not rule out the possibility entirely. While this possibility remains, Cannikin should not be held on Amchitka. The danger to my State and to other nearby areas in the Pacific Basin cannot be ignored.

In the meantime, I strongly urge my colleagues in the Senate today to vote for the pending amendment which would postpone the Cannikin test.

Mr. GRAVEL. I thank my colleague from Hawaii.

Mr. President, the point is that I find this letter from Mr. Packard very interesting, and I think we have seen in these three sheets probably more information than we have been privy to for some time. I think it will be valuable not only to us in assessing ABM, but to others who will partake in the dialog.

I know the committee has agonized over this matter. I think it has made a valuable contribution, but I think reasonable men differ. I think the direction should lie in a broader public analysis than has been brought to the subject matter in the past. I do not confine that to myself. I mean that in the parameters of the whole Nation. If everybody will think about this, I think everybody, to some degree, can make a contribution.

I note in Secretary Packard's letter he makes what I consider to be an important point on page 3 in the second paragraph:

> The Cannikan test can be fired without important detrimental impact.

That is a pretty definitive statement. We go then to the AEC Cannikin environmental statement and we see a measure of contradiction. These contradictions have raised, and they should raise, a large question mark about the impact on the environment. I quote from the AEC environmental statement:

> No significant environmental impact can be expected from the seismic activity caused by the CANNIKIN test. The possibility of the CANNIKIN test "triggering" an earthquake with seismic energy comparable to or greater than that produced by the explosion itself is very unlikely.

This is different language—the words are "very unlikely." I go further:

> Since the understanding of earthquake mechanisms is still developing—

I want to underscore that, "still developing,"; it wipes out the possibility of definitive scientific safety statements—

> still developing and is not yet sufficient for exact calculations, the possibility of such an occurrence cannot be ruled out.

Of course, the writers of the Environmental 102 Statement are not political appointees. These are scientists who came together and made these statements, and I think that the statements should be the cause of some concern among the membership of this body. They represent some expertise on the en-

vironmental side. I think we should look also for expertise on the armaments side, because I am not an expert and I, like my colleagues, seek the advice of the experts.

I think it is interesting that in Secretary Packard's letter he talks about this and says that Cannikin is essential and must be done. In fact, I quote him:

> The measurements of device performance which will be obtained from the tests are essential in my view to the optimum defensive deployments . . .

Any analysis of English would seem to indicate that if we do not approve this, if they do not blow this Cannikin test, my God, we will not have a credible defense.

Instead of quoting from an appointee, or a person who has a persuasion, I should like to quote from a person who I think has some very unusual credentials, Harold M. Agnew, Director of the Los Alamos Scientific Laboratories, testifying before Senator SYMINGTON'S subcommittee in April 1971. He was asked a question by Senator SYMINGTON:

> In your article, you opposed the use of high-yield warheads for ABM, such as the one used in Spartan. Do you still oppose their use?

This is the answer from Dr. Agnew:

> I don't think I opposed the use. I said that they would be useful in a limited way.

In a limited way. This is the opinion of the scientific Director. That is a far cry from Secretary Packard's statement that the tests are essential for optimum defense.

I think that contradiction bespeaks a world of information, and should invoke a world of concern. All we are asking for, of course, is a delay. What a tragedy it would be—and I hope I am 110 percent wrong—for these gentlemen who have labored hard on this committee, who have worked hard and diligently on the Atomic Energy Commission itself, fine administrators all; what a tragedy and what a blow it would be upon their lives if this test did occur and it did occasion a major disaster. I think those individuals would carry a blot for the rest of their lives that they could barely tolerate.

I think that question mark itself should certainly be, if not propulsion enough to cancel the test, certainly be reason to postpone it, because in a very short period of time it may be easily determined that obviously these tests are not necessary because of the small margin of information that would be added to our total defense posture.

I have placed on the desk of each Senator—and I hope Senators will consider it prior to voting—a one-page fact sheet of what I believe is involved in this respect. I would hope that attachés who are present, as Senators come to the floor to vote, would call this one-page statement to their attention. It might give them a possibility different view on the course they should adopt in voting.

In addition to Dr. Agnew, we have another distinguished scientist, Dr. Herbert York, the former Department of Defense Director of Research and Engineering under Presidents Eisenhower and Kennedy, who stated that Cannikin, which was conceived in 1966, is now unnecessary.

It is my conclusion that Cannikin has been placed on a trajectory of no return, because of the inertia of bureaucracy, the inertia of the system. It is unfortunate that we cannot reexamine periodically these courses of action.

I, beginning in 1969, introduced a very humble bill in April of that year, asking not for a delay, not for a moratorium, but simply that Congress appoint a commission to study for 1 year the safety and the possible hazards associated with underground testing.

That bill never received a hearing and never received any real consideration until the Committee on Foreign Relations held a hearing at my behest as a result of the concern expressed by the Governments of Japan and Canada. Obviously, the place for that hearing would have been the Joint Committee on Atomic Energy, and I would have hoped that it might have taken place there; but powers more powerful than I felt it was not necessary.

I still think it is very necessary that we make some judgment on the testing and on the safety question, not for what might happen immediately—nothing may happen in October, when this button is pressed—but for what we are creating under the surface of the earth, in this particularly earthquake-prone area: little bombs, little time-capsules, our legacy to a future era. We set up these little capsules that could be ruptured or fissured at any time, in any earthquake. There has been ample testimony to the frequency of earthquakes in this area. Were one of these capsules ruptured, be it Milrow or be it Cannikin, we could suffer contamination of the waters of the North Pacific, which contain the largest salmon runs in the world, which provide not only Alaska's most important industry, but an industry that affects foreign governments and foreign peoples' ability to feed the world, which is so hungry.

That we could deliberately set up these capsules of potential destruction really makes one wonder how compelling things must be for us to do this for our survival. We have ample testimony, on one side, that we do not need this explosion at this point at all, and yet it has its proponents in spite of the environmental statement, which I think we can say in all candor was not volunteered by the AEC, but which came about as a result of the prodding of elements outside of the AEC and outside of those who are pushing for this Cannikin test.

This is the beginning of an alternative argument and dialog which I am sure will be pursued at greater length and much beyond today. Regardless of what course of action the Senate takes, the President of the United States can adopt his own course of action. He has not received recommendations. I hope he will see the wisdom, within his own competence, based upon the divided recommendations that he will receive—because he will receive recommendations that it is vital to our defense and he will receive recommendations from equally competent scientists and technicians that it is not necessary—of opting for cancellation or postponement.

Mr. President, how much time do I have remaining?

The PRESIDING OFFICER (Mr. TUNNEY). The Senator has 3 minutes remaining.

Mr. GRAVEL. Mr. President, I ask unanimous consent to have printed in the RECORD a statement which I submitted May 28, 1971, to a hearing held in Alaska, a document prepared by Representative GUDE and myself for Members of Congress for Peace Through Law, and a copy of the fact sheet which I have had placed on each Senator's desk.

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

STATEMENT BY MIKE GRAVEL, ATOMIC ENERGY COMMISSION HEARINGS ON AMCHITKA NUCLEAR TEST

The explosion of a five-megaton nuclear bomb more than a mile beneath the surface of one of the world's most seismically active regions presents Alaskans and the people of the Pacific Rim with some element of risk.

The risk is undeniable. The AEC admits it in the most recent environmental impact statement dealing with the Cannikin test. No competent scientific authority will testify that the test is absolutely safe.

What the AEC does say is that the risk is small and, when balanced against the importance of the test to our national security, the risk is acceptable.

The ABM weapon is not essential to our national security. But even if it were, the Spartan warhead, which would be tested in Cannikin, is only a very supplemental missile in the ABM system. And, even if one believes the ABM is necessary and the Spartan missile is necessary, the proposed test will not significantly resolve many uncertainties associated with performance of the basic Spartan.

Certainly, if Cannikin goes ahead as scheduled, scientists will learn something. But going ahead to marginally improve our arsenal of information is not the same as going ahead with development of a weapon to insure our very survival. The risk versus benefit scales tip differently.

Prior to the 1969 one-megaton test at Amchitka, I succeeded in having public hearings called before the Senate Committee on Foreign Relations. Our weapons program and national security were dealing then with a test one-fifth the megatonnage of the proposed Cannikin test.

In 1969, a number of competent authorities directed their attention to the benefit-risk question. Among them was Dr. Frank Press, perhaps the leading and most respected seismologist in the field. Here is what he said:

". . . I would associate a definite though small risk with large nuclear explosions in seismic belts like Amchitka, The very small possibility of very large damage must be balanced against national security needs. In my opinion, the need to test at these large yields must be *very compelling* to justify the risk."

Numerous authorities offered similar testimony. One was Dr. Kenneth Pitzer, then President of Stanford University and chairman of a commission appointed by the White House to investigate the safety of underground nuclear tests.

The commission's conclusions, published in what became known as the "Pitzer Report," were, in part:

"The Panel is seriously concerned with the problem of earthquakes resulting from large-yield nuclear tests. Although the possibility that underground nuclear tests might initiate one or more earthquakes has been suggested in the past, new and significant evidence demonstrates that small earthquakes do actually occur both immediately after a large yield test explosion and in the following weeks. The largest of the observed associated after-shocks have been between one and two magnitudes less than the explosion itself. However, there does not now appear to be a basis for eliminating the possibility that a large test explosion might induce, either immediately or after a period of time, a severe earthquake of sufficiently large magnitude to cause serious damage well beyond the limits of the test site."

Let there be no mistake and no doubt. The risk of earthquake exists. The extent of risk cannot be measured because no one knows with assurance the geologic substructure of the region, or the mechanism that creates earthquakes, or the effect of man-made explosions on a seismically volatile region.

That is why the AEC's environmental impact statement does not dismiss the possibility of earthquakes.

"Because the understanding of earthquake mechanisms is still developing and is not yet sufficient for exact calculations," the AEC report says, "the possibility of such an occurrence cannot be ruled out."

As evidence that the risk is small, the AEC offers the results of the 1969 Milrow test and experience at the Nevada Test Site.

Any competent statistician would question the use of the Nevada experience in calculating the odds for a five megaton test in Alaska. Our nation has never before conducted a five megaton underground test anywhere. And certainly, the Nevada tests, in a seismically quiet area, cannot be applied to the experience in Alaska where the earth is violently unstable.

Nevertheless, the AEC is confident that the five megaton test, a test without precedent, in an area about which nothing is known except its volatility, will produce no surprises.

In 1964, the AEC categorically claimed that underground nuclear tests would not trigger natural earthquakes except under extremely unusual circumstances. But after the experience of six one-megaton bomb tests at the Nevada Test Site, that assurance was completely reversed. Now the AEC says that large explosions *invariably* trigger natural earthquakes.

And, keep in mind, the Alaska test site was developed only because the planned explosions were found to be too big and too dangerous for Nevada.

In rationalizing in advance the possibility that a large earthquake may follow the Cannikin test, the AEC says that such an occurrence might be a blessing in disguise. The agency argues that by triggering a natural earthquake prematurely, the pent up energy would not be as great as it would have been if allowed to release naturally.

A vast body of scientific opinion views the earthquake in itself as a triggering mechanism. The great Alaska earthquake of 1964 began with a shock of about 6.5 and triggered itself to a peak of 8.4. The Aleutian Islands earthquake of September 11, 1969, began with a shock measured at 5.2 and peaked at 6.6.

Cannikin may provide a trigger of between 6.8 and 7.2. What type of energy can be released with that kind of trigger? No one knows.

We may discover that the bomb was exploded near a previously unknown fault line, that no natural earthquake was poised, waiting to occur, and the predictions of the agency will be borne out. I would say in all fairness, that the odds are on that side. The possibility of an accident is only that—a possibility—not a probability. But the risk is there because this test is a gamble with the unknown.

And suppose there is an accident, a mistake. Suppose there is, as the environmental impact statement says it, an imminent earthquake very near Amchitka, for which Cannikin is the trigger.

Would Cannikin's 7 point Richter scale reading, combined with a 7 point natural earthquake remain a harmless 7 point event?

The odds shift markedly against such an eventuality occurring without some toll.

The AEC believes the magnitude of shock would be slightly greater if both events occurred together. At 7 points on the Richter scale we are already courting the birth of a tsunami wave. If 7 and 7 add up to 7.5, such a wave is a certainty. The AEC's own literature lists 7.5 as the level of shock at which a dangerous tsunami is certain to occur.

That is not the only danger. The movement of unsuspected subsurface faults would wipe out the base upon which the AEC has confidently made its argument about the containment of radioactivity. If the subsurface structure moves in unpredicted ways, the radioactive waste could find a funnel to the surface.

The bomb explosion will create a cavity about the length of two football fields and will do so instantaneously. The environmental statement assumes that the cavity will contain the radioactivity, both immediately and in the long term, to prevent underground radiated water from reaching the surface within 1,000 years.

But the impact statement also includes what the AEC terms an "unlikely possibility." That is, that the water within the cavity chimney system created by the blast becomes mixed and flows through a system of inter-connecting rock fractures. This model is likened to an "open crooked pipe" through which radiated water would reach the surface within two or three years and flow into the ocean concentrations of radioactivity 1,200 times the level considered safe. That process would continue for an estimated 130 years.

The AEC downgrades this possibility and downgrades the effects if it should occur.

But the risk of error is taken seriously by Alaskans who have an enormous economic stake in the resources of the sea.

In these days when the nation is deeply concerned about mercury poisoning and the market for seafood products has fallen off sharply, even the suspicion that radioactive water is leaking to the surface could devastate the market for all fishery species of the North Pacific.

I am not satisfied by assurances that radioactive waste is diluted by seawater. Radioactivity reconcentrates in seafood. Those who dumped mercury in seawater told us it was safely diluted. But now we find the larger fish concentrate mercury at levels dangerous for those who eat them. DDT is such a problem it is being outlawed by some states. Comparatively, certain radionuclides like Strontium and Cessium, have fabulously greater reconcentration features in the food chain.

The danger that radioactivity will escape is no less than the danger that an earthquake may be triggered. Indeed, these two actions could inter-react, the earthquake affecting the cavity; not only the cavity caused by Cannikin, but the cavity caused by Milrow. For the Milrow test produced an enormous amount of radioactive waste that could still be brought to the surface by groundwater, or through an unsuspected fault opened by a natural earthquake or the Cannikin test itself.

And what if the Cannikin Milrow and Longshot cavities all leaked concurrently? That problem is not dealt with in the environmental statement.

One may accept without question the AEC's assurances that all will go well. But all too often, such forecasts have not been borne out by circumstances.

Last December 18, Project Baneberry was detonated at the Nevada Test Site. The earth at that location had an unexpectedly high water content. The explosion ruptured the ground and sent radioactivity spewing over many states, contaminating hundreds of workers.

No environmental impact statement issued prior to that test would have concluded that such a mistake was possible. Yet the geology of Nevada certainly is far better known than the geology of the Aleutians.

Project Long Shot, the 60 kiloton test conducted at Amchitka in 1965, was not expected to leak radioactivity for hundreds of years. But only a few months after the test radioactivity surfaced in at least two small fresh water ponds.

The AEC did not expect Strontium-90 to accumulate in milk.

The AEC did not expect its 1964 test in Mississippi to cause $500,000 in property damage.

The AEC did not expect its 800-kiloton test in January, 1968, in central Nevada to rock an area as wide as Salt Lake City to the East and San Francisco to the West—but it did.

Ten percent of the tests at the Nevada Test Site have unexpectedly leaked.

Less is known about the effects of a five megaton explosion than any explosion the AEC has detonated anywhere in the United States.

Less is known about the geology of the Aleutians than has been known about any subsurface area in which the AEC has conducted experiments.

To go ahead with this test is courting a risk of a magnitude we cannot determine. The risk is not worth taking. Our national security will not be imperiled if the test is cancelled.

Since this is an experiment, and it is the nature of experimentation that sometimes things do not go as planned, I wonder at the AEC's assurance that this is the last test at the Amchitka site.

If scientists do not learn what they hope to learn from this test, would not that necessitate a further test of equal magnitude?

If not, if we can stop testing at Amchitka regardless of the outcome of Cannikin, why is Cannikin considered so important to our national security?

This question is not answered in the impact statement, but certainly is critical to the entire issue.

In closing, I wish to point out that Alaska has had an extended and rather uniform history in dealing with Atomic Energy Commission proposals for tests in Alaska.

In 1960, the AEC proposed to blast a deep water harbor in northwest Alaska utilizing an atomic bomb. Plans went ahead until Alaska scientists and state leaders expressed their opposition. Such an explosion would have seriouly affected the delicate food chain of the North. A food chain that already has suffered adverse effects from the atmospheric testing of the fifties and early sixties.

Even today, body burdens of radioactivity carried by some Eskimos and Indians of the North are far beyond normal measurements.

When Project Long Shot was proposed for 1965, the AEC said it would not be the forerunner of any test series, but rather a one-shot experiment.

Yet, two years later, the AEC was back again, with massive plans for conversion of Amchitka Island—A Wildlife Refuge—into a major new test site.

Prior to the Milrow experiment considerable opposition was expressed by the Alaska public and by elected leaders. The day of the test, which the AEC confidently said would produce no harmful effects—the Civil Defense network was alerted all along the Northern Pacific Coast. The Navy moved its Kodiak Emergency Hospital to higher ground.

Now we face the largest test yet.

Along with other Alaskans, I wish to emphasize my opposition.

The test is not necessary, and it is not without risk. Alaskans and the people who live along the Pacific Rim should not be asked to accept such a risk for so questionable a purpose.

I urge that the test be cancelled, the island fully restored and that the AEC count Amchitka and Alaska out of any future plans for the detonation of atomic bombs.

REPORT ON U.S. UNDERGROUND NUCLEAR TESTING: CANNIKIN AS A CASE IN POINT

(A research paper prepared by Senator MIKE GRAVEL and Congressman GILBERT GUDE)

As with most complex issues there are many facets to the question of continued underground nuclear testing. The authors have chosen to organize their remarks around the weapon system, environmental and foreign policy aspects of the issue.

For manageability of the topic and immediacy of the issue the proposed Atomic Energy Commission 5-megaton Cannikin test planned for Fall of 1971 at Amchitka, Alaska has been chosen as the instant case. This massive test was examined against the backdrop of the three considerations mentioned above. On all three counts: (1) mission and weapon system usefulness, (2) environmental costs and dangers, and (3) induced reactions in foreign affairs, the presumed benefits of the AEC underground nuclear test planned for the Fall in Alaska are far outweighed by the risks.

It is the conclusion of the authors that the test should be cancelled.

1. THE WEAPON SYSTEM ARGUMENT

The basic problems of our national security and defense posture today remain those that we have learned to live with over the past two decades. Our fundamental premise has always been that the United States must be strong enough to convince any would-be aggressor that an attack on us would be suicidal.

We have created capacity for varied nuclear retaliatory response in our land-based, undersea, and strategic bomber forces. That awesome combination still affords the best guarantee against any Soviet or Chinese first strike. Even the most pessimistic of strategic nuclear thinkers has never asserted that an aggressor could succeed in knocking out all elements of the U.S. nuclear arsenal simultaneously. As long as the most invulnerable of our strategic forces—our fleet of nuclear submarines armed with Polaris and Poseidon missiles—remains intact, no nation on earth can undertake an attack on the United States without inviting self-destruction.

The debate over the ABM stems from the growing realization that the value of fixed, land-based missiles, such as our Minutemen, is slowly but surely being eroded by advancing technology. The ever-increasing range and accuracy of enemy missiles, and the concurrent revolution in the design of nuclear warheads for those missiles, now enables an aggressor to deliver not one blow per rocket but several, of tremendous power, either in a pre-set pattern or against widely scattered individual targets.

Even in their imposing concrete silos, therefore, our Minutemen day by day are losing a degree of their potency in the strategic equation. This fact should suggest a number of possible alternatives to us, since so far we have not been able to halt the progress of military technology or nuclear weaponry.

We can try to further harden the emplacements of our land-based missiles, in the hope of increasing their capacity to withstand a near or direct hit. Or, we can take our missiles out of their silos and try to make them mobile, possibly through reinstallation on specially constructed trains, or in surface vessels scattered across the oceans.

Instead, both this Administration and the last have chosen to pursue still another course—to try to lengthen the life of our existing minutemen by superimposing a protective anti-missile defense, with the goal of interdicting and destroying enemy rockets in space or in outer earth atmosphere before they can reach their targets. This is the safeguard system and it is one component of this system that is planned for testing at the AEC test site in Amchitka, Alaska in October of this year in a test dubbed Cannikin.

The AEC was forced to move from its former test sites in Nevada and elsewhere in the West in order to detonate any weapon of larger than one megaton size—that is, fifty times the size of the bomb that all but obliterated Hiroshima in 1945.

To conduct such tests in those western states, even underground, would involve direct seismic danger to cities as Las Vegas, Reno, and Salt Lake City.

So in order to climb the ladder of atomic escalation in greater freedom, the AEC shifted its test operations to the Aleutian Chain, to the Island of Amchitka, which lies on top of one of the most treacherous earthquake zones in the world. The AEC set the stage in 1969 with the so-called Milrow test involving a one-megaton explosion at Amchitka. At that time concern was expressed not only about immediate danger to Alaska and the West coast, but the chances for surface venting of radioactive material over Canada, Scandinavia, or the Soviet Union, in violation of the obligations the U.S. assumed under the limited test ban treaty.

No one including the AEC, knew exactly what would happen in Milrow. But when the worst fears of triggering an earthquake or cataclysmic tidal waves were not realized, the AEC took this as license to proceed with planning for a significantly bigger test shot in Amchitka, Cannikin.

The best experts outside the government have estimated that the maximum yield of Cannikin probably will be in the range of five megatons, in order to produce effects sufficiently greater than those previously attained by one megaton tests in Nevada and Amchitka. This five megaton value also would be consistent with the announced depth of the Cannikin event.

It is important to establish the link between the Cannikin test and the safeguard system. Although neither the Department of Defense nor the AEC has made a specific admission of this fact, there is every indication that Cannikin will be a test of a Spartan anti-ballistic missile warhead, and Spartan of course is one of the two missiles employed in the safeguard system.

So far the AEC has said only that Cannikin will be "a vital part of the U.S. weapons development program." Strategic analysts have pointed out that the only Defense Department weapons programs now "vitally" in need of tests of high yield warheads are the Spartan ABM and the MIRV warheads for the Poseidon and Minutemen missiles. But the latter two warheads clearly will fall in the less than one megaton range, so that leaves Spartan.

More recently administration members have talked of the need for an "improved Spartan with much lower yield" to be ready in 1976 to supplant the basic Spartan, i.e., a second generation system would be the new requirement.[1]

In short the Cannikin test appears to be designed to advance the development of a large warhead for an inferior, first generation Spartan missile, which even Pentagon experts concede will soon be out of date, and whose capabilities are inconsistent with the only ABM mission approved by the Senate Armed Services Committee. To make it even clearer, if SALT leads to mutual limitation of ABM defenses to national capitals, then the standard Spartan missile and Cannikin will not be needed.

In that light the expenditure of more than a billion dollars for a test program with such dubious prospective value, and with such serious environmental risks, is sheer folly. At the very least, authorization for Cannikin should be postponed until the probable results of SALT are more apparent.

The most recent authoritative statements on the technical deficiencies and shakey rationale for the Spartan missile and hence the Cannikin test came out of the May hearings on the subject in Anchorage, Alaska. The statement of the Director of the Federation of American Scientists contains a tightly logical and persuasive argument for cancellation of this underground nuclear test. Parts of this statement are here excerpted without further attribution to conclude this section.[2]

The Federation's starting point is a conclusion of the Pitzer report (an independent study of Cannikin prepared for the President's Office of Science and Technology in 1968) that, "the need for these tests must be *compelling* if they are to be conducted in the face of the possible risks that have been identified." (Emphasis added.)

Is Cannikin a Compelling Necessity?

The following questions arise in applying the "compelling" necessity criterion of the Pitzer report: (1) is Cannikin a compelling necessity to deploy the basic Spartan? (2) If so, is the basic Spartan a compelling necessity for the defense of Minuteman? Is the basic Spartan a compelling necessity for the defense of bomber bases or of national command authorities?

Is Cannikin a Compelling Necessity to Deploy the Basic Spartan?

The AEC Environmental Impact Statement argues only that a failure to proceed with Cannikin would "severely hamper" the "development of nuclear weapons technology." Thus the AEC does not claim that a failure to proceed with Cannikin would, for example, preclude the deployment of a weapon system necessary to national security. Indeed, confidence in Spartan, and estimates of its effectiveness, cannot be substantially improved even with unlimited tests. In the first place, there is little doubt that the Spartan warhead will detonate; and confidence in the warhead's effectiveness depends more critically on other considerations: The tactics used by the Soviets (numbers and kinds of decoys, simultaniety of arrival, separation of incoming warheads, etc.); the failure of Spartan to fire (reliability of missile, computer software bugs, etc.).

Further, it should be pointed out that the entire Safeguard missile defense is being justified on the ground that the Soviets cannot be sure that Safeguard will not work and will accordingly be deterred. In this context, Cannikin will be of essentially zero significance in changing Soviet perceptions of the likely effectiveness of the entire Safeguard system—involving, as this system does, so many other significant uncertainties.

In short, Cannikin is not a compelling necessity to deploy the basic Spartan; from an overall perspective it may be no more than an irrelevancy.

Is the Basic Spartan a Compelling Necessity for the Defense of Minuteman?

Even if Cannikin were to be judged necessary to deployment of the basic Spartan—which we have judged is not the case—it would still be necessary to ask whether the basic Spartan was a compellingly necessary part of Safeguard.

The improved Spartan—which does not require Cannikin—will take over many basic Spartan functions. According to DOD, "(it) will carry a smaller warhead but to much higher velocities. This missile will enable the system to more effectively intercept SLBM's

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and depressed trajectory ICBM's. They will have a larger area capability than the standard Spartan and reduce the nuclear effects on the system." [3]

The Director of the Los Alamos Scientific Laboratory, Dr. Harold M. Agnew, put it this way in his recent testimony in favor of Safeguard: Senator Symington. In your article you opposed the use of high-yield warheads for ABM such as the one used in the basic Spartan. Do you still oppose their use? Dr. Agnew. I don't think I opposed the use. I said that they would be useful in a limited way, as I said in my previous testimony, with regard to breaking up high rate attacks and to provide a mechanism for high altitude attacks against very large yield weapons which might be used in a particular role which the Soviets might employ.[4]

Considering the large costs of Cannikin the total costs of basic Spartan and Cannikin combined will be so large that the basic Spartan is unlikely to be cost-effective from any point of view.[5]

In short, far from being a compelling necessity, basic Spartan is simply something that might be "useful in a limited way" against tactics the Soviets "might" adopt. But at the same time, it might assist the Soviets in degrading the performance of Safeguard. And its deployment is almost certainly a strategic mistake in allocation of Safeguard resources.

Is the Basic Spartan a Compelling Necessity for the Defense of Bomber Bases or of National Command Authorities?

The Air Force is engaged in dispersing its bombers to inland airfields. Its main fear is submarine launched ballistic missiles (SLBM) and depressed trejectory ICBM attack which might arrive with relatively little warning. Improved Spartan is specifically designed to be the best answer to this.

The defense of command authorities or capital cities will rely upon Sprints primarily, and upon improved Spartan. Since the Capital is not going to be defended against determined attacks—but against accidents or small attacks—the contingencies in which basic Spartan is likely to be useful (threat of "high-rate" attacks or "very large yield weapons" for high altitude attacks) are largely or completely irrelevant.

SUMMARY

In summary, the case for Cannikin now turns on:

(A) The need for Cannikin in order to deploy a basic Spartan in order to

(B) Supplement, for special purposes, the improved Spartan that are themselves only

(C) Supplementing Sprints in the Safeguard defense of Minuteman—a defense

(D) Whose overall justification and effectiveness is under serious question.

Thus, those who reject Safeguard reject the necessity for Cannikin. Those who reject the necessity for Spartan in Safeguard reject the necessity for Cannikin. Those who reject the necessity for basic Spartans in Safeguard reject the necessity for Cannikin. And even those who want the basic Spartan still reject the necessity for Cannikin unless they insist on proof-testing it at great financial expense and at the environmental risks described in the following section. Under these circumstances, who can possibly call Cannikin a compelling necessity.

2. ENVIRONMENTAL ISSUES AND UNDERGROUND NUCLEAR TESTING

The environmental issues associated with continued underground nuclear testing center on the possible triggering of earthquakes and tidal waves, and ocean and surface radiation contamination through venting. Because of its imminence and eminence, the proposed five-megaton explosion, Cannikin, at the Atomic Energy Commission's Amchitka Alaska Test Site in the fall of 1971 is the primary case against which these environmental considerations should be weighed.

The explosion of a five-megaton nuclear bomb more than a mile beneath the surface in one of the world's most seismically active regions presents Alaskans and the people of the Pacific Rim with some element of risk.

The risk is undeniable. The AEC admits it in the most recent Environmental Impact statement dealing with the Cannikin Test. No competent government or scientific authority will testify that the test is absolutely safe. What the AEC does say is that the risk is small and, when balanced against the importance of the test to our national security, the risk is acceptable.

As noted in the previous section, a number of the Nation's leading weapons experts, many of whom have been in government advisory and policy-making roles, have offered testimony that the test is not necessary. To summarize, they believe that the ABM weapon is not essential to our national security.

But even if it were, the Spartan Warhead, which would be tested in Cannikin, is only a very supplemental missile in the ABM system. And, even if one believes the ABM is necessary and the Spartan Missile is necessary, the proposed test will not significantly resolve the many uncertainties associated with performance of the basic Spartan.

Certainly, if Cannikin goes ahead as scheduled, scientists will learn something. But going ahead to improve marginally our arsenal of information is not the same as going ahead with development of a weapon to insure our very survival. The risk versus benefit scales tip differently.

In 1969, a number of competent authorities directed their attention to the benefit-risk question. No one knows precisely where the great Aleutian Fault lies. It is believed to pass within 30 to 100 kilometers of the Amchitka Test Site. Seismologist James Brune of Cal. Tech has said: "I would think that scientists would be very hesitant to fire off a large nuclear exposion 30 kilometers from the San Andreas Fault. One hundred kilometers would be better. But I'd still be a little worried about it." [6]

Dr. Frank Press, Chairman of the Department of Earth and Planetary Sciences at the Massachusetts Institute of Technology and perhaps the most acknowledged expert in this field, says that Amchitka lies in a zone perhaps ten times more seismic than Nevada. That fact, he says and the fact that the large explosions being planned are without precedent, suggests that previous experience may not be pertinent. About the Milrow Calibration Test in 1969, Dr. Press said: "Unfortunately, a series of tests with progressively increasing yields is a precaution of uncertain value if the instability mechanism which triggers an earthquake has a threshold.

"For these reasons," Dr. Press continues, "I would associate a definite, though small risk with large nuclear explosions in seismic belts like Amchitka. The very small possibility of very large damage must be balanced against national security needs. In my opinion, the need to test these large yields must be very compelling to justify the risk." [7]

The AEC's own earthquake consultant, Wendell Weart from the Sandia Laboratory, said in 1969, "There is obviously some point in yield (test size) beyond which there would be danger . . ." and in May 1968, he said, "Further understanding is necessary to permit extension of present observations to higher yields and especially to other, perhaps more tectonically active test sites." [8]

Numerous authorities offered similar testimony. One was Dr. Kenneth Pitzer, then President of Stanford University and of a commission appointed by the White House to investigate the safety of underground nuclear tests.

The Commission's conclusions, published in what became known as the "Pitzer Report", were in part:

"The panel is seriously concerned with the problem of earthquakes resulting from large-yield nuclear tests. Although the possibility that underground nuclear tests might initiate one or more earthquakes has been suggested in the past, new and significant evidence demonstrates that small earthquakes do actually occur both immediately after a large yield test explosion and in the following weeks. The largest of the observed associated after-shocks have been between one and two magnitudes less than the explosion itself. However, there does not now appear to be a basis for eliminating the possibility that a large test explosion might induce, either immediately or after a period of time, a severe earthquake of sufficiently large magnitude to cause serious damage well beyond the limits of the test site." [9]

Let there be no doubt. The risk of earthquake exists. The extent of risk cannot be measured because no one knows with assurance the geologic substructure of the region, or the mechanism that creates earthquakes, or the effect of man-made explosions on a seismically volatile region. That is why the AEC's environmental impact statement does not dismiss the possibility of earthquakes. The AEC report reads,

"Because the understanding of earthquake mechanisms is still developing and is not yet sufficient for exact calculations, the possibility of such an occurrence cannot be ruled out." [10]

A vast body of scientific opinion views the earthquake in itself as a triggering mechanism. The Great Alaska Earthquake of 1964 began with a shock of about 6.5 and triggered itself to a peak of 8.4. The Aleutian Islands earthquake of Septmeber 11, 1969, began with a shock measured at 5.2 and peaked at 6.6.

Cannikin may provide a trigger of between 6.8 and 7.2. What type of energy can be released with that kind of trigger? No one knows.

It may be that the bomb will be exploded near a previously unknown fault line, that no natural earthquake was poised, waiting to occur, and the predictions of the Agency will be borne out. In all fairness, the odds are on that side. The possibility of an accident is only that—a possibility—not a probability. But the risk is there because the test is a gamble with the unknown.

Suppose there is an accident, a mistake. Suppose there is, as the Environmental Impact statement says it, an imminent earthquake very near Amchitka, for which Cannikin is the trigger. Would Cannikin's 7 point natural earthquake remain a harmless 7 point event? The odds shift markedly against such an eventuality occurring without some toll.

The AEC believes the magnitude of shock would be slightly greater if both events occurred together. At 7 points on the Richter Scale we are already courting the birth of a tsunami wave. If 7 and 7 add up to 7.5, such a wave is a certainty. The AEC's own literature lists 7.5 as the level of shock at which a dangerous tsunami is certain to occur.

As evidence that the risk is small, the AEC offers the results of the 1969 Milrow Test and experience at the Nevada test site.

Any competent statistician would question the use of the Nevada experience in calculating the odds for a five megaton test in Alaska.

Our nation has never before conducted a five megaton underground test anywhere. Certainly, the Nevada tests, in a seismically quiet area, cannot be applied to the experience in Alaska where the earth is violently unstable.

In 1964, the AEC categorically claimed that underground nuclear tests would not trigger natural earthquakes except under extremely unusual circumstances. But after the experience of six one-megaton bomb tests at the Nevada Test Site that assurance was completely reversed. Now the AEC says

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that large explosions invariably trigger natural earthquakes. Recall that the Alaska Test Site was developed only because the planned explosions were found to be too big and too dangerous for Nevada.

In addition to 16 Nevada tests which leaked enough radioactivity to be detected beyond the test site boundaries, 11 more leaked enough to be detected beyond ground zero, but not beyond the test site. In addition about 40 tests leaked radioactivity detected only in the "immediate vicinity" of the firing point. (These figures from Seaborg to Gravel, letter of March 11, 1971). Out of 230 underground tests, each designed to be fully contained, 67 leaked.

It is true that the amount (curries) leaked, except in the major vents, has not been much. That is not the point. The point is, how many of the 67 leaks were associated with earthquake faults? How much faith should we have in the AEC assurance that Cannikin is far enough from earthquake faults.[11]

Another reason why the Nevada triggering experience is largely irrelevant is because the largest Nevada test has been a 1.2 megatons, not nearly 5 megatons like Cannikin. The largest seismic punch of a Nevada test has been 6.2, whereas Cannikin is expected to be 6.8 or 6.9 or "about 7.0." That means Cannikin will have, at the very least, 6 times more seismic energy than the largest Nevada experience.[12]

In passing up from 6.2 to 6.8 seismic mag, for all anyone can know, the AEC may pass over another "threshold" of triggering activity.

It is true that no ventings have occurred from any of the large-yield, deeply buried explosions. But accidents are almost always preceded by a string of successes. A single success (Milrow) statistically proves absolutely nothing about another one-megaton test, much less a 5-megaton explosion.

This little homily is important, because there should be no crowing about the alleged success of Milrow. The failure of Milrow to trigger an earthquake or sea wave proves nothing for Cannikin. Further, it is not yet known whether Milrow will contaminate the ocean in a relatively short time period, either from its own subsurface restructuring or the restructuring that would occur from the Cannikin test. The movement of unsuspected subsurface faults could wipe out the base upon which the AEC has confidently made its argument about the containment or radioactivity. If the subsurface structure moves in unpredicted ways, the radioactive waste could find a funnel to the surface.

The bomb explosion will create a cavity about the length of two football fields and will do so instantaneously. The Environmental Impact Statement assumes that the cavity will contain the radioactivity, both immediately and in the long term, to prevent underground radiated water from reaching the surface within 1,000 years.

But the Impact Statement also includes what the AEC terms an "unlikely possibility." That is, that the water within the cavity chimney system created by the blast becomes mixed and flows through a system of inter-connecting rock fractures. This model is likened to an "open crooked pipe" through which radiated water would reach the surface within two or three years and flow into the ocean concentrations of radioactivity 1,200 times the level considered safe. That process would continue for an estimated 130 years. Rapid migration and ocean contamination is the most grotesque and worrisome possible consequence from Cannikin.

The AEC in its most recent Environmental Impact Statement fails to mention the possibility that longshot, Milrow, and Cannikin could all three start discharging radioactivity concurrently around Amchitka. What would that do to the dilution factors and the accumulation factor? [13]

The AEC downgrades this possibility and downgrades the effects if it should occur. But the risk of error is taken seriously by Alaskans and others who have an enormous economic stake in the resources of the sea.

In these days when the nation is deeply concerned about mercury poisoning and the market for seafood products has fallen off sharply, even the suspicion that radioactive water is leaking to the surface could devastate the market for all fishery species of the North Pacific.

It is not at all certain that radioactive waste is diluted by seawater. Radioactivity reconcentrates in seafood. Those who dumped mercury in seawater said it was safely diluted. Now it is found that larger fish concentrate mercury at levels dangerous for those who eat them. DDT is such a problem it is being outlawed by some states. Comparatively, certain radionuclides like strontium and cesium have fabulously greater reconcentration features in the food chain.

The danger that radioactivity will escape is no less than the danger that an earthquake may be triggered. Indeed, these two actions could inter-react, the earthquake affecting the cavity; not only the cavity caused by Cannikin, but the cavity caused by Milrow. The Milrow test produced an enormous amount of radioactive waste that could still be brought to the surface by groundwater, or through an unsuspected fault opened by a natural earthquake or the Cannikin test itself.

One may accept without question the AEC's assurances that all will go well. But all too often, such forecasts have not been borne out by circumstances.[14]

To go ahead with this test is courting a risk of a magnitude that cannot be determined. The risk is not worth taking. The national security of the U.S. will not be imperiled if the test is cancelled.

Since this is an experiment, and it is the nature of experimentation that sometimes things do not go as planned, one wonders at the AEC's assurance that this is the last test at the Amchitka site. If scientists do not learn what they hope to learn from this test, would not that necessitate a further test of equal magnitude?

If not, if testing at Amchitka can be stopped regardless of the outcome of Cannikin, why is Cannikin considered so important to our national security?

It is worth pointing out that Alaska has had an extended and rather uniform history in dealing with Atomic Energy Commission proposals for tests in Alaska.

In 1960, the AEC proposed to blast a deep water harbor in northwest Alaska utilizing an atomic bomb. Plans went ahead until Alaska scientists and state leaders expressed their opposition. Such an explosion would have seriously affected the delicate food chain of the north—a food chain that already has suffered adverse effects from the atmospheric testing of the fifties and the early sixties.

Even today, body burdens of radioactivity carried by some Eskimos and Indians of the North are far beyond normal measurements.

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Yet, two years later, the AEC was back again, with massive plans for conversion of Amchitka Island—a wildlife refuge—into a major new test site.

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Now the largest test yet is planned for the fall of 1971.

The test is not necessary; it is not without risk; and should be opposed. Alaskans and the people who live along the Pacific rim should not be asked to accept such a risk for so questionable a purpose.

The test should be cancelled, the island fully restored and the AEC should count Amchitka and Alaska out of any future plans for the detonation of atomic bombs

3. PROSPECTS FOR A COMPREHENSIVE NUCLEAR TEST BAN TREATY

The United States and the Soviet Union agreed in 1963 to ban nuclear testing in the atmosphere, outer space, and under water. Negotiations to achieve a comprehensive ban including underground nuclear testing floundered on the issues of on-site inspection. Neither side has shown great interest in extending the ban, and a large number of underground tests have been conducted, particularly in the development of MIRV and ABM warheads.

There is increasing dissatisfaction with the lack of progress among non-nuclear nations who have signed the 1970 Non-Proliferation Treaty. Recent scientific reports indicate that substantial progress has been made in detecting and identifying underground nuclear tests, reducing the problem of on-site inspections. As elaborated in the previous section, concern over contamination of the earth's surface and other environmental hazards of underground testing, now focused on the Cannikin test at Amchitka Island in Alaska, is growing.

The preambles to the 1963 Test Ban Treaty and the Treaty on Non-Proliferation of Nuclear Weapons which went into effect in March, 1970 both contain a commitment to continue negotiations leading to a ban on underground nuclear testing.

The existing limitation on above ground testing has generally provided protection against contamination of the atmosphere, but few believe that it has slowed the arms race. New techniques were developed to try out devices which were both more powerful and, as in the case of ABM and MIRV testing, more sophisticated than had previously been carried out underground. According to the Atomic Energy Commission, the United States has conducted 228 atomic weapons tests underground since the limited test ban was signed. The Commission reports 47 Soviet tests during the same period.[15]

From the standpoint of non-nuclear nations who signed the Non-Proliferation Treaty, the superpowers have given up nothing in the areas of weapons development because of the failure to negotiate a ban on underground testing. It is difficult moreover, to persuade China and France, as nuclear powers, to adhere to even the limited test ban so long as the United States and the Soviet Union are conducting a large-scale underground testing program. India and Israel, the prime potential nuclear powers, have declined to sign the Non-Proliferation Treaty, but have signed the 1963 test ban treaty. As a result, there has been mounting pressure from the non-nuclear states to resume serious discussions of a comprehensive ban at the 25 nation Geneva Disarmament Conference.

At the February 1971 session of the Conference, Canada proposed a preliminary ban on large underground nuclear tests, covering tests that could be detected and identified by existing seismological methods. The United States rejected the proposal on the ground that on-site inspections remain necessary to detect low-yield tests. The Soviet Union has always objected to on-site inspection and initially supported the Canadian proposal. Subsequently, however, the Soviets also rejected

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the proposal, stating that the effect of a partial ban would be to legalize smaller explosions.

Other delegates to the Geneva Conference view these responses as excuses covering a distinct lack of enthusiasm for limits on underground testing by the United States and the Soviet Union. The Swedish government has taken the position that the technology exists to verify a comprehensive test ban without on-site inspection and that the superpowers are publicly unwilling to give up testing to refine the weapons under discussion at SALT.

The delegate from Mexico raised the test ban question again in May, voicing the dissatisfaction of most of the non-aligned members of the Conference with the efforts of the United States and the Soviet Co-Chairmen to confine discussions to the prohibition of biological weapons. (These members are also concerned about the postponement of an accord on chemical weapons.) As a concession to these views, the Co-Chairmen agreed to allow conference members to bring in experts to discuss the use of seismological instruments to detect underground nuclear tests.

The Geneva meeting which began on June 30 is most timely. The successful negotiation of the 1963 test ban was due in large part to scientific advances in launching of far earth and solar satellites and in undersea detection capabilities which generally reduced the risk of undiscovered cheating under the agreement.

In April of this year, there were reports of substantial progress in developing methods of detecting and identifying underground nuclear explosions. Since 1963, about $300 million has been spent in the detection research program known as Project Vela. At a conference sponsored by the Department of Defense Advanced Research Projects Agency at Woods Hole, Massachusetts last summer, scientists discussed techniques for distinguishing between earthquakes and explosions based on differences in the character of the waves in the earth's crust generated by the two types of events.

The discrimination between earthquakes and underground tests is based on measurements of two kinds of waves produced by both earthquakes and explosions: surface waves and body waves through the body of the earth. Measurement of a large number of earthquakes and underground explosions revealed that at least down to a certain level of magnitude, an earthquake will almost always produce substantially more surface waves relative to its body waves than a nuclear explosion.[16]

Unfortunately, there is no formal report of the Conference apart from the collection of technical papers presented by participating scientists. There is some disagreement over the conclusions and their implications for verifying underground nuclear tests due to the discrepancy between the first, unofficial summary of the proceedings, and a second summary cleared for publication by the Department of Defense. There is no dispute, however, over the conclusion that important scientific gains have been made.

At the time of negotiation of the 1963 test ban, U.S. scientists were able to detect underground tests in the Soviet Union equivalent in earthquake force to 4.75 on the Richter scale. This amounts to about 20 kilotons (20,000 tons) of explosive energy. According to the revised and approved summary of the meetings, it is possible to distinguish earthquakes from underground tests below a Richter magnitude of 4.5 corresponding to the 10 kiloton range. The original summary suggested seismic discrimination techniques could differentiate earthquakes from tests with accuracy at a level of 4 on the Richter scale, or as low as one to two kiloton explosions. This kind of capability would detect substantially all of the underground weapons tests conducted by the United States and the Soviet Union since atmospheric testing was banned. Either of these estimates justifies a new look at the possibilities for verifying a partial or comprehensive ban on underground testing.

Senator Edmund S. Muskie and Senator Clifford P. Case, Chairman and Ranking Republican on the Subcommittee on Arms Control, International Law and Organization of the Foreign Relations Committee, have recognized the importance of exploring the implications of the new detection capability. Senator Case has suggested that greater seismological detection capability may make it possible to monitor a comprehensive ban with the two or three on-site inspections the Soviet Union was willing to allow in 1963. He also pointed out that some American experts now believe that a comprehensive ban could be verified with no on-site inspections.

Former Director of the Arms Control and Disarmament Agency, William Foster, expressed the opinion in a February 1971 speech that "it is fully within our scientific competence to monitor adequately such a total test ban. With our present means of instrumentation and other sources of information, it is not conceivable that the Soviets could carry out clandestine testing on a scale which could affect the strategic balance."

On the other hand, the Pentagon statement on the Woods Hole meeting (referenced above) emphasized that "much research remains to be done," and implied that scientific progress registered at the conference did not affect the issue of on-site inspections. The statement, distributed to the press on April 14, 1971, stressed the following points:

1. All One-KT tests cannot be detected. Possibility of detection and identification of underground explosions depends on the types of medium in which the test is conducted.

2. All detected events cannot presently be identified as earthquakes or nuclear explosions.

3. Desert sands are not the only medium which could hide a test, because tests could be concealed in earthquakes, large cavities in the earth and other locations.

4. The need for on-site inspection has not been eliminated, because there will continue to be seismic events detected at teleseismic distances. Further, remote seismic monitoring cannot distinguish between nuclear and non-nuclear explosions.

Senator Muskie has announced that the Arms Control Subcommittee will hold hearings to review the latest scientific data and to consider the risks and benefits of continued underground testing. In any event, the critical question raised by scientific developments is not whether every low magnitude test can be identified, but whether the type of testing that might escape detection could provide a significant advantage to the violator. If such an advantage is lacking, it will be necessary to determine whether continued testing increases our security more than a generally effective ban on underground testing by both superpowers.

The risks and benefits of a comprehensive test ban cannot be calculated wholesale without further information on the purpose and scope of the U.S. testing program. There is, however, sufficient information available on the Cannikin test to shed considerable light on the dubious military and political calculations at issue in large underground nuclear tests. The environmental hazards of Cannikin are of great concern, not only to Americans but to our allies, Canada and Japan. Other nations of the world are waiting, with increasing impatience, for the United States and the Soviet Union to deliver on their pledges to seek a comprehensive test ban, and to move this issue off the back burner at the Geneva Conference.

FOOTNOTES

[1] If agreement were reached in SALT to limit U.S. and Soviet ABMs to the defense of Washington and Moscow, as has been speculated in the press, then without doubt this improved Spartan would be the missile to be used.

[2] Drawn from the statement of Dr. Jeremy Stone, Director of the Federation of American Scientists, on Cannikin nuclear test, before the Atomic Energy Commission, Anchorage, Alaska, May 28, 1971.

[3] Statement of Dr. John S. Foster, Director, Defense Research and Engineering February, 1970, Release No. 146–70.

[4] April 20, 1971, Testimony to Senate Armed Services Committee.

[5] In addition, the President's announcement on May 19 of a hopefully imminent agreement on SALT, that would limit ABMs, has implications for this nuclear test. The SALT agreement would limit numbers of interceptors and force the defense planners to choose between Sprints, basic Spartans and improved Spartans. Under these circumstances they might well choose to buy no basic Spartans at all. Many defense planners believe that, in essence, there is nothing important which basic Spartan can do that improved Spartan cannot do better. In short, the President's announcement represents an important new reason for deferring Cannikin until we discover whether SALT agreement can be reached this year, as seems to be expected by the Administration.

[6] From *Science Magazine*, article, "Earthquakes and Nuclear Tests: Playing the Odds on Amchitka," by Luther J. Carter, reproduced in *Congressional Record*, September 23, 1969.

[7] Testimony of Professor Frank Press, Department of Geophysics, MIT, *Hearings Before the Committee on Foreign Relations on SJR* 155, "Underground Nuclear Testing," September 29, 1969, p. 23.

[8] Technical Discussion of Offsite Safety Programs for Underground Nuclear Detonations," AEC Manual NVO–40 Revision No. 2, May 1969, p. 230.

[9] "A Report: Underground Nuclear Testing," Report of the Ad Hoc Panel, Office of Science and Technology, AEC TID–25180, Chapter 5, November 27, 1968, p. 51.

[10] Redraft of AEC Environmental 102 Statement in Cannikin, May 1971, pp. 2–3.

[11] According to the AEC release May 14 (#NV–7;–29) about the leaky test BANEBERRY in December 1970, the leak did not occur through a fault. The test at 910 feet deep just split the earth with its own pressure which pressure exceeded expectations because "the earth around the explosive device was more saturated with water than had been expected". Water causes increased pressure.

[12] Because EQ magnitude is on a logarithmic scale, each magnitude increase means 10 times more energy. 7.0 means ten times more seismic energy than 6.0. As for fractional increases, a 6.3 magnitude is 3 times greater than 6.8 magnitude is 8 times greater than 6.0.

[13] The impact statement says that "The chance of prompt venting of mixed fission products in quantity is remote." This raises a larger question on the obligation of AEC under the Environment Policy Act. Suppose Cannikin does vent promptly doesn't the Environmental Policy Act require the AEC to discuss the "adverse environmental impact"? Does the AEC believe the law requires only a description of the impact if everything goes right? What about the impact if everything goes wrong?

[14] Project Long Shot, the 80 kiloton test conducted at Amchitka, Alaska in 1965 was not expected to leak radioactivity for hundreds of years. But only a few months after the test radioactivity surfaced in at least two small fresh water ponds. The AEC did not expect Strontium-90 to accumulate in milk.

The AEC did not expect its 1964 test in Mississippi to cause $600,000 in property damage. The AEC did not expect its 800-kiloton test in January, 1968, in central Nevada to rock an area as wide as Salt Lake City to the East and San Francisco to the West—but it did.

[15] Washington Post, April 11, 1971. The AEC estimate of Soviet tests is generally thought to be low, due to unwillingness to reveal U.S. detection capability.

[16] "Will a Test Ban Work?," Henry R. Myers, *The Washington Post*, May 16, 1971, Section 7, pp. 9–10.

AMENDMENT TO CANCEL THE CANNIKIN NUCLEAR BLAST IN FISCAL 1972

What this amendment does: This amendment cancels for Fiscal 1972 the 5-megaton Spartan ABM weapons test called "Cannikin", presently planned for detonation in autumn 1971 at Amchitka, Alaska; the dollar-saving will be $19,700,000.

Why cancel CANNIKIN? Those who oppose building an ABM system, period, need no further reason for canceling Cannikin for this year.

Those who favor ABM may also favor canceling or postponing Cannikin for various reasons:

1. *Environmental:* The explosion may cause a significant release of radioactivity and/or a tsunami (destructive tidal wave).

An unsuccessful test in Nevada in December 1970 vented "a few percent" of its radioactivity into the air due to undetected water concentration in nearby rock; that release amounted to 3 million curies and was detectable in most of the western United States. Cannikin is about 250 times larger than that test, and buried in even less familiar terrain; the AEC has not discussed the biological or international repercussions if "a few percent" of Cannikin's radioactivity escape.

The AEC has stated that it is possible but unlikely that three years after Cannikin, radioactive hydrogen will begin to leak into the ocean at concentrations 1200 times greater than the maximum permissible concentration, and will continue discharging above permissible guidelines for 130 years. If that happens, the AEC admits that radioactive strontium, cesium, ruthenium, and antimony will also enter the ocean in concentrations above the guidelines. This could be a tragedy, for the Aleutians are the crossroads for the spawning migration of Pacific salmon. There is no way for the AEC to know from any of its previous tests whether or not this will happen.

There is also the possibility that Cannikin will trigger a large earthquake which will cause a destructive tsunami. Contrary to AEC claims, the historical record cannot offer any reassurance on this matter. Much has been made from the fact that the Russians did a 6-megaton test in 1970 without triggering big earthquakes; the test was not in an earthquake zone.

2. *Limited usefulness:* Dr. Herbert York, former DOD Director of Defense Research and Engineering under Eisenhower and Kennedy, has indicated that Cannikin, which was conceived in 1966, is now unnecessary. A currently involved weapons expert, Dr. Harold Agnew of the Los Alamos Scientific Laboratory (AEC), testified on April 20, 1971 that the large-yield Spartan warheads "would be useful in a limited way"—which is a far cry from "vital."

3. *Influence on SALT talks:* It is obvious that if the large-yield SPARTAN is of little use against a Russian attack, it is worth little as a bargaining chip in the arms limitation talks with the Russians. We could cancel it for this year without losing power. On the contrary, its cancellation for this year would give us power—the power to create a good atmosphere at the SALT talks. We should remember that it was an initiative by President Kennedy in 1963 which broke the deadlock on the Limited Test Ban Treaty. We should also keep in mind that the Senate has the duty, under the Constitution, actively to advise as well as consent on treaties. Today we have the opportunity, by cancelling Cannikin for this year, to demonstrate that the Senate is serious about wanting agreement on an arms control treaty.

Mr. GRAVEL. Mr. President, I yield the floor.

Mr. PASTORE. Mr. President, I realize fully that I have a very awesome rseponsibility in managing this bill, particularly with reference to this Cannikin test. I venture to say that I bow to no one in the Senate in my endeavors to bring about peace and disarmament in the world. I think the birth of the atomic bomb was a curse to mankind. We are dealing with tremendous power, that I hope will one day be devoted exclusively to peaceful uses and to making life more meaningful for everyone on the face of the earth.

But unfortunately, we have got to face the facts of life as they are. We do have adversaries who, on a moment's notice, would make it rather miserable and even rather dangerous for the security and the safety of our great Nation.

We tried to put the atomic bomb under international control beginning with the Baruch plan, which started back in 1946. I worked hard on the Nuclear Test Ban Treaty, which was achieved in 1963; and John Kennedy sent me to Moscow as one of his emissaries to witness the signing of the Nuclear Test Ban Treaty.

I was the father of the resolution on the floor of the Senate that led to the creation of the Nonproliferation Treaty. It was passed by a vote of 80 to 0.

So no one can question the fact that the senior Senator from Rhode Island is for peace.

I would hope that we would not need any tests at all, but we know that the Russians have an ABM system. Congress has already agreed on an ABM system. We are being told by the responsible people in Government that this test is absolutely necessary in order to have an effective Spartan weapon system.

So, Mr. President, we have the advice that comes to us from all these great scientists who have no axe to grind. I realize that some scientists are opposed to this, as they were opposed to the ABM. Dr. York has been mentioned. Dr. York was against the ABM and, naturally, he is against the Cannikin test; and many Members of the Senate are against the ABM, and for that reason they will be against this test. There is no question at all about it.

The fact remains that here we are. We are confronted with this problem. We have been assured by the Defense Department, by the AEC, and by many of the experts who have come before the committee that this is the thing do.

Mr. President, this is asking for a delay until May 31. I repeat that I do not know what reasons have yet been given for the delay, unless it is connected with Mr. Nixon's trip to Red China. But I do not think that is going to bring an end to the nuclear club that fast. In the meantime, the big question is, What do we do?

I am not putting blood on the hands of anyone who is against the Cannikin test if they prevail and we do not develop a Safeguard system and we suffer a surprise attack, because I think they are sincere, patriotic people. I cannot buy the argument that the rest of us would have blood on our hands if, God forbid, something tragic were to result from this test. I do not think that is decent discussion on the floor of the Senate. I think the hearts of all of us are in the right place. As I said before, PASTORE's heart, as small as he is, is as big as that of anybody else's on the floor of the Senate.

I love peace as much as anybody else loves peace. But here we are. The administration sent up this request. I did not invent it. They sent it up. They have come up here and they have testified about it. The measure has passed the House of Representatives, and it is now in the Senate, and I am managing the bill, and I have given all the arguments I can give for conducting this test.

We cannot test in the air. We cannot have an atmospheric test, because we would violate the Nuclear Test Ban Treaty. We have to have this test which will be less than a 5-megaton yield. We have already had the Milrow test in order to insure the safety of this test.

I realize it would be better if we did not have to have the test at all. If the Russians agreed with us tomorrow to do away with the ABM, we would not have to have the test. But the question is this: If we do not have an ABM system and they have one, what are we going to negotiate? There has been talk about our getting together on a limitation of the ABM system.

If they have theirs and we do not have ours, what are we going to bargain with? Nothing with something, or something with nothing? It is not going to happen.

I do not like to get into the blue chip argument. It has been said here that it is a dangerous argument, one way or the other, depending on how one feels.

I assure my colleagues that I believe they are sincere. I do not think they are being frivolous at all. I do not think they are being overly emotional at all. I think they have listened to some people of respectability and competence in this field. But I say to my friend, the Senator from Alaska, that if he were in my position, he would be saying the same thing I am saying; I can guarantee that.

I was one of those who hoped that perhaps the Senator from Alaska would be appointed to the Joint Committee on Atomic Energy, so that he could sit there hour after hour, in an "unbugged" room, listening to all these experts tell us about what our adversaries are doing and why some of these things are necessary. It is not an easy task, but that is it, and that is our responsibility, and I accept it, as the Senate gives it to me.

Mr. STEVENSON. Mr. President, when the Limited Test Ban Treaty was signed in Moscow 8 years ago, it was hailed by an anxious world awaiting a treaty to ban all nuclear tests. Progress on a Comprehensive Test Ban Treaty has been agonizingly slow, but scientific findings and political awakenings have raised our hopes again. I believe that the success of the Geneva disarmament talks would be gravely threatened by the explosion

on Amchitka of a nuclear device 250 times as powerful as the bomb dropped on Hiroshima. It was the restraint of President Kennedy in foregoing an additional round of atmospheric testing, subject to Soviet reciprocity, which led to the Limited Test Ban Treaty in 1963. A similar initative now could create the basis for agreement on the ending of all nuclear tests.

The Cannikin test is aimed at developing an ABM warhead—and we do not need one. The less expensive, and more effective, way to defend our nuclear deterrent is to place it beneath the seas on submarines—not beneath expensive and already obsolete ABMs.

The Cannikin experiment poses dangerous risks to the environment. It poses more dangerous risks to the pursuit of peace. Our negotiators are endeavoring to reach an agreement at Helsinki on ABMs. Talks are going forward at Geneva on a comprehensive test ban. The President is planning a trip to China which could help bring that nation into arms control arrangements. This clearly is not the moment to flex our nuclear muscles.

In a letter to Chairman Seaborg on June 30, I urged him to cancel the Cannikin test in light of the recent developments in arms limitation negotiations. My view has not changed since then. This needless experiment threatens to injure rather than to advance our real national security interests. If it ever could have been justified in the past, it cannot be justified now. I shall vote for the amendment offered by the Senators from Alaska and Hawaii to delete its funding from the AEC budget.

Mr. PASTORE. Mr. President, I would hope that we could have a vote on this amendment. Because of a policy committee meeting on the part of the Republicans, I wonder whether we could have a unanimous consent agreement to vote on this amendment at 2:30.

Mr. GRAVEL. I would be very happy to do so.

Mr. PASTORE. Mr. President, I make the unanimous consent request that the vote on this amendment take place at 2:30 p.m.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PASTORE. How much time remains for the Senator from Alaska?

The PRESIDING OFFICER. The Senator from Alaska has 2 minutes, and the Senator from Rhode Island has 5 minutes.

Mr. PASTORE. The vote to occur at 2:30, Mr. President, and the debate to start at 2:25, with two and a half minutes to be allotted to each side just before the vote.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PASTORE. Mr. President, I ask unanimous consent that this amendment be displaced temporarily, with the understanding that it will be revived at 2:25 p.m.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PASTORE. I understand that the Senator has another amendment he wishes to call up.

Does the Senator want the yeas and nays on his amendment?

Mr. GRAVEL. On which amendment? On the present amendment?

Mr. PASTORE. On the one that he will now call up.

Mr. GRAVEL. I have five other amendments, and I was just trying to decide which one to call up.

Mr. PASTORE. Mr. President, I ask unanimous consent that we have a quorum call, without the time being charged to either side.

The PRESIDING OFFICER. Without objection, it is so ordered.

The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. PASTORE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. TUNNEY). Without objection, it is so ordered.

MESSAGES FROM THE PRESIDENT

Messages in writing from the President of the United States were communicated to the Senate by Mr. Leonard, one of his secretaries.

REPORT OF THE NATIONAL CAPITAL HOUSING AUTHORITY—MESSAGE FROM THE PRESIDENT

The ACTING PRESIDENT pro tempore (Mr. CHILES) laid before the Senate the following message from the President of the United States, which with the accompanying report was referred to the Committee on the District of Columbia:

To the Congress of the United States:

I transmit herewith the report of the National Capital Housing Authority for Fiscal Year 1970, which outlines a number of positive and important steps that have been taken to supply housing for the citizens of the District of Columbia.

RICHARD NIXON.

REPORT ON ADMINISTRATION OF THE NATURAL GAS PIPELINE SAFETY ACT OF 1968—MESSAGE FROM THE PRESIDENT

The ACTING PRESIDENT pro tempore (Mr. CHILES) laid before the Senate the following message from the President of the United States which with the accompanying report was referred to the Committee on Commerce:

To the Congress of the United States:

I herewith transmit the Third Annual Report on the administration of the Natural Gas Pipeline Safety Act of 1968. This report has been prepared in accordance with Section 14 of the Act, and covers the period of January 1, 1970, through December 31, 1970.

RICHARD NIXON.

EXECUTIVE MESSAGES REFERRED

As in executive session, the Acting President pro tempore (Mr. CHILES) laid before the Senate messages from the President of the United States submitting sundry nominations, which were referred to the appropriate committees.

(The nominations received today are printed at the end of Senate proceedings.)

MESSAGE FROM THE HOUSE

A message from the House of Representatives, by Mr. Hackney, one of its reading clerks, announced that the House had passed the following bills and joint resolution, in which it requested the concurrence of the Senate:

H.R. 134. An act to amend title 5, United States Code, to repeal the reporting requirement contained in subsection (b) of section 1308;

H.R. 1409. An act to amend title 10, United States Code, to remove the restriction on the use of certain private institutions under the Dependents' Medical Care Program, and for other purposes;

H.R. 4606. An act to amend title 37, United States Code, to provide for the procurement and retention of judge advocates and law specialist officers for the armed forces;

H.R. 4729. An act to amend section 2107 of title 10, United States Code, to provide additional Reserve Officers' Training Corps scholarships for the Army, Navy, and Air Force, and other purposes;

H.R. 4762. An act to amend section 5055 of title 38, United States Code, in order to extend the authority of the Administrator of Veterans Affairs to establish and carry out a program of exchange of medical information;

H.R. 6239. An act to amend the maritime lien provisions of the Ship Mortgage Act of 1920;

H.R. 6723. An act to provide subsistence allowances for members of the Maritime Corps officer candidate programs;

H.R. 6724. An act to amend section 209 (a) and (b) of title 37, United States Code, to provide increased subsistence allowances for Senior Reserve Officers' Training Corps members;

H.R. 8356. An act to make permanent the authority to pay special allowances to dependents of members of the uniformed services to offset expenses incident to their evacuation;

H.R. 8656. An act to amend titles 37 and 38, United States Code, relating to promotion of members of the uniformed services who are in a missing status;

H.R. 9265. An act to amend title 38, United States Code, to authorize a treatment and rehabilitation program in the Veterans' Administration for servicemen, veterans, and ex-servicemen suffering from drug abuse or drug dependency; and

H.J. Res. 748. Joint Resolution amending title 38 of the United States Code to authorize the Administrator of Veterans' Affairs to provide certain assistance in the establishment of new State medical schools; the improvement of existing medical schools affiliated with the Veterans' Administration; and to develop cooperative arrangements between institutions of higher education, hospitals, and other public or nonprofit health service institutions, and the Veterans' Administration to develop and conduct educational and training programs for health care personnel.

ENROLLED BILLS AND JOINT RESOLUTION SIGNED

The message also announced that the Speaker had affixed his signature to the following enrolled bills and joint resolution:

S. 421. An act to amend title 10, United States Code, to provide special health care benefits for certain surviving dependents;

H.R. 6072. An act to provide for the disposition of funds appropriated to pay a judgment in favor of the Pembina Band of

Chippewa Indians in Indian Claims Commission dockets numbered 18-A, 113, and 191, and for other purposes; and

S.J. Res. 111. Joint resolution extending for two years the existing authority for the erection in the District of Columbia of a memorial to Mary McLeod Bethune.

The enrolled bills and joint resolution were subsequently signed by the President pro tempore.

HOUSE BILLS AND JOINT RESOLUTION REFERRED

The following bills and joint resolution were severally read twice by their titles and referred, as indicated:

H.R. 134. An act to amend title 5, United States Code, to repeal the reporting requirement contained in subsection (b) of section 1308; to the Committee on Post Office and Civil Service.

H.R. 1409. An act to amend title 10, United States Code, to remove the restriction on the use of certain private institutions under the Dependents' Medical Care Program, and for other purposes;

H.R. 4606. An act to amend title 37, United States Code, to provide for the procurement and retention of judge advocates and law specialist officers for the armed forces;

H.R. 4729. An act to amend section 2107 of title 10, United States Code, to provide additional Reserve Officers' Training Corps scholarships for the Army, Navy, and Air Force, and for other purposes;

H.R. 6723. An act to provide subsistence allowances for members of the Marine Corps officer candidate programs;

H.R. 6724. An act to amend section 209 (a) and (b) of title 37, United States Code, to provide increased subsistence allowances for Senior Reserve Officers' Training Corps members;

H.R. 8356. An act to make permanent the authority to pay special allowances to dependents of members of the uniformed services to offset expenses incident to their evacuation; and

H.R. 8656. An act to amend titles 37 and 38, United States Code, relating to promotion of members of the uniformed services who are in a missing status; to the Committee on Armed Services.

H.R. 9265. An act to amend title 38, United States Code, to authorize a treatment and rehabilitation program in the Veterans' Administration for servicemen, veterans, and ex-servicemen suffering from drug abuse or drug dependency; and

H.J. Res. 748. Joint resolution amending title 38 of the United States Code to authorize the Administrator of Veterans' Affairs to provide certain assistance in the establishment of new State medical schools; the improvement of existing medical schools affiliated with the Veterans' Administration; and to develop cooperative arrangements between institutions of higher education, hospitals, and other public or nonprofit health service institutions, and the Veterans' Administration to develop and conduct educational and training programs for health care personnel; to the Committee on Veterans' Affairs.

RECESS

Mr. PASTORE. Mr. President, I think that this will be agreeable to the distinguished Senator from Alaska (Mr. GRAVEL). I ask unanimous consent that the Senate stand in recess, subject to the call of the Chair, not later than 2:25 p.m. today.

The PRESIDING OFFICER. Without objection, it is so ordered.

(At 1 p.m., the Senate took a recess subject to the call of the Chair.)

The Senate reconvened at 1.28 p.m., when called to order by the Presiding Officer (Mr. BYRD of West Virginia).

The PRESIDING OFFICER. The Chair recognizes the Senator from Missouri.

Mr. SYMINGTON. Mr. President, I ask unanimous consent that I may proceed for 1 minute.

The PRESIDING OFFICER. Without the time being charged to either side?

Mr. SYMINGTON. Without the time being charged to either side.

The PRESIDING OFFICER. Without objection, it is so ordered.

U.S. FINANCING OF FOREIGN MERCENARIES IN LAOS

Mr. SYMINGTON. Mr. President, tomorrow, around 10:15 a.m., based, as I understand, on the statement of the distinguished majoriy whip, I intend to talk on the subject "Closing Loopholes: An Amendment To End U.S. Financing of Foreign Mercenaries in Laos."

RECESS

Mr. SYMINGTON. I now ask unanimous consent that the recess be continued in accordance with the previous understanding.

The PRESIDING OFFICER. The Senate will stand in recess awaiting the call of the Chair, with the understanding that the recess will not extend beyond 2:25 p.m. today.

Mr. SYMINGTON. I thank the Chair for his courtesy.

At 1:29 p.m. the Senate resumed its recess, subject to the call of the Chair.

The Senate reassembled at 2:25 p.m., when called to order by the Presiding Officer (Mr. JORDAN of Idaho in the chair).

ATOMIC ENERGY COMMISSION AUTHORIZATIONS, 1972

The Senate continued with the consideration of the bill (H.R. 9388) to authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes.

The PRESIDING OFFICER. Who yields time?

Mr. PASTORE. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. The Senator will state it.

Mr. PASTORE. Mr. President, what is the time limitation?

The PRESIDING OFFICER. There will be 2½ minutes to a side.

Mr. GRAVEL. Mr. President, I yield 1 minute to the senior Senator from Alaska.

The PRESIDING OFFICER. The senior Senator from Alaska is recognized.

Mr. STEVENS. Mr. President, the amendment before the Senate now would prevent the detonation in the Cannikin test. I support the amendment.

I will place in the RECORD a sampling of editorial and newspaper comment from our State concerning the proposed test. I think the Alaskan point of view is represented by these articles, and that is that until the necessity for the test can be demonstrated to us, we are opposed to it. We are in an earthquake area and we are in a tidal wave area, and there has been no demonstration that the test, even if successful, would be safe to our environment.

This should be first and foremost. We should be assured that even if the test is successful, which many Alaskans do not believe it will be, it will not leave a permanent scar in Alaska from a test that is not necessary at the present time.

Mr. President, I ask unanimous consent that the editorials and articles to which I have referred may be printed in the RECORD.

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

[From the Anchorage Daily Times, May 27, 1971]

THE AMCHITKA TEST

We hope President Nixon will find it in the national interest to cancel the nuclear test that is scheduled for October at Amchitka. There could be no better resolution of a problem.

Cancellation would mean that Alaskans would not be exposed again to the horrible divisions and the frights that are aroused during discussions of the dangers that accompany such an explosion.

Dispatches from Washington cite two reasons under discussion that might lead to cancellation.

One is the political risk involved in the blast. The risk is that a natural earthquake might occur at the time of the test or shortly after it, and the test would get the blame. It would be hard to prove that it wasn't.

The second reason for possible cancellation is the fact that the test may be unnecessary for national security because the Soviets have recently agreed to negotiate in regard to limiting anti-ballistic missile systems.

The purpose of the test is to develop a warhead for the Spartan missile, which is to be used in the defenses of the nation's Minutemen missile silos. The Spartan is a part of the anti-ballistic missile system.

If the Soviets will negotiate a limitations agreement, there will be no need for the Spartans and consequently no need of the Amchitka nuclear test for its warhead.

It is to be hoped that the facts will support the conclusion that the October test can be avoided.

This procedure is exactly as it should be. The President is basing his considerations on the latest developments in the field of diplomacy, and on the national security interests.

The noisy opposition to the test by the articulate opponents who frighten their friends with claims of radioactive leaks, earthquakes, destruction of wildlife, tsunamic waves and other horrible occurrences, is not the prevailing factor. It should not be.

Objective studies of the scientific investigations indicate that the test would be safe. The President should not allow the nation's security to be placed in jeopardy because of unfounded fears and unproven suspicions.

[From the Southeast Alaska Empire, May 28, 1971

REASONS ENOUGH TO CANCEL TEST

The startling fact revealed by the Army today that 949 tons of war gas was dumped into the Bering Sea nearly 24 years ago about 276 miles northwest of Amchitka, should serve to halt the proposed 5 megaton nuclear blast scheduled for this fall.

The Atomic Energy Commission's proposed test, "Kannikin," has been the center of controversy in hearings held in Juneau this week and in Anchorage today.

Consensus of opinion from many Alaskans testifying in the hearings, is that the earthquake risk, as a result of the blast, would be highly undesirable. It would, according to the Griffin-Larrabee news bureau, create shock waves registering up to 7 on the Richter scale, enough to devastate a city.

Although this contention has been disputed by White House authorities speaking in favor of the test, no one seems to be really sure of the actual after effects.

Additionally, it has been brought out by people not participating in the hearings that the tests may hamper progress in the strategic arms limitations talks between Russia and the United States. According to these people, the political risk may be greater than the ecological risk.

We believe these uncertainties are reason enough to cancel the test.

[From the Anchorage Daily News, May 28, 1971]

AEC HEARINGS

The Atomic Energy Commission's public hearings in the proposed five-megaton nuclear test on Amchitka Island move to Anchorage today. The AEC is bringing along its lineup of experts and they'll be presenting the agency's case for the test between 9 a.m. and noon at the state court building. After a break for lunch, the public will have a chance to express its views—pro or con—on the test.

The prospect of a device with the explosive power of five million tons of TNT being detonated beneath any part of Alaska—no matter how remote—should give everyone cause for thought. The test—believed to be of a warhead for the Spartan ABM—would be the most powerful ever detonated underground by this nation. It would be more than four times the size of the 1.2 megaton blast detonated on Amchitka in the fall of 1969.

The AEC maintains that the test will cause no earthquakes or tidal waves, will not release any radiation into the atmosphere, or sea and will not do any significant environmental damage. And that may well be so: the results from the first test on Amchitka were just about exactly what the AEC specialists had said they would be. There were no dire results.

Still, the proposed test would be much larger than the first one and the destructive potential of a five-megaton H-bomb is tremendous. There is a serious question whether the information the test would provide is worth the risk it entails—however small that risk may be.

Thus, we hope the hearings will be well attended, for every Alaskan has a stake in the AEC plan.

[From the Anchorage Daily Times, May 26, 1971]

NIXON CONSIDERS HALTING AMCHITKA NUCLEAR TEST

(By Mary C. Berry)

WASHINGTON.—The Nixon administration is considering cancelling Cannikin, the underground nuclear test scheduled for this October on Amchitka Island.

According to reliable sources, the administration feels the potential political risk, should an earthquake occur following the blast, may be too great in light of the recent agreement to negotiate with the Soviet Union to limit defensive anti-ballistic missile systems.

The administration does not believe that the Cannikin explosion, which is expected to register 7.0 on the Richter scale, will cause an earthquake. According to the Atomic Energy Commission, the possibility that Cannikin will trigger an earthquake is "highly unlikely" and the administration accepts this evaluation as accurate.

But the administration no longer feels it is as necessary to test the four to five megaton device, intended as a warhead for the Spartan interceptor missile, part of the United States ABM system.

Therefore, the political risk is being given greater weight in making the final decision on Cannikin than it was prior to President Nixon's announcement last Thursday that the U.S. and the U.S.S.R. have agreed to talk seriously about limiting their ABM systems.

However, the administration has not made the final decision on whether to go ahead with Cannikin. That decision will be made by the President himself.

The warhead to be tested in October on the Aleutian island is intended for the Spartan missile, the defensive part of the ABM system presently being installed at two sites in the western United States.

The purpose of the Spartan missile is to destroy incoming missiles, not by direct contact but by exploding close enough to them so that sufficient radiation is released to make their electronic systems ineffective.

The further out in space this explosion is intended to occur, the more powerful the warhead on the Spartan missile must be.

Under the U.S. plan for twelve ABM sites, the explosion must occur at a high altitude in order to protect all these sites hence the need for a powerful warhead. The federal government presently has authority from Congress to construct only two of these sites.

According to informed sources, what the U.S. would like to negotiate in the talks with the Russians is an agreement that this country would limit its ABM installations to the two presently under construction and the Soviets would limit theirs to the existing ring of ABM sites around Moscow.

The administration hopes the Russians will also agree to some limitation on SS9S, the huge Soviet offensive missile. This is because the SS9 carries a large enough payload to destroy a "hardened" missile site. The offensive portion of the U.S. ABM system, the Polaris, is intended for use on industrial installations and cities, rather than for Soviet missile installations.

Should such an agreement be negotiated in the forthcoming talks with the Russians, the U.S. would not need a four to five megaton warhead on its Spartan missiles since the missiles would have to protect an ABM system only one-sixth the size of that originally contemplated.

In the light of what the administration hopes to accomplish in the talks, the political risk involved in Cannikin if an earthquake were to occur anytime shortly after the explosion and the opposition aroused by it, even if no earthquake occurs, may be too great to be worth taking at this time.

Mr. GRAVEL. Mr. President, how much time do I have remaining?

The PRESIDING OFFICER. The Senator has a minute and a half remaining.

Mr. GRAVEL. Mr. President, the argument for delay is threefold. First, the information needed is not vitally necessary at this point in time in connection with our defense posture; second, environmental risks are such that the cost-benefit ratio or risk-benefit ratio falls heavily on the risk side; and, third, the obvious reason with respect to the climate only because it has been initiated and it should be fostered.

The argument that we have to do this because the Soviet Union is doing it can be laid to rest when it is realized that since 1963, when we placed a limitation on overt tests above ground, the United States has tested underground 228 times and the Soviet Union 51 times. So we have overtested the Soviet Union by 4½ times.

Mr. PASTORE. Mr. President, I yield 1 minute to the Senator from Tennessee.

Mr. BAKER. Mr. President, I rise again to oppose the amendment. I urge one particular point that has not been touched on in previous debate. This amendment seeks delay until next spring. It may not be a sufficient argument to say that delay will cause $18 million additional expense, but that is true. It is somewhat more cogent to point out that the time for this test was carefully selected in view of the importance of finding an ecological window; that is, a particular time in the ecology—the nesting habits of birds, the spawning habits of fish. Our concern for wildlife in this area has caused us to seek the ecological window when there would be the least trauma. That is what is referred to as the ecological window as it relates to the period chosen for this test.

I think this test is essential to the national defense.

The PRESIDING OFFICER. The time of the Senator has expired.

Mr. GRAVEL. Mr. President, I ask for the yeas and nays.

The yeas and nays were ordered.

Mr. PASTORE. Mr. President, we have gone over this ground again and again. No argument has been made as to why this test should be delayed. We either should have the test or should not have the test. The point in question is: Is the test necessary? We have abundant evidence that it is.

Mr. President, you are either for the Safeguard or you are not for the Safeguard system. It is as plain as that.

We have been told by Mr. Packard of DOD and by the AEC that it is absolutely necessary. With respect to the President determining a national emergency, he has already evaluated and submitted his judgment on the need for this test when he sent in his request for funds to conduct it.

The only reason it is here is because the administration sent it in.

So I would say to my colleagues of the Senate that this is the time for reckoning. I was one of those who was opposed to phase 2, but if we are to have an ABM system, we have to have this test. That is the question we face. That is the question we decide here today. I hope the amendment will be defeated.

Mr. KENNEDY. Mr. President, the amendment now before the Senate, jointly sponsored by the Senator from Alaska and the Senator from Hawaii, seeks to prevent a needless exercise in nuclear one-upmanship, an exercise that poses serious threats to man and his environment.

I believe there are the most compelling reasons for striking from the bill the $19.7 million requested by the administration to carry out the Nation's largest underground nuclear test, the explosion of a bomb 250 times as powerful as the blast that destroyed Hiroshima.

First, it will be a small step away from the self-perpetuating spiral of nuclear arms development.

Second, it will end the threats posed by testing a 5-megaton nuclear bomb in

one of the world's most earthquake prone regions.

Third, it will end the threat posed by exploding this device adjacent to a multi-million-dollar fishing grounds.

Fourth, it will end the threat of exploding such a weapon in the center of a wildlife preserve.

Finally, it will restate the conclusion of the ad hoc panel on the safety of underground testing, prepared for the President's Office of Science and Technology in 1968, a conclusion that "the need for these tests as planned should be compelling, if they are to be conducted in the face of the possible risks that have been identified."

For too long, we have accepted without question the assertion that accompanies each proposed nuclear test, an assertion that the test is required for the maintenance of the national security.

However, I strongly believe that the Amchitka nuclear test cannot be justified on the basis of national security concerns.

We have the testimony of Dr. Herbert York, former Director of Defense Department research and engineering, that the Cannikin test is a "pointless experiment in search of an unnecessary weapon."

We have the testimony of the director of the Federation of American Scientists, Jeremy J. Stone, that Cannikin is not needed.

But perhaps most convincing, we have the testimony only a few months ago of Dr. Harold Agnew, Director of Los Alamos Scientific Laboratory, before the Senate Armed Services Committee, in which he acknowledged that the Cannikin test is basically a test of the ABM Spartan warhead.

Yet, the 5-megaton warhead of the Spartan was designed for an ABM area defense system. That function of the ABM has been cast aside by even defense spokesmen in favor of a more limited system supposedly designed solely for the protection of our Minuteman silos. For that function, the smaller warheads of the Sprint missiles are the major force to intercept any attacking ICBM's. And even the supplementary Spartans are to be modified so that they carry smaller warheads.

Perhaps the most important factor to be recalled in this discussion is the question of whether an ABM system is required for our national security at all. We have had numerous distinguished witnesses who have challenged the arguments of the Defense Department. We have watched as the functions of the ABM have changed and the cost has risen.

We have watched and hoped that a SALT agreement could be reached despite our insistence on deploying an ABM system and MIRV components. The possibility of an ABM agreement still may be with us. If that occurs, the explosion of a 5-megaton bomb less than 3,000 feet from a known geological fault will have been a dangerous exercise in futility.

Mr. President, only the most compelling, only the most grave, only the most immediate threats to our national security should ever justify accepting the risks presented by the Cannikin test. And Mr. President, failure to carry out the Cannikin test does not in any way entail such threats to our national security.

And I would remind my colleagues that nowhere within the environmental statement of the AEC, nor in any statements by AEC witnesses have they ever denied the possibility, I repeat, the possibility of grave environmental consequences flowing from this test. Their calculations, their analyses, their judgments are that the test will probably not produce dire results. Yet the critics of the Amchitka test offer data which leave enormously important questions unanswered.

First, the test could cause an earthquake or occur simultaneously with a natural earthquake, expanding and magnifying the impact of that temblor.

Thus, the ad hoc panel chaired by Dr. Kenneth Pitzer, former president of Stanford University, reported:

> There does not now appear to be a basis for eliminating the possibility that a large test explosion might induce, either immediately or after a period of time, a severe earthquake of sufficiently large magnitude to cause serious damage well beyond the limits of the test site.
>
> This possibility is more serious for tests of greater than a megaton since the larger initial explosion would lead to greater alteration of the regional stress pattern.

The Senator from Hawaii has clearly stated what the potential dangers are if a substantial earthquake occurs on Amchitka Island. He noted:

> A 1946 earthquake in the Aleutians produced a tidal wave which upon reaching Hawaii produced waves measuring 45 and 55 feet. This Tsunami took the lives of 159 men, women, and children with property damage estimated at $25 million . . . it is, therefore, evident that even the remote possibility of a Tsunami being triggered by an underground nuclear test is of grave concern to the people of my State.

Second, there remains the possibility of radioactive leakage both into the air and into the surrounding ocean. Despite all of the efforts of the AEC at least 17 underground tests have vented "offsite," sending radioactive material into the air. And last December's underground test of a nuclear weapon produced the worst case ever of venting, as clouds of radioactive dust traveled across 12 States. Thus, the past experience of the AEC cautions against accepting its assurances unquestioningly.

Such leakage could create not only actual damage to the Alaska fishing grounds but reports of radioactive leakage would undoubtedly affect the ability of commercial fisheries to sell their products. For these reasons, both Canada and Japan have protested the Cannikin test.

Third, there is the obvious danger to an unknown number of birds, seals, and sea otters and fish from the force of the explosion itself.

There are 44 bird species on the island, including peregrine falcons, and bald eagles. The shock will definitely kill an unknown number of stickleback fish. Wallace Noerenberg, commission of the Alaska Department of Fish and Game, testified this year that the AEC estimate of 10 to 15 percent of the sea otter population being affected might be too low. He also disputed the AEC contention that the sea lion and harbor seal population would not be affected.

We are being asked to balance these risks to people, to property, and to the environment against the very questionable value of testing a weapon that was probably not needed five years ago when the test was conceived and surely is not needed today. I prefer casting my vote on the side of people, on the side of life. Therefore, I shall support the amendment to prevent the Amchitka nuclear weapons test from taking place.

Mr. MUSKIE. Mr. President, in view of the grave doubts that have been expressed concerning the proposed Cannikin test—and I refer not only to the environmental dangers that have especially concerned many people in Alaska, Hawaii, and the Pacific Coast, but also the possibility that the test itself may be unnecessary from the military point of view—I must support the amendment to postpone the Cannikin test. The administration has yet to offer any convincing reasons this test is necessary for our national security.

It has been my hope that President Nixon would cancel the proposed test, and I understand that this possibility has been under consideration within the administration in recent weeks. I certainly hope that our action today in the Senate will further rather than hinder the chances that President Nixon will himself decide that this test must be stopped.

Mr. President, I am announcing today hearings on July 22 and 23 of the Foreign Relations Subcommittee on Arms Control on current prospects for a comprehensive nuclear test ban agreement—that is, a test ban that would include underground as well as other forms of nuclear testing. At that time, we also expect to have testimony on the proposed Cannikin nuclear test. I regret that today's debate on the AEC authorization anticipates those hearings by 2 or 3 days. I would hope to know more about the issues involved in underground nuclear testing as a result of these hearings, and to have a better basis on which to judge the significance of the Cannikin test and the necessity for future underground testing.

Nevertheless, it is already clear to me that the proposed Cannikin test should be cancelled. We have already had much information on the possible hazards to the environment. The possibility of a major disaster—a massive earthquake or tidal wave—is admittedly very slight. But as long as there is any possibility of a disaster of such magnitude, we can hardly dismiss as irrelevant the fears that are being expressed by the people who live in these areas that would be affected. Moreover, even if it were clear that there is no possibility of a major disaster—and this is by no means clear—the environmental hazards resulting from radiation leakages are themselves serious enough to question whether this test should be allowed. I, for one, am certainly not satisfied by the assurances

thus far given by the AEC that the Cannikin test will not cause unacceptable environmental damage.

But quite apart from the very important environmental question, I am not satisfied that this test is even necessary militarily. We now know that the Cannikin bomb is in the range of 5 megatons and is designed for the long-range Spartan antiballistic missile. This Spartan missile was originally designed for a thin area defense of the United States—presumably against the possibility of a small Chinese nuclear attack. However, now that the rationale of our ABM is primarily defense of our Minuteman bases, it is doubtful that the Spartan will require such a large warhead. Defense officials have already testified that a new improved Spartan missile will not use such a high-yield warhead.

For both these reasons—the environmental risks involved, and the fact that this test is evidently for a weapon that may already be obsolete—I support the amendment to postpone the test, in hopes that the administration will decide to cancel it altogether.

NUCLEAR TESTING IN ALASKA THREATENS CALIFORNIA

Mr. TUNNEY. Mr. President, I rise in support of Mr. GRAVEL's amendment to delete all funds authorized or appropriated to detonate Cannikin, an underground nuclear test scheduled to be conducted at Amchitka Island, Alaska.

Amchitka Island, Mr. President, the site of the proposed detonation, is not only part of the highly seismic Aleutian Islands, but, in addition, it lies alongside the fault system which extends into California and which is known as the San Andreas fault.

It has been stated that the test will be close to 5 megatons in strength. It appears clear that a disturbance of the magnitude of the Cannikin test can touch off a large and devastating earthquake. An earlier test at Amchitka which was only 1 megaton in size registered 6.5 on the richter earthquake scale.

If detonated as proposed, Cannikin will be the largest nuclear test we have yet attempted. Consequently, its possible effects cannot be gaged accurately.

My distinguished colleague in the House of Representatives, Mrs. MINK of Hawaii, has testified that:

> No one can categorically deny that the blast, the largest underground nuclear explosion, ever attempted, could produce an earthquake which could cause a shift in the ocean floor and thus set off a giant surface wave, or tsunami, that could surge for thousands of miles across the ocean, crashing into Alaska, Hawaii, and California.
>
> Our fears are not without foundation, for past earthquakes in the Aleutians have caused such tsunamis. In 1946 an Aleutians-originated tsunami killed 173 people and damaged $25 million in property in Hawaii. Another, in 1957, did $3 million in destruction to Oahu and Kauai Islands in Hawaii. In 1964, an earthquake in the Prince William Sound area spawned a tsunami which killed 12 and left 400 families homeless in Crescent City, California, 2,000 miles away.

The earthquake and tsunami considerations in themselves compel the cancellation of the tests. That conclusion is reinforced by a consideration of the reasons set forth in support of the test. Those reasons which have been offered in support of the Cannikin test appear totally illusory.

They are illusory because the SALT negotiations appear to be headed toward the prohibition of the very warhead being tested. And they are illusory because the very missile system for which the tests were proposed appears no longer to have a part in American defense strategy.

President Nixon has recently announced that an agreement at the SALT talks is likely and that such an agreement would freeze ABM deployment. That possibility certainly diminishes the significance of testing further warheads designed for any ABM system.

It would appear propitious, in light of the frightening risks involved in the Cannikin test, at least to delay that test until we have an opportunity to assess the fruits of our negotiations at SALT.

Even beyond the SALT talks, however, it appears that the premise upon which the Amchitka test was founded is no longer valid.

The Cannikin tests were initially planned by the AEC close to 5 years ago as the last in a series of Alaska tests designed to develop a warhead for long-range missiles known as Spartans which would form the core of an ABM system designed to defend the United States against a "light" or Chinese nuclear attack.

Since the initial planning, however, our defense rationale has been changed considerably. Since these tests were planned in 1966, the administration has drastically revised its original ABM premises. By 1969, the administration determined that our ABM would be designed to defend the United States against a "heavy" or Soviet nuclear attack.

Paradoxically, however, strategic theorists have concluded that the "Spartan," or long-range missile will not be effective against a Soviet attack. To provide the best possible defense against Soviet missiles, it was concluded that our ABM must protect our Minuteman missile sites. And, according to Jeremy Stone, director of the Federation of American Scientists, the type of ICBM's that the Russians would deploy would require us to use not the long-range "Spartan" but, instead, the "Sprint" interceptors which have smaller warheads.

Thus, both the SALT talks and our own strategic needs dictate the cancellation of the Cannikin test.

Cannikin, therefore, appears destined to threaten another major earthquake without producing any demonstrable national security advantages. It also promises to have unpleasant international consequences. Already, Japan and Canada, two of our closest friends, have filed official notes of protest to the Cannikin test with our Department of State.

In light of these considerations, Mr. President, it makes no sense whatever to allow the Cannikin test at this time. As John Silard put it in his May 25 testimony before the Public Works Subcommittee of the Senate Committee on Appropriations:

> What a tragic epitaph for ABM it would be if on the eve of agreement to halt the strategic defense race, we were to detonate this last ABM test and find that we have caused a major earthquake, tidal wave, or oceanic contamination.

Mr. President, as a Senator from California, I am impelled to support Mr. GRAVEL's important amendment.

The PRESIDING OFFICER. All time on the amendment has expired. The question is on agreeing to the amendment of the Senator from Alaska. The yeas and nays have been ordered, and the clerk will call the roll.

The assistant legislative clerk called the roll.

Mr. BYRD of West Virginia. I announce that the Senator from Indiana (Mr. BAYH), the Senator from Oklahoma (Mr. HARRIS), the Senator from Washington (Mr. JACKSON), and the Senator from Montana (Mr. METCALF), are necessarily absent.

I further announce that, if present and voting, the Senator from Washington (Mr. JACKSON), would vote "nay."

I further announce that, if present and voting, the Senator from Indiana (Mr. BAYH), would vote "yea."

Mr. GRIFFIN. I announce that the Senator from South Dakota (Mr. MUNDT) is absent because of illness.

The Senator from New Hampshire (Mr. COTTON) is detained on official business.

The result was announced—yeas 37, nays 57, as follows:

[No. 156 Leg.]

YEAS—37

Allen	Hartke	Nelson
Brooke	Hatfield	Pell
Burdick	Hughes	Proxmire
Case	Humphrey	Ribicoff
Chiles	Inouye	Schweiker
Church	Kennedy	Stevens
Cook	Magnuson	Stevenson
Cranston	Mansfield	Symington
Eagleton	McGovern	Tunney
Fong	McIntyre	Weicker
Fulbright	Mondale	Williams
Gravel	Moss	
Hart	Muskie	

NAYS—57

Aiken	Eastland	Montoya
Allott	Ellender	Packwood
Anderson	Ervin	Pastore
Baker	Fannin	Pearson
Beall	Gambrell	Percy
Bellmon	Goldwater	Prouty
Bennett	Griffin	Randolph
Bentsen	Gurney	Roth
Bible	Hansen	Saxbe
Boggs	Hollings	Scott
Brock	Hruska	Smith
Buckley	Javits	Sparkman
Byrd, Va.	Jordan, N.C.	Spong
Byrd, W. Va.	Jordan, Idaho	Stennis
Cannon	Long	Taft
Cooper	Mathias	Talmadge
Curtis	McClellan	Thurmond
Dole	McGee	Tower
Dominick	Miller	Young

NOT VOTING—6

Bayh	Harris	Metcalf
Cotton	Jackson	Mundt

So Mr. GRAVEL's amendment was rejected.

Mr. PASTORE. Mr. President, I move to reconsider the vote by which the amendment was rejected.

Mr. BYRD of West Virginia. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

ENROLLED BILL AND JOINT RESOLUTION PRESENTED

The Secretary of the Senate reported that on today, July 20, 1971, he presented to the President of the United States the following enrolled bill and joint resolution:

S. 421. An act to amend title 10, United States Code, to provide special health care benefits for certain surviving dependents; and

S.J. Res. 111. Joint resolution extending for two years existing authority for the erection in the District of Columbia of a memorial to Mary McLeod Bethune.

ATOMIC ENERGY COMMISSION AUTHORIZATIONS, 1972

The Senate continued with the consideration of the bill (H.R. 9388) to authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes.

AMENDMENT NO. 256

Mr. GRAVEL. Mr. President, I call up my amendment No. 256.

I might suggest to my colleagues that a fact sheet has been placed on the desk of each Senator. It is a very brief fact sheet, and I think it will be useful to read.

The PRESIDING OFFICER. Is this one of the amendments on which the Senator has 1 hour?

Mr. GRAVEL. Yes; a half hour on each side.

The PRESIDING OFFICER. The amendment will be stated.

The assistant legislative clerk read as follows:

On page 1, strike out lines 7 through 9, and insert in lieu thereof the following:

(a) For "Operating expenses", $2,027,871,000, of which not less than $14,900,000 shall be available for the loss of fluid test (LOFT) facility and program and other related light water reactor safety research and development in emergency core cooling systems, and of which not more than $116,400,000 shall be available for operating costs for the high energy physics program category.

Mr. GRAVEL. Mr. President, I yield myself as much time as is necessary to make an explanation of what this amendment is about. If I may have the attention of my colleagues, it is not a very complicated issue.

Mr. President, may we have order?

The PRESIDING OFFICER. The Senate will be in order.

Mr. GRAVEL. The amount of funds I am requesting in this amendment is merely what the AEC itself has requested. It is not a figure that I have taken from any of my own expertise. I have just gone through the record, and where the AEC has requested these funds, I am merely trying to reinstitute them here, for a very fundamental reason.

Today, in this country, we have in operation about 21 or 22 nuclear reactors whose emergency safety systems rely primarily upon an emergency core cooling system. Last November and December, a miniature model of this cooling system, which was used for experimentation, underwent some tests. In six of these tests—in every test—part of the core cooling system failed in one manner or another, which means that the design, as is presently viewed, for this safety device, which is the primary safety device for these nuclear reactors, based upon small-scale model experimentation, does not work. So our confidence in the safety system, based upon the knowledge we have now, is really out the window.

This information was broken first not by public news release of the AEC, but by the reporting of the fourth estate in Nucleonics Week. It came to a great deal of attention, and of course it made many people wonder why we continue with nuclear operation and licensing in face of this new information.

The statements have been several from the AEC, essentially to the effect that the tests which failed are not entirely conclusive. That is true; they are not because in the core in these tests they used electric heat, which of course is a good deal different from the actual nuclear core in an operating reactor.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. GRAVEL. I yield.

Mr. PASTORE. I think all of us are interested in safety, and naturally everything should be done that is necessary in order to promote safety to the optimum degree.

One thing I do not like about the Senator's amendment is that he does limit the expenditure of certain moneys to a specific purpose, which I think is a rather bad precedent, in view of the fact that sometimes the urgency may be in one direction more than another. If the Senator will confine his amendment to the money figure and just raise it without the specification—and we could write that in the conference report—I would be inclined to discuss it with my counterpart on the other side of the aisle and accept it.

In other words, the Senator has money and language as well—a limitation. Remove the limitation and just add the money to the amount.

The fact is that the division did ask for $49 million. They came up here on a budget estimate for approximately $35.9 million, after that was cut by the Office of Management and Budget. We increased it to $42,940,000, which is $7 million more than it was last year. The Senator is going $2.3 million above that. I will accept his money figure and take the $2.3 million, provided he does not specify that $14.9 million has to be used for a specific purpose. There may be other purposes which are more essential and which have a greater priority.

ADDITIONAL FUNDS NEEDED FOR NUCLEAR REACTOR SAFETY RESEARCH

Mr. CHURCH. Mr. President, I am pleased to join today in the effort to authorize additional funds for the Atomic Energy Commission for nuclear reactor safety research programs.

For the past 3 years I have pointed out the need for more funds in this area. It is obvious that our Nation is turning more and more toward electrical power provided by nuclear reactors. As we move in that direction, we must be absolutely sure that the plants we build and the methods we use are safe and environmentally sound.

I am especially concerned with this issue because I find contradictions within the AEC on the question of the mission of that agency in regard to research which these additional funds would assist. On November 17, 1960, I requested a report from the AEC regarding cutbacks in its nuclear reactor safety research program at the National Reactor Testing Station in Idaho. A pertinent portion of that letter, signed by AEC Chairman Glen Seaborg, stated:

For almost two decades, the AEC has sponsored reactor safety research and development which, while emphasizing light water reactor technology, was also of general interest to more than one reactor type. This was an appropriate federal role during the development period when a variety of reactor concepts were being explored. As the current generation of water cooled reactors approaches the point of economic maturity in comparison with conventional fossil fuel plants, most of the development and test role for reactor plant and safety system refinement properly belongs with industry. The increased acceptance by the nuclear industry of the requirements to carry out its reactor projects in accordance with high standards and best engineering practices as urged by the AEC and its development of water reactor safety technology required by the AEC in support of individual license applications provides assurance that emphasis on reactor safety and related research continues unabated.

Thus in November the AEC was optimistic that needed reactor safety research would be carried on by private industry.

However, by May 13, of 1971, the AEC was no longer so sure that the forecast contained in its letter to me was accurate. George M. Kavanagh, the assistance general manager for reactors told the Joint Committee on Atomic Energy that limited AEC budgets and a certain reluctance on the part of industry to support more research have prevented gathering all the technical information necessary to confirm the adequacy of reactor safeguards.

In addition, Mr. President, an internal AEC study group is quoted as stating, in the July 9, 1971, issue of Science magazine:

The large number of construction permits . . . for . . . power reactors which have been issued in the last several years does not imply there is a decreasing need for water reactor safety research. Rather, because these construction permits were issued on the basis that planned programs would resolve certain safety questions related to these reactors . . . there is an increasing need for safety research.

The information contained in two articles by Mr. Robert Gilette which appeared in the May 28, 1971, and the July 9, 1971, issues of Science magazine paints a clear picture of the past errors and the need for action in the field of nuclear reactor safety research. I commend the articles to the attention of Senators and ask unanimous consent that they be printed in the RECORD.

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

NUCLEAR REACTOR SAFETY: A SKELETON AT THE FEAST?

(By Robert Gilette)

The nation's electrical utilities are engaged in a nuclear buying spree this year, apparently undeterred by a running controversy among industrial and government authorities over the adequacy of a crucial emergency safeguard system used on nearly every nuclear power plant.

Since January, power companies have ordered 13 new reactor units, in contrast with 14 during all last year and 7 in 1969. The Atomic Energy Commission (AEC) predicts that, if the utilities sustain their purchasing pace, then by 1980 nuclear power will be producing 150,000 megawatts of electricity or one-fifth the nation's demand.

Such enthusiasm, however, tends to obscure the fact that important technical issues of reactor safety—quite apart from those of thermal or radioactive pollution—still remain to be settled.

EMERGENCY COOLING

Currently the most controversial of these lingering safety issues concerns the adequacy of the emergency core cooling systems (ECCS) used on light water reactors. Since March, a newly created "senior task force" of four AEC executives has been evaluating recent research which suggests to some authorities that the backup cooling systems of these reactors might not perform satisfactorily. The research in question is said to be especially disquieting in regard to pressurized water reactors, although the task force has asked manufacturers for performance information on backup coolers for boiling-water reactors as well. All of the reactors aboard the Navy's nuclear-powered vessels are the pressurized water type, as are nine of the 22 civilian nuclear plants in operation as of the end of March.

The AEC task force was established to "provide overall management review of important safety issues," the commission chairman, Glenn T. Seaborg, has said. The group expects to finish its scrutiny of cooling systems sometime in June.

Until then, the issue's significance to public safety will remain difficult to judge, although some AEC officials are frankly skeptical that it has more than remote bearing on the public interest. Milton Shaw, AEC's director of reactor development and technology, scoffs that the issue of backup cooling system "flap" may be the best measure of "some people who have taken a little data and made a big thing out of it." Shaw contends that "this is just part of a debate that has gone on for 2 or 3 years" concerning the development of more stringent design codes for reactor emergency cooling. He also suggests that talk among researchers who are worried that their reactor safety work may be phased out for lack of money might have helped inflate the importance to public safety of this "little data."

But the AEC's official responses to the cooling system "flap" may be the best measure of its significance. The agency has held up operating license hearings and one safety review for five big new power reactors until the task force finishes its work. (Harold Price, the AEC's director of regulation, declines to speculate as to how ten other reactors scheduled to begin operating this year, or the 22 now generating electricity, may be affected by the deliberations.) In addition, the AEC asked Congress this month for an extra $2 million in fiscal 1972 for research on the safety of light water reactors. This would be above and beyond $36 million requested for the entire safety program in 1972. A staff member of the Joint Committee on Atomic Energy describes this constellation of events as "not unheard of" but still "uncommon."

The issue of backup cooling performance bubbled up into public view early this month when the Joint Committee released a letter that Seaborg had written to Senator John O. Pastore (D-R.I.), vice chairman of the committee, on 27 April. In the letter, Seaborg said he anticipated reactor licensing delays while the new task force took a long, hard look at emergency cooling systems. The reasons for this scrutiny, as Seaborg explained them, were that:

"The use of recently developed improved techniques for calculating fuel cladding temperatures following postulated loss-of-coolant accidents, and the results of recent preliminary safety research experiments, have indicated that the predicted margins of ECCS performance may not be as large as those predicted previously."

Emergency core cooling systems are intended to quench a reactor's extremely hot core in the unlikely event that it loses its normal bath of cooling water through a ruptured pipe, a broken weld, or a key valve opened in error. Deprived of cooling water, a reactor's core temperature would quickly rise to the melting point of fuel element metals. A scenario of an uncooled reactor's fate, composed several years ago by an AEC advisory group, depicts the 250-ton core of a large reactor as dripping and finally slumping into a molten pool at the bottom of the reactor vessel within an hour after the reactor has lost its coolant.

Experts say that a loss of neutron-moderating water would prevent a nuclear "excursion" from occurring, but residual heat in the core—plus heat released by the decaying fission products in the fuel and by violent chemical reaction between metal and remaining water—could still amount to 50 megawatts. This would be more than enough to allow the core to melt through the steel reactor vessel, and to carry it through tons of concrete beneath, within another hour or so. Beyond this point, nuclear engineers speak, half tongue-in-cheek, of the *"Chinese Syndrome,"* a term derived from the presumption that the core would continue melting its way into the earth, in the general direction of Asia.

UNEXPECTED RESULTS

As a final result, steam explosions and gas pressure could breach the reactor containment building, scattering radioactive material. Or, as the scenario script delicately phrased it, there might be "subsequent deposition at undesirable locations" of fission-product material.

In the view of responsible nuclear scientists and engineers, emergency cooling systems now in use make such events highly improbable. Last year, however, a series of small-scale experiments which the AEC conducted at its National Reactor Testing Station near Arco, Idaho, indicated to some researchers that emergency cooling water might have unexpected difficulty in entering a reactor that had lost its normal cooling water. The experiments, which were performed in November and December, used a 9-inch mock-up of a reactor pressure vessel containing electrically heated "fuel" elements bathed in cooling water. In half a dozen tries, investigators found that when they allowed 30 to 100 percent of the tiny vessel's cooling water to escape—as it would in a "loss-of-coolant accident"—high steam pressures inside the vessel kept all but about 10 percent of "emergency" cooling water from entering. A brief description of the work which the AEC filed with the Joint Committee in March indicated that the high-pressure steam in the vessel blew the remainder of the "emergency" water through an outlet before it reached the "core."

The experiments were part of preliminary work leading up to research with the Loss of Fluid Test (LOFT) facility in Idaho, a $35-million domelike structure in which the AEC will progressively starve a 55-megawatt reactor of cooling water and measure its behavior. The LOFT experiments, which are scheduled to begin in 1975, will provide the first test of an emergency core cooling system under actual operating conditions.

A second point of concern which Seaborg's letter touched upon involves new analytical evidence showing that temperatures of some of the long, thin fuel elements in reactor cores may go higher during loss of coolant than previously believed. This is a matter of concern because the higher a fuel element's temperature rises, the more likely it is to fracture, spilling intensely radioactive fission products into the reactor vessel. Moreover, the higher temperature of the fuel rods, which are typically clad in zirconium alloy, would intensify a chemical reaction between the metal and quenching water. This would release hydrogen, generate still more heat, and thus place an even heavier demand on the emergency cooling system.

Shaw insists these findings have little direct bearing on the safety of nuclear reactors. While some fuel elements may be hotter than would be expected during loss of coolant, he says that others may be cooler, leaving no net effect on safety. As for the Idaho experiments, he points out that their objective was to help refine mathematical models to be used for predicting the course of LOFT experiments, and not to evaluate systems used on real reactors. The 9-inch vessel was not meant to fully simulate a reactor, he said in an interview. "You can't use that phraseology. It's just not in that ball game."

SAFETY DATA LACKING

Nevertheless, Seaborg and a delegation of AEC executives appeared before the Joint Committee in supplemental authorization hearings on 13 May to request, among other things, $2 million more for next year to "help resolve significant technical issues" of water reactor safety. George M. Kavanagh, the assistant general manager for reactors, explained in part that, "Heavy reliance has been placed on engineering safety features such as the ECCS, where the technology is complex. . . . Some of the information needed to confirm convincingly the adequacy of such systems, which are intended to arrest the course of hypothetical large primary system failures is not yet available."

Kavanagh told the committee that limited AEC budgets and a certain reluctance on the part of industry to support more research have prevented gathering all the technical information necessary to fully confirm the adequacy of reactor safeguards.

The committee had already been briefed on the apparent import of the Idaho experiments and the activities of AEC's senior task force, so there was understandably little discussion of such matters in the day-long hearing. Kavanagh, however, did mention that "limited experiments" supported by the AEC at its Idaho test site "have not resolved some of the areas of major uncertainty raised by differences among the analyses [furnished by reactor manufacturers] particularly with regard to their evaluation of the operating effectiveness of emergency core cooling."

His remark prompted Senator Howard H. Baker (R-Tenn.) to ask what "differences" he was talking about. This question led to the following interchange:

Kavanagh: ". . . [The experiments] have had results which have not been confirmatory of what the people doing those experiments thought might happen. Now, they are not conclusive. . . ."

Baker: ". . . meaning that it was worse than you thought?"

Kavanagh: "Yes, worse. If it were better we might not have been allowed to come up here asking for money. But they [the results] are not conclusive. In other words, the experiment was done on something far from a reactor. . . . It is difficult to draw conclu-

sions from those experiments. . . . What we want to do are more of those experiments."

Little else was said during the May hearing, but the subject is sure to come up again in nuclear reactor safety hearings, which the Joint Committee expects to hold late in June. "We couldn't avoid the issue if we wanted to," a committee staff member said.

It remains to be seen whether an obscure research project in a desolate corner of Idaho has indeed uncovered a flaw in nuclear reactor safeguards, or whether it has merely triggered a troublesome false alarm. In either instance, the current controversy has at least served to illuminate a chronic complaint from the AEC's division of reactor development that its safety research program is being shortchanged. That complaint will be discussed in another article.

NUCLEAR REACTOR SAFETY: A NEW DILEMMA FOR THE AEC

(By Robert Gilette)

The Atomic Energy Commission has adopted a curious position lately. While assuring the public that the nuclear reactors it licenses will operate safely, a number of AEC officials have been discreetly appealing for more money—preferably much more money—to support research on the safety of conventional, water-cooled nuclear reactors.

For the most part, the money has not been forthcoming. But the appeals themselves have inflamed suspicions among the AEC's numerous critics that the atomic power plants that are blossoming across the nation's landscape may not be as secure from mishap as licensing implies. And thus the AEC finds itself impaled on a new dilemma that may serve to weaken its already shaky public credibility: If reactors are as safe as they are advertised to be, how can a large new safety budget be justified? Or, if new safety research is as urgently required as the AEC indicates, should the construction of atomic power plants (21 are operating, more than 50 are being built) be proceeding as rapidly as it is?

At a time when the AEC's $3 billion program for subsidizing the development of water-cooled reactors is nearly at an end, and when new plants are being licensed in ever-increasing numbers, the commission's appeals to Congress and the Office of Management and Budget for safety funds seem more than a little awkward. Indeed, the AEC's rationale for funds above and beyond its fiscal 1971 safety budget's of $36 million rests partly on the premise that significant "uncertainties" in the performance of reactors remain, and that "urgent" work is yet to be done to resolve these uncertainties. For example, Milton Shaw, the AEC's director of reactor development and technology, confides that "At the drop of a hat I can spell out 15 areas where we could do more research in reactor safety. Drop two hats and I'll spell out 30 areas. There's virtually no limit on the work we can do." At the same time, however, commission officials are at pains to deny any untoward implications in such statements. In this context, George M. Kavanagh, the assistant general manager for reactors, told the Joint Committee on Atomic Energy last March that "This does not mean our reactors are unsafe. It means we should be spending more to assure that they are safe. . . ."

One way out of this paradox is to concede the point, raised by those close to reactor development, that safety research is not a finite task. As reactors age and their designs evolve, so the job of ensuring that they are properly designed, built, and operated continues. Morever, there are, in fact, people of influence within the AEC who are given to what industrial sources regard as excessive zeal for perfection in safety.

Nevertheless the fact remains that a large volume of nuclear safety work—much of it aimed at refining current understanding of normal and aberrant reactor behavior, and much of it aimed at improving quality control in manufacturing—has been cancelled, delayed, slowed, or simply not begun over the past decade. To all appearances, the result has not been to leave key safety issues untouched. Instead, one effect has been to limit the ability to define precise margins of safety in reactor operations. Another has been to impede the development of stringent standards of quality assurance—a primary ingredient in reactor safety.

Conversations with AEC officials and a reading of recent testimony presented to the Joint Committee suggest a variety of reasons for this R & D backlog. Essential projects, for example, have been delayed by inept management, and by design and construction problems similar to those that afflicted the nuclear industry as a whole during the 1960's. There is also reason to believe that program administrators have shown considerable inertia in acting on research suggestions still being pressed by the AEC's safety watchdog, the Advisory Committee on Reactor Safeguards (ACRS).

But the reason cited most often and most adamantly by AEC officials for their burden of unfinished business is a chronically undernourished safety research budget. For instance, Spencer H. Bush, chairman of the ACRS, told the Joint Committee in hearings on 22 June that the safety program's fiscal problems have worsened in the past 2 years. "While progress has been made," he said, "the accelerated erosion of AEC money for water-cooled reactor safety research has resulted in termination of some programs and substantial delays in others."

A FUROR OVER SAFETY

The AEC's new dilemma was thrust into prominence recently by a much-publicized controversy over the adequacy of a key accident-control system that is used on nearly every nuclear power reactor—the emergency core-cooling system (*Science*, 28, May). Although the commission's initial reaction to the furor over the backup coolers was to minimize its significance, the AEC's subsequent action was in keeping with its claims of ultraconservatism in matters of public safety. But more important, the controversy has helped point up the safety research program's infirmities.

The backup cooling systems in question are, very simply put, complexes, of pipes, valves, and pumps, which are meant to flood a reactor's superheated uranium core in the unlikely event that the core's normal bath of cooling water escapes through a ruptured pipe. Thus the systems are analogous to spare hoses, radiator, and water pump on an automobile—but with a big caveat: Although operating reactors have occasionally sprung leaks from faulty pipes and poorly welded joints, none of these leaks has been great enough to call an emergency cooling system into action. Thus, though backup coolers perform well enough in elaborate computer simulations, they have never been tested in an operating reactor.

To rectify that situation, the AEC is preparing an extraordinary series of core-cooling experiments at its National Reactor Testing Station in Idaho. Here, a small reactor enclosed in a huge, dome-shaped shell will be subjected to progressively worse loss-of-coolant "accidents." Each time the reactor will be revived with a spritz of emergency water, which, in turn, should spare it from destruction. This is the Loss of Fluid Test (LOFT) project—and it was in preparation for LOFT last winter that a series of core-cooling experiments in miniature scale first cast doubt on the adequacy of full-sized backup systems.

The "semi-scale" tests, as the experiments were called, suggested that steam pressure inside a real reactor might prevent emergency water from reaching the core in sufficient time or volume to save the reactor from severe damage or destruction. The tests were aimed at refining a computerized model of the LOFT reactor's behavior and were not meant to simulate events in an atomic power plant. Nonetheless, they did spur the AEC into reviewing the designs of backup cooling systems on power plants now in operation and on several scheduled to "go critical" soon.

After deliberating for 4 months, the AEC issued on 19 June an "interim policy statement" which suggested a slightly diminished confidence in the ability of emergency cooling systems to save a reactor—and perhaps the nearby populace—from the consequences of a broken pipe. Five older reactors, including the San Onofre plant nestled along the California coast not far from the western White House, were ordered to modernize their backup coolers by 1 July 1974. Until then, the policy statement said, the plants were to triple their inspections of pipes, pumps, and valves, in order to reduce the likelihood of an accident that would require the use of an emergency cooling system. In addition, four new atomic power plants were ordered to hold their peak operating temperatures down to 1260° C, although doing so might decrease their power output. The AEC said that these and other "clearly conservative" guidelines would remain in effect, "pending the development of further data," much of which would presumably come from LOFT during the next few years.

A DISMAL HISTORY

As an AEC budget summary described the LOFT project last year, it is the nation's "largest and most vital water (reactor) safety project," and it bears on the "most critical safety problem facing all water reactor plants"—namely, what to do when the core runs dry. But none of this urgency appears to have spared the program from a long and rather dismal history, marked at first by poor management, and more recently by a tight budget that has necessitated "terminations" and "reductions" in preparatory work.

The LOFT project has limped along under these circumstances since its inception in 1963. By the time its consummate experiments get under way in 1974 or 1975, it will have consumed more time from start to finish than the Apollo program took to land two men on the moon. "It went along for years with conflicting changes in intent and direction," one high-ranking AEC official said. "Project management in the early 1960's just wasn't that good. With better management it could have gone faster."

How much faster is suggested by the tables that the Joint Committee published in the record of its authorization hearings for fiscal 1971. Begun officially in September 1964, LOFT construction was supposed to have been finished in late 1967, at a cost of $19.4 million. But having since been expanded and upgraded to become the "focal point" of the water reactor safety program, LOFT equipment is not scheduled to begin debugging operations until mid-1972, at a final construction cost of $35 million.

Nor was this pattern of delay and overrun unusual for major test facilities at Idaho in the 1960's. The Advanced Test Reactor (ATR), billed as the world's most powerful reactor for testing nuclear fuels and core materials suffered a 3½-year delay and a $17.7 million cost overrun that pushed its price to $57.7 million. The ATR finally achieved full-power operation on Christmas Day 1969, but only after "rather severe" construction flaws had required dismantling and rebuilding it. Still another major test reactor at the Idaho site, the Power Burst Facility (PRF), is expected to begin running this year, 4 years late and $6 million, or 70 percent, over its original cost estimate.

The AEC now blames many of these difficulties on the Phillips Petroleum Company's management of safety program operations during the 1960's. In 1969, the commission shifted responsibility for the program to Idaho Nuclear, a composite of Allied Chemical Corporation and Aerojet-General Corporation. Phillips then joined as a minor partner with no managerial responsibilities. "For one reason or another, we were unable to get the LOFT and PBF projects done," Shaw has said. "Phillips as a parent organization did not have that [necessary] kind of power or test reactor design and construction experience, and they were unable to recruit the kind of talent necessary to get the job done right."

LOFT and other projects are said to be moving along "tolerably well" now, but the Idaho site's management ills were cured just as the safety research budget began a slow downward slide. Over a period of several years, expenditures for safety had crept up to a $37 million peak in fiscal 1970, then dipped to $36 million in 1971. As available money declined and inflation rose, a growing new emphasis on breeder reactor safety studies accelerated, thereby putting still more financial pressure on the full range of conventional reactor work, including LOFT and such elements of its supporting research as the semiscale experiments. "My problem," Shaw said recently, "was that I was going to have to phase out some of this work in fiscal 1972 unless we got more money."

The LOFT project won a reprieve of sorts in June, when the Joint Committee approved the AEC's request for $2 million in supplemental safety funds. The emergency core-cooling flap weighed heavily on that decision, and therefore probably benefited the LOFT project as much as it did the safety of the public. (The committee also gave its blessing to the $4 million that President Nixon requested in his June energy message for breeder reactor safety.) But, as Kavanagh had told the committee a month earlier, "I think we could use $30 million or $40 million [more]. . . ."

Certainly LOFT's financial problems have not been unique. To accommodate a smaller budget in 1971, the AEC closed down a small test reactor, the Capsule Driver Core, at Idaho and sacrificed a nonnuclear facility, the Containment Systems Experiment (CSE), at its Pacific Northwest Laboratory in Washington. Both were "producing rather important safety information," Shaw said last year, noting that "These are not facilities we would prefer to have closed down." By mothballing the CSE, for example, the AEC cut short a series of experiments to investigate the behavior of reactors during sudden losses of coolant. It also passed up an opportunity to test the performance of emergency core-cooling systems on a far larger and more realistic scale than it could in the miniature LOFT experiments. "The potential was there, and it could still be done," according to Andrew J. Pressesky, the assistant director for nuclear energy.

QUALITY CONTROL IMPEDED

In addition to these closures in fiscal 1971, the safety program sustained "general reductions, terminations, and delays in the initiation and progress" of a variety of projects, officials have said. Of these stringencies, the one that is hardest to justify, in Pressesky's view, was a reduction in support of a cooperative program between the AEC and industry to develop manufacturing standards for the pumps, pipes, and valves used in nuclear reactors. These standards are regarded as the backbone of quality assurance in reactor manufacturing, and in large part their development is the means by which safety research is translated into engineering practice.

Laxity in quality control was, to a major extent, responsible for costly delays in construction and interruptions in operation experienced by numerous atomic power plants during the 1960's. Faulty plumbing and welding still plague the nuclear industry, although to a lesser degree now. But AEC officials, such as commissioner James T. Ramey, are still pressing for improved standard. "Despite the progress that has been made," Ramey told the Joint Committee in June, "even high priorities and more manpower must be applied to standards development." Despite such appeals, money for the standards program has declined by about 40 percent since 1970.

Privately a number of AEC officials blame the safety program's erosion on an insensitive Office of Management and Budget. As one man deeply involved in AEC safety affairs expresses it, "The OMB holds a somewhat simplistic view. Since the AEC has cut back its development work on water reactors, it asks 'why all this talk about more safety research.' " In an apparent campaign to explain why, a variety of safety advisory groups issued a flurry of admonishments in 1969 to the effect that money ought to be going up, not down. In June of that year, an internal AEC study group warned that "The large number of construction permits for . . . power reactors which have been issued in the last several years does not imply there is a decreasing need for water reactor safety research. Rather, because these construction permits were issued on the basis that planned programs would resolve certain safety questions related to these reactors . . . there is an increasing need for safety research." Another internal AEC study in October 1969 urged "a vigorous safety R & D program" and went on to say that "Major efforts are still required to resolve issues currently facing both reactor suppliers and those charged with safety assessment for the surge of light water power reactors announced in the 1965–68 period." In a 12 November 1969 letter to AEC chairman Glenn T. Seaborg, a similar appeal was made by the Advisory Committee on Reactor Safeguards, when it complained that "only small or modest efforts" had been initiated in several key areas of safety and that "many safety research activities have not been initiated, have been slowed, or have been terminated." The letter said that the committee "reiterates its belief in the urgent need for additional research and development" in such areas as seismic safety and the safety of ordinary water-cooled reactors.

All these admonitions seem to have had little mitigating effect on the OMB's axe hand. It is true that over the past 2 years the OMB has been no more sanguinary than the commissioners themselves in cutting the requests of safety program administrators. Each sliced about $7 million from the $49 million lower-echelon request for 1972. On the other hand, the budget office allowed the AEC to ask Congress for only 40 percent of the supplemental safety funds the commission wanted last May, thus leaving about $3 million worth of high-priority projects unfunded.

It appears, however, that the OMB's fiscal pressure on the program is motivated less by malice or insensitivity than by a desire to force more of the burden of nuclear safety studies onto the nuclear industry. It also appears that AEC earnestly shares this desire. But it has so far achieved only modest success in buttonholing support from reactor manufacturers, who are sad to be convinced that they are already selling a safe product, or from the electric utility industry, which is chiefly interested in buying a safe product and has notoriously little inclination toward research in the first place. As things stand, the nuclear industry continues to enjoy a kind of technological welfare that must seem lavish to aerospace corporations.

But from all of this, can one conclude that the safety of atomic power plants has been compromised? Senator Mike Gravel (D-Alaska), who has become a vocal foe of nuclear power, seems to think so. In a speech to the Oregon State Legislature not long ago he urged that every state "stop all construction of nuclear power plants until the safety problems are resolved and until we achieve the safety-first policies to which we are entitled." Last May, voters in Eugene, Oregon, approved a 4-year moratorium on a nuclear power facility planned for their area. Similar movements are afoot in the Oregon legislature, in Minnesota, in New York City, and in California where a citizens' group has succeeded in placing on the June 1972 ballot a proposal to ban power reactor construction for 5 years.

AEC officials understandably find such activities unjustified. And so, it seems, do the most influential conservation organizations, which say they prefer to weigh the merits of atomic power plants on a site-by-site basis rather than putting up blanket opposition to nuclear power.

For their part, AEC officials say that conservatism in plant design and operation should compensate for any uncertainties that remain in the behavior of reactors.

One AEC authority in reactor safety, and a man who is less reserved in his criticism of the agency than most, sums it up this way:

"I believe that nothing in the water reactor safety program is of low priority. It should all be done. And until these tasks are completed we are going to have to use rather more conservative bases for design judgments on plants, and we are going to have to make decisions with a certain lesser degree of cheerfulness, or confidence, than if we had the results of this research.

"We think we can set boundary conditions, so no matter how a reactor goes we are quite sure it's safe. But I find having to work this way intellectually less satisfying. . . . I prefer to know, in the quantifiable way, what the limits of safety are.

"However, I think we're in good shape, and that in the long pull, when we look back, we may see we spent money unnecessarily. At least that's what I trust we'll see."

WHEN A CORE RUNS DRY

A power reactor's core typically consists of a bundle of thin metal tubes, or fuel elements, containing uranium dioxide. The tubes are suspended vertically inside a thick steel vessel as tall (inside) as 72 feet, with a diameter of as much as 21 feet. Heat generated by a controlled fission reaction among the fuel elements is removed by circulating ordinary water around and between the elements. Normal operating temperature of the elements is about 315° C., but in the absence of cooling water the temperature would rise to the melting point of zirconium (1800° C.) in 1 minute or less. Water-metal reactions are said to become "significant" at about 1100° C.

AAAS NAMES FIVE TO FREEDOM PANEL

The Board of Directors of the AAAS announced on 1 July the appointment of five members, including former Chief Justice of the Supreme Court Earl Warren, to form the association's new Committee on Scientific Freedom and Responsibility. The committee, which the board had formally established last December, was asked to (i) study and report on the general conditions required for scientific freedom and responsibility; (ii) develop suitable criteria and procedures for the objective and impartial study of these problems; and (iii) recommend mechanisms to enable the association to review specific instances in which scientific freedom is alleged to have been abridged or otherwise endangered, or responsible scientific conduct is alleged to have been violated.

Committee members are Chief Justice Warren, Allen V. Astin, former director of the National Bureau of Standards, Mary Catherine Bateson, associate professor of sociology and anthropology at Northeastern University, Walter J. Hickel, former Secretary of the Interior, and John H. Knowles, director of the Massachusetts General Hospital in Boston.

Athelstan Spilhaus, chairman of the AAAS board, explained the 6-month hiatus between establishment of the committee and appointment of its members by saying that it took that long to find public figures "who are of such stature that they would make clear the seriousness of the Association's purpose." AAAS officials also noted that the five members, by and large, have been personally involved in great public conflicts of free expression and responsibility to institutions.

Last December's decision to establish the committee was made partly in response to a request from Senators Edmund Muskie (D-Maine) and Mike Gravel (D-Alaska) to investigate charges that the Atomic Energy Commission had harrassed two dissident scientists, John Gofman and Arthur Tamplin. Officials of the AAAS say that Gofman and Tamplin themselves communicated no such request to the association. However, several other scientists who alleged that their own scientific freedom was in jeopardy have turned directly to the association for help in recent years. These appeals are said to have been an important stimulus in creating the new committee.

"Although very concerned about charges involving abridgment of scientific freedom," Spilhaus said, "the AAAS has lacked a mechanism for considering such questions." He emphasized, however, that it was not the committee's purpose to adjudicate individual cases. Although it may choose to review the Gofman-Tamplin imbroglio, it is not being specifically asked to do so. Its larger purpose, he said, is to suggest guidelines for handling such cases in a way which preserves individual freedom while protecting institutions from "irresponsible individual behavior." The board has not suggested a time or place for the committee's initial meeting, nor has it proposed a timetable for the panel's deliberations.—R.G.

Mr. CHURCH. Mr. President, in spite of the fact that the AEC has gone on record as stating it could use anywhere from $30 to $40 million more in the nuclear reactor safety research program, the figure which has been presented to the Congress calls for an increase of only about $7 million.

It is my understanding that this rather small increase, in light of the expressed need, is due to the broad ax which is wielded by the Office of Management and Budget. Several million dollars was cut by the Office of Management and Budget from the AEC's request for emergency core cooling and loss-of-fluid research budgets.

Mr. President, I am especially proud of the fact that it was the dedicated research efforts of the men and women of the National Reactor Testing Station in Idaho, working under the most stringent budget requirements, which has led the way in pointing out the need for more research in this field.

I am pleased also to state that the Hells Canyon Preservation Council, based in Idaho Falls, Idaho, has endorsed a position in favor of the responsible and safe development of nuclear power. The council is one of the outstanding conservation organizations in my State and has recently written to President Nixon setting forth its position in great detail. That letter and my comments appear at page 20148 of the June 16 CONGRESSIONAL RECORD. I would hope that it could have wide readership.

Mr. President, the case for more funds for reactor safety research is compelling. I plan to support this amendment which would result in adding $2.3 million to the safety research program of the AEC and would earmark a total of $14,900,000 for the LOFT—loss-of-fluid test—program currently being carried out at the National Reactor Testing Station in Idaho. I urge my colleagues to support these badly needed additional funds.

Mr. GRAVEL. Mr. President, I suggest the absence of a quorum.

Mr. PASTORE. We can make history, if the Senator wants to.

Mr. GRAVEL. I do not care to make history. I would rather get the money. I just wanted to get a full appreciation as to the language.

Mr. PASTORE. I suggest the absence of a quorum, Mr. President.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. PASTORE. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. JORDAN of Idaho). Without objection, it is so ordered.

Mr. PASTORE. Mr. President, on my time on the bill, I ask unanimous consent that we be allowed to amend the figure which appears on page 1, line 7, notwithstanding the fact that that figure was once amended.

The PRESIDING OFFICER. Without objection, it is so ordered.

Will the Senator from Alaska please send his amendment to the desk?

Mr. GRAVEL. Mr. President, I send to the desk the amendment and ask unanimous consent that the sum of $2,027,871,000 be modified to provide the sum of $2,028,371,000.

The PRESIDING OFFICER. Without objection, the modification will be so made.

Will the Senator please send his amendment to the desk?

Mr. GRAVEL. The Chair has ruled on the first unanimous-consent request, has he not?

The PRESIDING OFFICER. And, without objection, it was granted.

Mr. GRAVEL. Mr. President, I withdraw my Amendment No. 256.

The PRESIDING OFFICER. The amendment is withdrawn.

Mr. STEVENS. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. Do Senators yield back their time on this amendment?

Mr. PASTORE. Mr. President, I yield back my time.

Mr. GRAVEL. Mr. President, I yield back my time.

Mr. President, I just want to thank the distinguished chairman of the committee very, very much. I think that this $2.3 million which we have just agreed to add is necessary for safety. Having this flexibility certainly will add to the capabilities of the light-water-reactor safety program.

Mr. PASTORE. We are perfectly willing to accept the amendment.

The PRESIDING OFFICER. All time on the amendment has been yielded back.

The question is on agreeing to the amendment, as modified, of the Senator from Alaska (Mr. GRAVEL).

The amendment was agreed to.

Mr. STEVENS. Mr. President, I call up my amendment and send it to the desk and ask that it be stated.

The PRESIDING OFFICER. The amendment will be stated.

The legislative clerk read the amendment as follows:

At the end thereof add the following new title:

TITLE III

SEC. 301. No funds authorized or appropriated under this or any other Act shall be expended to detonate CANNIKIN, an underground nuclear test scheduled to be conducted at Amchitka Island, Alaska, until the end of the fiscal year beginning July 1, 1971 or until the completion of the Strategic Arms Limitation Talks between the United States and the Soviet Union, whichever occurs first.

Mr. STEVENS. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER (Mr. FANNIN). The Senator from Alaska will state it.

Mr. STEVENS. What is the time limitation on amendments to the bill?

The PRESIDING OFFICER. Fifteen minutes to a side. Who yields time?

Mr. STEVENS. Mr. President, I yield myself 10 minutes.

The PRESIDING OFFICER. The Senator from Alaska is recognized for 10 minutes.

Mr. STEVENS. Mr. President, the difference between this amendment and the amendment just voted on a few minutes ago is that it takes out the reference that would have placed authority with the President to continue the Cannikin test and will prevent the detonation at Cannikin as long as the strategic arms limitation talks between the United States and Russia continue for the balance of the fiscal year, which, I am informed, is the limit of this bill anyway.

I feel strongly that the Senate has really not been advised as to the information made available to Alaskans.

Mr. MANSFIELD. Mr. President, will the Senator from Alaska yield at that point?

Mr. STEVENS. I yield.

Mr. MANSFIELD. What was the date of the Senator's amendment?

Mr. STEVENS. The date?

Mr. MANSFIELD. I thought I heard the Chair say July 1, 1971, or the conclusion of the SALT talks, whichever is sooner.

Mr. STEVENS. Until the end of the fiscal year which began on July 1, 1971.

Mr. MANSFIELD. I thank the Senator.

Mr. STEVENS. Mr. President, I have before me, for instance, the Anchorage Daily Times for May 26, with a large headline, "Nixon Considers Halting Amchitka Nuclear Test." The story quotes a reliable source, an administra-

tive source, which indicates that the administration is considering postponing the test.

I want to tell the manager of the bill, my good friend from Rhode Island, that I tried to find out what the source of the story was, but I could not find out.

The indications are, however, and they persist in our State, that the test will be canceled at the last minute. In the meanwhile, in our State, the constant divisions and fears being expressed concerning the test will mount once again.

Some people have objected to the last amendment because they said it placed the burden on the President to make a decision as to whether the test should go ahead. I think that that is a reasonable question to raise.

This amendment places the burden squarely on Congress to make that decision, that the test will not continue during this fiscal year, as long as the SALT talks continue. The SALT talks, we are led to believe, have come to the point where we have real optimism considering the outcome of the talks. If they are successful, the Spartan will not be necessary. If the Spartan is not necessary, the detonation of the warhead in the Cannikin test is not necessary.

After adoption of the amendment, it will make available the money so that the AEC can continue its preparation and, hopefully, do a little bit more research to tell us the real effect of the detonation and what they can do to prevent the leakage, even if it is a successful test, over a period of time into the future. This, above all, is my most serious concern, that is, the problem that leakage will take place for a series of years or might take place for a series of years, after the test. But this amendment addresses itself to the fact that the SALT talks are going on, and we have been told that they should be successful—at least there is great hope that they will be. I see no reason to continue the test, which would be unnecessary if the SALT talks are successful, under the circumstances.

I predict that if Congress does not do this, we will go down, right down to the end and, in the meanwhile, all our people will be disturbed and worried. They will cancel it anyway. We should take the bull by the horns right now, and cancel it for the fiscal year or as long as the SALT talks go on. That is what this amendment would do.

I have not gotten into the total ramifications of the impact statement that was filed by the AEC. I think it has serious defects. It certainly has serious defects insofar as the people who live along the Aleutian chain are concerned.

I think their expressions, that they would like to have greater research done and so have greater certainty in the predictions as to what will occur post a successful test, are realistic. It seems to me that the people in this area deserve the same assurance.

I said jokingly to one of my colleagues a moment ago, "You know, if you really think this is safe, why don't you put it in your State?"

Everyone seems to think it is fine, as long as it is our State, out along the Aleutian chain, because, apparently, no one seems to consider that the Aleutian chain is part of Alaska. It is. It is as important to us as any portion of any State is to any Member of this body.

I would, therefore, urge that we postpone the detonation. This does not postpone the utilization of the funds for research. It does not postpone any of the work going on out there.

It would postpone the detonation so long as the SALT talks continue during this fiscal year. If the SALT talks are successfully concluded, there will not be any need for the test anyway. We ought to face up to the matter from that point of view. The Amchitka tests are not necessary so long as the SALT talks have a hope of eliminating the need for this type of defense.

Mr. President, I reserve the remainder of my time.

The PRESIDING OFFICER. Who yields time? The Senator from Rhode Island is recognized.

Mr. PASTORE. Mr. President, I do not see how in the name of reason we are going to support an amendment that extends the date to June 30, a month later than the amendment just defeated.

The Senator from Alaska read in the press what the President would do. Quite frankly, if I were the Senator from Alaska, I would have picked up the phone, called the White House, and found out from the source whether there was any intention on their part to do this.

We interrogate the witnesses that appear before our committee. The President did not come. He never comes. But his spokesmen do and they did in this case.

I pointed my finger at them directly and I asked, "Are you saying now that it is the policy of this administration that they want the money for the Cannikin test?"

The answer was emphatically "Yes." That was a categorical answer and it was answered categorically.

That is the best information I got. I am on this side of the aisle and the Senator is on the other side of the aisle. I do not run the administration. The only reason that I am managing the pending bill is because it is my committee responsibility.

The question here is whether this test is necessary.

Mr. Packard wrote the letter. He is not my man. I never appointed him. He is a Republican in the Defense Department, and he says that it is absolutely necessary. I sent all Senators a copy of his letter.

Then I got a statement from Bob Hollingsworth from the Atomic Energy Commission. That is run by the administration. They tell me it is absolutely necessary.

The Senator is coming in here and telling me it is not necessary. All right. If that is what the Senator says and if that is the way he feels about it, I can understand his sincerity. I do not question that for one moment, but when the Senator is saying here that the committee is apparently doing something that is irrational—and that is what it amounts to—I am telling the Senator that we agonized over this matter. I do not care about the test at Cannikin. It is not my personal responsibility. But it is my official responsibility.

I voted against phase 2 of the ABM when it came up before. I do not know what the Senator did. I voted for phase 1. I do not know what the Senator from Alaska did. I am told by the administration that unless we have this, we will never know for sure whether we will have a safe ABM system. That is what we are up against. I do not believe in the blue chip philosophy. But the Senator can tell the Russians that we do not have an ABM system, and then what will happen?

Mr. STEVENS. Mr. President, will the Senator yield?

Mr. PASTORE. I yield.

Mr. STEVENS. The amendment merely says that we will not detonate this so long as the SALT talks are going on.

The Senator raised the point about this being the responsibility of the administration. These tests were planned by the Democratic administration. I was not here. The Democratic administration started this. What we want to know is where we have the assurance that this would be a safe test.

Mr. PASTORE. Here it is right here in this commission study on environmental effects of this test.

Mr. STEVENS. Does that give any assurance?

Mr. PASTORE. It does.

Mr. STEVENS. The Senator asked me why I did not pick up the phone and call the White House. I did something better than that. I wrote them. I asked whether they planned to conduct a review to see whether the test was necessary. They have not made any conclusion with regard to that. It is my own opinion that the time would come when it would be canceled after all of the fears of those in Alaska and along the West Coast have been raised again.

If the Senator wants to debate this on the political aspects, I have been there and I will be glad to do that. But let us discuss that from the point of view of those in my State. Does the Senator want this placed in his State?

Mr. PASTORE. I am not debating this on the political aspects. The Senator from Alaska heard or read in the newspaper that the President was considering doing so. I am merely asking the Senator from Alaska to go to the real source and find out. There are no politics involved in that. That is what I would do. I would go and find out. But that is not what the administration told me when they came before my committee. I asked the question, and that is not what they told me. They were very emphatic in saying that this was absolutely necessary and that without it we will never know whether we will have an effective ABM system. That is what they said. The Senator from Alaska can make his own judgment.

Mr. STEVENS. Mr. President, will the Senator yield again?

Mr. PASTORE. The Senator can use his own time.

The PRESIDING OFFICER. The Senator from Alaska has 8 minutes remaining.

Mr. STEVENS. Mr. President, I have gone downtown, and I have asked them. They do say that they will conduct a thorough appraisal of the need for this test. They have not told me that they will not support the money. If the Senator misinterpreted me, I beg his pardon. The difference between this amendment and the last amendment is that I am asking the Senate to make the decision and not the President, because I would like to see it made now. I would like to see it postponed at this time so long as the SALT talks continue. I think that is a reasonable request. I voted for the ABM. I supported all these defense installations and the necessity for the new equipment. I do not think that delaying the test indicates opposition to the ABM. It merely indicates a question as to whether it is really needed if the SALT talks are successful. If this test goes ahead and the SALT talks are successful, what has been gained?

Mr. PASTORE. The point is whether the SALT talks would be successful without a good ABM system here. That is the question. It is as clear as the ABC's. If we destroy the Safeguard system here this afternoon, we have nothing to bargain with.

Mr. STEVENS. How would this destroy the system? They have the money. They can continue.

Mr. PASTORE. Will the Senator be patient for a moment and I will read the Packard correspondence. This is from David Packard who happens to be the Deputy Secretary of Defense.

Mr. STEVENS. He is a very fine man.

Mr. PASTORE. He ought to know what he is talking about. Does the Senator admit that?

Mr. STEVENS. I think he does. However, I happen to disagree with the Senator from Rhode Island.

Mr. PASTORE. Mr. President, let us see what he said. Whether the Senator disagrees with him or not, Mr. Packard knows what he is talking about.

The letter reads:

DEAR SENATOR PASTORE: This is in response to your request for my views on the importance of the Cannikin nuclear test to the national defense.

Mr. STEVENS. Mr. President, it was declassified because of the fear that this amendment might succeed.

Mr. PASTORE. Does the Senator want to have this letter read? Let me read the letter.

The letter reads:

This is in response to your request for my views on the importance of the CANNIKIN nuclear test to the national defense.

The nuclear device to be tested in the CANNIKIN event is for the development of a warhead for the Spartan missile of the Safeguard ballistic missile defense program, a program that Congress approved. The measurements of device performance which will be obtained from the tests are essential in my view, to the optimum defensive deployments of Safeguard for protection of the Minuteman missile sites.

Sincerely,

DAVID PACKARD.

Mr. President, if the Senator from Alaska can get it any better than that, I would like to have him show me.

Mr. STEVENS. Mr. President, I say that is the whole reason for this, the fact that we are going to deploy the Spartan missile. All this amendment would do is postpone the detonation of the Cannikin nuclear test until we know whether it will be necessary. If the SALT talks conclude to our disadvantage, we will go ahead with the tests. If the SALT talks conclude to our advantage, then it will not be necessary.

I think that we should wait until the outcome of the SALT talks and we should not detonate it until we know that it is necessary.

Mr. President, I yield back the remainder of my time.

Mr. PASTORE. Mr. President, I yield back the remainder of my time.

The PRESIDING OFFICER. All time has been yielded back.

Mr. STEVENS. Mr. President, I ask for the yeas and nays.

The PRESIDING OFFICER. There is not a sufficient second.

The yeas and nays were not ordered.

Mr. MANSFIELD. Mr. President, I suggest the absence of a quorum and ask unanimous consent that the time not be taken from either side.

The PRESIDING OFFICER. Without objection, it is so ordered. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. MANSFIELD. Mr. President, I ask for the yeas and nays on the amendment.

The yeas and nays were ordered.

The PRESIDING OFFICER. The question is on agreeing to the amendment of the Senator from Alaska (Mr. STEVENS). On this question the yeas and nays have been ordered, and the clerk will call the roll.

The legislative clerk called the roll.

Mr. BYRD of West Virginia. I announce that the Senator from Indiana (Mr. BAYH), the Senator from Texas (Mr. BENTSEN), the Senator from Oklahoma (Mr. HARRIS), the Senator from Washington (Mr. JACKSON), the Senator from Washigton (Mr. MAGNUSON), and the Senator from Montana (Mr. METCALF) are necessarily absent.

I also announce that, if present and voting, the Senator from Washington (Mr. JACKSON) would vote "nay."

I further announce that, if present and voting, the Senator from Indiana (Mr. BAYH) would vote "yea."

Mr. GRIFFIN. I announce that the Senator from South Dakota (Mr. MUNDT) is absent because of illness.

The result was announced—yeas 29, nays 64, as follows:

[No. 157 Leg.]

YEAS—29

Brooke	Cranston	Gravel
Case	Eagleton	Hart
Church	Fong	Hartke
Cook	Fulbright	Hatfield
Hughes	Mondale	Schweiker
Humphrey	Muskie	Stevens
Inouye	Nelson	Stevenson
Kennedy	Pell	Tunney
Mansfield	Proxmire	Williams
McGovern	Ribicoff	

NAYS—64

Aiken	Eastland	Packwood
Allen	Ellender	Pastore
Allott	Ervin	Pearson
Anderson	Fannin	Percy
Baker	Gambrell	Prouty
Beall	Goldwater	Randolph
Bellmon	Griffin	Roth
Bennett	Gurney	Saxbe
Bible	Hansen	Scott
Boggs	Hollings	Smith
Brock	Hruska	Sparkman
Buckley	Javits	Spong
Burdick	Jordan, N.C.	Stennis
Byrd, Va.	Jordan, Idaho	Symington
Byrd, W. Va.	Long	Taft
Cannon	Mathias	Talmadge
Chiles	McClellan	Thurmond
Cooper	McGee	Tower
Cotton	McIntyre	Weicker
Curtis	Miller	Young
Dole	Montoya	
Dominick	Moss	

NOT VOTING—7

Bayh	Jackson	Mundt
Bentsen	Magnuson	
Harris	Metcalf	

So Mr. STEVENS' amendment was rejected.

Mr. PASTORE. Mr. President, I move to reconsider the vote by which the amendment was rejected.

Mr. BYRD of West Virginia. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. DOLE. Mr. President, I send to the desk an amendment and ask for its immediate consideration.

The PRESIDING OFFICER. The amendment will be stated.

The legislative clerk read as follows:

On page 3, line 10: After the figure "$3,500,000" Strike out the period and insert: ", except that no funds shall be obligated or expended for the acquisition of a fee simple interest inland, or any other interest in land which exceeds three years from the date of enactment of this Act, until an advisory council appointed by the President of the United States reports to be Congress that construction and operation of such project and the transportation of waste materials to the project can be carried out in a manner which assures the safety of the project, the protection of public health, and the preservation of the quality of the environment of the region".

LYONS NUCLEAR REPOSITORY

Mr. DOLE. Mr. President, H.R. 9388 would authorize fiscal year 1972 appropriations for an Atomic Energy Commission project of particular importance to Kansas: A national waste repository to be located near Lyons, Kans.

ENERGY CRISIS

With increasing urgency, we have been informed of the impending threat of brown-outs and black-outs. What was originally thought to be a restricted, regional problem is now seen as a national threat which has spurred policy reviews by the executive branch and the Congress. President Nixon found the threat so great that he sent a message to Congress on June 4, 1971, containing comprehensive proposals to meet what he described as the two challenges faced by all great industrial societies:

One, to find new sources of energy to fuel the economy; and two, to find sources of energy that will not pollute the environment.

As these energy requirements, both of the citizens of Kansas and of this Nation, increase, nuclear power will serve a vital role as an environmentally safe and reliable source of electricity. An integral part of assuring the success of this Nation's nuclear energy system is the requirement for nuclear waste repositories, and as a national goal we must insure that regardless of where located, the first nuclear waste repository will be a model for the construction and operation of future sites and must be a facility which minimizes all associated environmental and public health risks.

I recognize that construction and operation of a nuclear repository within the next 5 years is critical to the development of nuclear power in this country. Radioactive wastes are accumulating which require disposal and, should an ultimate waste disposal site not be developed within this period, the anticipated quantities of accumulated wastes will present a potentially grave hazard to public health and the environment.

Funds for the first such nuclear waste repository at a proposed site near Lyons, Kans., are contained in H.R. 9388.

QUESTIONS MUST BE RESOLVED

As expected, considerable attention has been focused on the environmental and safety aspects of this project by proponents and opponents alike. Many Kansans question the desirability and feasibility of allowing solidified high-level nuclear waste to be transported across the State or stored there without further scientific research into the environmental and public health implications of this project. Because this is the first repository, these concerns are intense and well-founded.

The same environmental and public health questions raised with regard to the Lyons, Kans., site would undoubtedly be raised with regard to any other site; therefore, it is imperative that a mechanism be established to resolve these issues in the public domain and to the satisfaction of all parties. The alternative is potential delay and aggravation of our existing energy shortages.

IMPLICATIONS FOR KANSAS

When I was informed of the AEC's tentative selection of a site near Lyons, Kans., for the storage of radioactive wastes, I was concerned with the broad implications of this project for Kansas, and I am still concerned. I ask unanimous consent that correspondence and statements relating to the Lyons repository be placed in the RECORD at this point. On August 11, 1970, during hearings before the Air and Water Pollution Subcommittee of the Senate Public Works Committee, I questioned Mr. Russell Train, Chairman of the Council on Environmental Quality, on the jurisdiction of the Council over this proposed project.

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

ATOMIC ENERGY COMMISSION,
Washington, D.C., June 17, 1970.

Hon. BOB DOLE,
U.S. Senate.

DEAR SENATOR DOLE: This is to inform you that the Atomic Energy Commission has tentatively selected a site near Lyons, Kansas, for an initial salt mine repository for the demonstration of long-term storage of solid high-level and long-lived low-level transuranium waste.

Enclosed is a copy of a public announcement giving details of the proposed project. It is planned to distribute this announcement to news media at 2:30 PM (EDT) today, Wednesday, June 17.

This matter has been discussed with appropriate officials of the State of Kansas.

If we can be of further assistance in furnishing information on this project, please let us know.

Sincerely,

JOHN A. ERLEMINE,
General Manager.

ATOMIC ENERGY COMMISSION,
Washington, D.C., August 20, 1970.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: This is to inform you of ongoing activities pertaining to the proposed salt mine repository at Lyons, Kansas. In order to obtain a better definition of the project for cost and safety purposes, the Commission has requested proposals from several firms to perform the conceptual design work for the facility. Three firms have submitted proposals to do this work. They are the joint venture of Fennix & Scission and Eagle-Picher Industries of Tulsa, Oklahoma; Resources Sciences Corporation of Tulsa, Oklahoma; and Kaiser Engineers of Oakland, California—These proposals include the Carey Salt Co., Hutchinson, Kansas, on a consultant or subcontractor basis. A Contract Evaluation Board has been established by our Oak Ridge Operations Office for the purpose of reviewing and evaluating these proposals. The Board's evaluation has been received and award of a contract to the successful proposer is expected shortly. The successful proposer in cooperation with the Oak Ridge National Laboratory is expected to prepare the conceptual design report, and a target date of about November 15, 1970, has been set for this report.

In connection with work at the Lyons site, the Kansas geologic survey has initiated drilling for shallow hydrology holes of approximately 100 ft. depth in the area of the proposed site. In addition agreement has been reached on the location for additional coring and drilling operations required for geologic studies, and drilling specifications are now being developed. The Corps of Engineers has been requested to acquire the necessary rights of access and to undertake the drilling operations, the results of which will be analyzed by the Kansas Geological Survey and the U.S. Geological Survey. It is anticipated that these drilling operations will commence about August 29, 1970. Also as part of the preliminary activities in connection with the acquisition of the site following authorization of this project, the Corps of Engineers has been requested to prepare a planning report on the status of title and the ownerships of the property to be acquired and also to furnish a preliminary appraisal of the value of the land and land rights involved. This planning report is expected to be available sometime after mid-September.

Concurrently with this effort, the Oak Ridge National Laboratory is preparing a draft safety analysis report on this project. ORNL has also prepared a draft environmental impact statement which is currently undergoing review in AEC Headquarters to meet the requirements of Section 102(2)(C) of the National Environmental Policy Act of 1969.

Independently of these efforts, the Committee on Radioactive Waste Management of the National Academy of Sciences is preparing a report evaluating the salt mine concept and commenting on proposed geologic studies. This report is expected to be available in the early fall.

In order to keep the public fully informed on this project and particularly the residents of Kansas, we are prepared to provide additional briefings, similar to that held in Lyons, Kansas, on Wednesday, July 29, 1970, at which Governor Docking and concerned citizens of Kansas and the press were afforded an opportunity to discuss the proposed repository with representatives of AEC and ORNL. Based on local desires in this matter, we plan to give a briefing by invitation at Salina, Kansas, in September; and we are in a process of working with the Lyons Chamber of Commerce for a townhall type discussion in October. At about the same time, we are proposing an industry-wide briefing at Lyons for firms who are interested in this project. We expect to solicit industry participation and cooperation in all stages as the project develops.

On August 27, 28, and 29, the Oak Ridge National Laboratory is providing to representatives of several agencies of the State of Kansas, who are concerned with this project in protecting the interest of the State, a complete technical briefing to enable them to better understand what is being proposed at the Lyons site.

It is our desire that information regarding this project be made fully and freely available to the public, and we are exerting every effort to see to it that it is conducted under full public scrutiny.

We shall continue to keep you informed of significant developments.

Sincerely,

JOHN A. ERLEWINE,
Assistant General Manager for Operations.

AUGUST 26, 1970.

Dr. GLENN T. SEABORG,
Chairman, Atomic Energy Commission,
Washington, D.C.

DEAR DR. SEABORG: The AEC announced on June 17, 1970, that it had tentatively selected a site near Lyons, Kansas, for the long-term storage of solid high-level and long-lived, low-level transuranium waste.

Because of the broad implications of this proposed project for Kansas, on August 11, 1970, in hearings before the Air and Water Pollution Subcommittee of the Senate Public Works Committee, I asked Mr. Russell Train, Chairman of the Environmental Policy Council, whether the Council had any jurisdiction to police AEC plans for disposing of atomic wastes.

I was pleased that his response indicated that under the National Environmental Policy Act of 1969, a full study of the proposed project would have to be conducted. The study would include comments by all concerned federal agencies, as well as state and local governments. This study would then be submitted to the Council for review and comment.

In order to make this a meaningful process in compliance with Section 102 of the National Environmental Policy Act, I believe it is necessary that a thorough study be conducted throughout the decision-making process. It is not sufficient that a perfunctory review be made after the final decision has been made. Preliminary budget recommendations should not be submitted without full compliance with Section 102.

I would further request that you keep me fully advised during the decision-making

process and notify me before the final decision is made.

Sincerely yours,

BOB DOLE,
U.S. Senate.

ATOMIC ENERGY COMMISSION,
Washington, D.C., September 15, 1970.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: Thank you for your letter of August 26, 1970, requesting that you be kept fully advised during the decision-making process for the solid waste repository proposed for Lyons, Kansas, particularly with respect to actions under Section 102(2)(C) of the National Environmental Policy Act of 1969.

In announcing the selection of the Lyons site, it was indicated that this selection was tentative. The purpose of making a tentative selection is to enable us to do the additional geological and hydrological studies necessary to confirm the suitability of the site. Also this project requires authorization and funding by the Congress and other reviews such as the preparation of the environmental statement as required by Section 102(2)(C) of the National Environmental Policy Act of 1969. We intend to comply with Section 102(2)(C) in a meaningful way and the comments from Federal, state, and local agencies on the environmental statement which AEC is presently preparing will be available. Consistent with the guidelines for the preparation of environmental statements issued by the Office of Management and Budget, AEC will be making preliminary budget recommendations on this project concurrent with carrying out the procedural requirements of Section 102(2)(C). The final environmental statement will be available for consideration at the time the Congress is asked to act on this project.

We intend to keep you fully advised in connection with the development of the environmental statement as well as of other actions affecting the salt mine repository project. Mr. Erlewine in his letters of August 20 and 27, 1970, described the status of ongoing activities of this project.

We appreciate your interest in this project, and we wish to assure you that it will be conducted with full public disclosure in all its facets and that you will be kept fully and currently informed.

Cordially,

GLENN T. SEABORG,
Chairman.

ATOMIC ENERGY COMMISSION,
Washington, D.C., November 10, 1970.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: My letter to you of August 20, 1970, noted that the Committee on Radioactive Waste Management of the National Academy of Sciences is preparing a report evaluating the salt mine concept and commenting on proposed geologic studies. This report has now been received and a copy is enclosed for your information. The report concludes that the use of bedded salt for disposal of radioactive wastes is satisfactory; and the site near Lyons, Kansas, is satisfactory subject to additional confirmatory data and evaluation. We are in the process of performing some of the additional studies and investigations, and we plan to do others during the design and development stages of the facility consistent with the NAS Committee recommendations.

We also take this opportunity to bring you up-to-date on current actions regarding the proposed salt mine repository. On November 12, 1970, the Atomic Energy Commission and the Oak Ridge National Laboratory personnel will provide a briefing at Lyons, Kansas, on the salt mine repository to nuclear industry representatives. This meeting was arranged by the Kansas Department of Economic Development and the Lyons Chamber of Commerce. During the week of October 24, 1970, AEC representatives provided a briefing on the salt mine repository to the Kansas Jaycees Mid-Year Convention in Hutchinson, Kansas; to the Agricultural County Agents in Lyons, Kansas; and to the people of Lyons and Rice County at a town-hall type meeting in Lyons, Kansas. Approximately 350 people attended the town-hall meeting, and the following days 756 people took a tour of the existing Carey Salt Mine.

The geological studies at the Lyons site have been proceeding satisfactorily. Two deep holes of approximately 1300 ft. in depth have been drilled and cored and geophysics logs taken. The Kansas Geological Survey is in the process of analyzing the cores. Based on the extent of knowledge of the geology thus far developed from the drilling, there is nothing to indicate that any problems regarding suitability of the site have arisen. Work will commence within the next few weeks on a program to drill four holes to a 300 ft. depth, principally for hydrological information.

Kaiser Engineers, the architect-engineer for this facility, in conjunction with the Oak Ridge National Laboratory is proceeding with the development of a conceptual design. Preparation of the draft environmental impact statement for this facility to meet the requirements of Section 102(2)(C) of the National Environmental Policy Act of 1969 is in its final stages and is expected to be circulated for review in the near future.

We will continue to keep you informed of significant developments regarding this project and to provide you with results of studies and other documents as they become available.

Sincerely,

JOHN A. ERLEWINE,
Assistant General Manager for Operations.

ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., December 15, 1970.

Hon. ROBERT DOLE,
U.S. Senate,
Washington, D.C.

DEAR SENATOR DOLE: Thank you for the cooperation and courtesy you extended to me in the course of my confirmation as Administrator of the Environmental Protection Agency.

During the confirmation hearing on Wednesday, December 1, you raised some questions about a plan currently under discussion by the Atomic Energy Commission to dispose of radioactive wastes in the State of Kansas. I have requested the Commissioner of EPA's Radiation Office to advise me of the details of the proposed plan. I will then communicate to you how EPA intends to help insure that the plan will not pose any dangers to the citizens or environment in Kansas.

Sincerely yours,

WILLIAM D. RUCKELSHAUS,
Administrator.

ATOMIC ENERGY COMMISSION,
Washington, D.C., April 30, 1971.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: One of the questions which has arisen in connection with the proposed salt mine repository is whether or not authority and funding for land acquisition should be included in the AEC FY 1972 authorization and appropriations legislation. As you know of the $3.5 million requested for initial funding, about $1 million is allocated for land acquisition. The purpose of this letter is to set forth our reasons why we believe land acquisition is essential in FY 1972.

Acquisition of the site as early as possible in FY 1972 is important in order to permit us to move ahead promptly with the detailed engineering and ecologic efforts and related supporting work at the site. We are now in a position where the priority evaluations and tests are almost totally site oriented and site dependent; that is the necessary verification studies of principal concern, as voiced by the Kansas Geological Survey and others, such as the effects of heat transfer both in the salt and in the overlying and underlying rock formations, are of application specifically to the Lyons site. Even these remaining areas of R & D are not primarily of a "go-no-go" nature in terms of the suitability of the site. Rather, these issues relate principally to the design of the facility itself, which, in order to proceed, requires both a site and authority and funds to support the required architect-engineer work.

Also we wish to prevent additional penetrations of the overlying rocks or other intrusions which could be made by others which could result in serious damage to the site.

One of the studies advocated at an early stage by the National Academy of Sciences and which is concurred in by the Kansas Geological Survey is that all existing wells be located and properly cased and plugged to prevent any action which would reduce the integrity of the salt formation. Perhaps most importantly of all, it is necessary to begin acquisition of the land to assure that the project will be able to proceed at a pace which will allow adequate time for a demonstration phase.

This includes demonstration of receiving and storing both solid alpha-contaminated wastes and the high-level wastes in conjunction with other related activities supported by the Commission and the nuclear industry. It is our belief that the demonstration aspects of the project are absolutely essential to provide the confidence and understanding necessary to assure ourselves, the state agencies of Kansas, and the public that the facilities can be safely operated. We fully recognize that it will be several years following the commencement of operations before significant quantities of high-level wastes can be expected. These years are not too many in our judgment for us to do the things necessary to establish the complete safety and suitability of the site.

It should also be noted that while this is a facility which is planned to provide storage for both alpha solid low-level wastes from AEC operations and the high-level wastes from industry, these functions though independent are interrelated. Because of the very low levels of heat and radiation that emplacement of the alpha wastes will engender, there is no substantial technical reason why this portion of the repository cannot move ahead on schedule.

Acquisition of the land appears to be related to the concern that once the site is acquired, the AEC could not be stopped even if substantial questions regarding the project are raised. We assure you that acquisition of the land does not represent an irrevocable commitment to proceed on the part of AEC. Further, the Congress will review this project at least annually and will have to provide additional funds as the project proceeds. Thus the Congress will retain the power to halt the project if required.

Land acquisition can very often be a time consuming problem and could seriously affect a planned construction schedule with attendant delays and increases in cost. These cost increases are quite apart from those which can be expected as a result of growing increases in the price of real estate which is very often substantially affected by known Government interest in a particular area.

We would like to make clear our commitment and intention that if at any time a

substantial safety problem arises which cannot be resolved, that part of the project would be stopped or abandoned. We are further committed that no radioactive wastes will be permanently emplaced in the Lyons Salt formations in either the high-level part or the low-level part until all the necessary prerequisite studies and safety analyses have been conducted and until the AEC as well as other officials with a direct responsibility in these matters are satisfied that the near-term and long-term safety can be assured.

We believe that deferring the land acquisition will only result in delaying the time when final safety judgments can be made. If we can provide you with any additional information, please, let us know.

Sincerely,

JOHN A. ERLEWINE,
Assistant General Manager for Operations.

ATOMIC ENERGY COMMISSION,
Washington, D.C., June 4, 1971.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: Thank you for your letter of March 29, 1971, enclosing a copy of the statement you filed with the Joint Committee on Atomic Energy which we understand represents your comments on the draft Environmental Statement for the proposed radioactive waste repository near Lyons, Kansas. The final statement has been revised to reflect your comments to the maximum extent possible. Also, we have made numerous additions and revisions in response to comments received from Federal agencies and Governor Docking of Kansas. We believe the enclosed statement conforms with the letter and spirit of the National Environmental Policy Act of 1969. Also enclosed is a report indicating the disposition of the comments contained in your letter, including the comments made a part of your statement from the Senate Committee on Public Works. In this report we have not attempted to respond to specific comments but we have referenced the sections of the Environmental Statement which have been revised or amplified in response to your concerns.

We note that many of the comments call for information and answers which cannot be included in an environmental statement which must be prepared in advance of doing the work which will provide the answers. However, we do intend to address these matters during the course of the design of the facility and development of the operational procedures. As we have previously stated, this project will be reviewed by the statutory Advisory Committee on Reactor Safeguards where these issues will be fully explored. In addition, we have included in the final statement an extensive bibliography of published works on the salt mine concept including related research and development.

We will keep you informed of significant developments on this project and assure you of our intention to work closely with officials of the State of Kansas in developing the necessary assurance that this facility can be constructed and operated without endangering the health and safety of the citizens of Kansas.

Sincerely,

JOHN A. ERLEWINE,
Assistant General Manager for Operations.

AEC STAFF REPORT ON COMMENTS OF SENATOR ROBERT J. DOLE ON THE DRAFT ENVIRONMENTAL STATEMENT FOR THE PROPOSED RADIOACTIVE WASTE REPOSITORY NEAR LYONS, KANS.

UNANSWERED QUESTIONS

Comment.—A complete discussion of the effects of the proposed project on the environment should be available in the technical scientific literature and should be incorporated into the Environmental Statement.

Response.—The Environmental Statement has been revised to include a bibliography of pertinent reports (Sec. X) relating to the development of the salt disposal concept as well as related waste management research and development.

RADIOACTIVE EMISSIONS—CONTINUOUS MONITORING

Comment.—Radioactive emissions from any proposed repository should not be allowed to exceed those required throughout the nuclear industry.

Response.—The Environmental Statement has been amended to include a discussion of radiological and environmental monitoring which will be carried out in connection with the operation of the repository (Sec. VI.B.1.). The facility will be designed to maintain the release of radioactive materials from the facility to the lowest practical levels and below applicable regulations.

RETRIEVAL

Comment.—There is no indication of the steps that would be taken should retrieval be required at a later time. These possibilities must be evaluated and an objective safety program provided for—before actual construction begins.

Response.—The position of the Commission on the question of retrieval of the high-level wastes has been amplified in Section VI.E. As noted in the revised Statement, this repository is a demonstration facility. During this period of demonstration, pertinent calculational techniques and operational procedures will be verified by in situ measurements, (Sec. VI.A.). All wastes buried during this demonstration period will be readily retrievable. The systems by which retrieval could be effectuated will be developed during the design of the facility.

EFFECT ON GROUNDWATERS

Comment.—There is no data presented in the Environmental Statement on the relationship of the groundwaters used as water sources for the communities of Lyons, Sterling, and Chase to the groundwaters in the vicinity of the proposed site. Should these groundwaters be from the same geologic aquifers, there would be a risk of not only contaminating these water supplies but also the disruption of water supplies. This question requires resolution prior to the initiation of construction.

Response.—The portion of the Environmental Statement describing the details of the near surface aquifer systems existing at the repository site has been expanded to show the general relationship of the aquifers at the site and local groundwater supplies. Additionally, the Statement reflects the fact that there are on-going hydrologic studies being carried out at the site to assure that there is adequate isolation of the salt from the overlying water-bearing formations. The effluent control systems (Sec. VI.D. and Sec. VIII.B.) state that there will be no liquids released from the facility and the effluent control systems which will be incorporated into the facility will prevent any significant contamination of local groundwater supplies.

Comment.—There is also need for further information on the potential effects of the future development of groundwaters on the salt beds to be employed.

Response.—As part of the site evaluation studies, the effect of future changes in groundwater use patterns or control rates will be evaluated in terms of their effect on the future stability of the salt beds.

Comment.—Public health and environmental policy should dictate resolutions of these points preferably before site development is initiated, but definitely before the site is used for the disposal of solidified radioactive wastes.

Response.—The Commission has publicly stated in testimony before the Joint Committee on Atomic Energy and before members of the Kansas State Legislature that wastes will not irrevocably be buried at the facility until all significant safety questions have been adequately resolved. It should be noted that certain confirmatory tests and measurements will require the emplacement of radioactive wastes within the salt. However, as noted in Sec. VI.E. of the Statement, these wastes will be buried in a fully retrievable form.

AEC STAFF REPORT ON COMMENTS RECEIVED FROM STAFF OF THE SENATE COMMITTEE ON PUBLIC WORKS ON THE DRAFT ENVIRONMENTAL STATEMENT FOR THE PROPOSED RADIOACTIVE WASTE REPOSITORY NEAR LYONS, KANS.

GENERAL COMMENTS

Comment.—There is inadequate documentation of the soundness of the salt disposal concept by non-nuclear professionals.

Response.—The statement has been revised to include a bil liography (sec. X.) and an expanded section (Sec. II) on the background of the project.

Comment.—Salt domes represent a significant alternative—further explanation for the rejection of salt domes is warranted.

Response.—The revised statement includes an expanded section (Sec. IV.) outlining the rationale for excluding domes as a site for the initial repository.

Comment.—The statement does not include any discussion of the environmental monitoring programs.

Response.—Statement revised to indicate that monitoring programs will be developed and implemented.

Comment.—Where alternatives are discussed, plans of other countries should be discussed.

Response.—We do not believe such a discussion is appropriate for inclusion in this statement. The IAEA recently held a symposium on the ultimate disposal of radioactive waste dealing with the waste management plans of other nations. This report should be available in the near future.

SPECIFIC COMMENTS

Comment.—The risks of the transport system as a whole should be analyzed.

Response.—We do not believe that such an analysis is appropriate for inclusion in the impact statement on the repository. We believe that existing regulations and regulatory processes are adequate to assure the safety of existing and proposed transport systems. The section on transportation and packaging of radioactive wastes (Sec. VI.F.) has been expanded to reference the applicable regulations of the DOT and AEC.

Comment.—Although risks attendant to repository operations are small, detailed analyses appear desirable.

Response.—As noted in Sec. VI.D. of the revised Statement, questions related to the safety of facility operations will be adequately addressed in the Conceptual Design and Safety Report, currently in preparation.

Comment.—Details on how perpetual care will be carried out is unclear.

Response.—Regulation (10 CFR 50) requires the Government to own the property on which repositories are located. The nature and extent of perpetual care will be developed in the course of determining charges to the repository users of which perpetual care will be a part.

Comment.—Data is needed on the radioactive elements of biological significance, their chemical form and solubility.

Response.—The statement has been modified (Sec. III.) to include this information.

Comment.—No evaluation is included of the possibility of accidents during transport. Conformation with DOT/AEC rules is not the only issue.

Response.—It does not appear appropriate to include in the impact statement a discussion of the adequacy of existing and internationally accepted standards regarding the shipment of radioactive wastes. As previously noted, the statement covering transportation (Sec. VI.F.) has been expanded.

Comment.—There is no discussion of the risk of spills, methods used to deal with spills or effect of spills on operations.

Response.—Discussions of potential accidents which could occur within the facility, including spills and safety systems (Sec. VI.D.) which will be employed to mitigate the consequences of potential accidents are operational considerations and will be described in the Conceptual Design and Safety Report.

Comment.—No statements are made concerning the steps that would be taken should retrieval be required . . . an objective safety program for retrieval is needed at this point.

Response.—An expanded statement covering the Commission's position on retrieval has been included in the revised document (Sec. VI.E.). However, the concepts for such plans are matters which can only be developed in the course of the design of the facility and during the demonstration phase.

Comment.—No evidence presented that radioactive materials will not intrude into the adjacent mine.

Response.—The operating American Salt Company mine workings are located approximately 1800 ft from the active repository workings. The revised Environmental Statement presents (Sec. V.B.2.c.) estimates concerning the migration of radioactive materials through solid salt. These estimates indicate that particles of solidified wastes will move at a rate less than 1/10,000 of an inch in one million years.

Comment.—Once a vault or mine area is opened up at depth, fractures in salt will not recrystallize under lithostatic pressure.

Response.—If the comment has been interpreted correctly, it would suggest that closure, collapse and subsequent recrystallization does not occur in mined out areas. This statement does not appear to be supported by available evidence. The Lyons mine is presently undergoing closure. See Section V.B.1.d. for discussion on Geophysical Impact.

Comment.—Once a hole is opened up, it will fill from the sides and top and may cause the formation of cracks along which infiltrating downward percolating waters may flow to dissolve larger cavities.

Response.—The potential for the initiation of solutional processes by various means is being evaluated as part of the ongoing site studies and has been addressed in the revised Statement (Sec. V.5.b.c.).

Comment.—The implication that estimates of the westward migration of the salt front (i.e., 5 miles in 1 million years) may not be valid for the future, considering future manmade alterations in the geohydrologic regime.

Response.—The potential for adverse alterations in the regional hydrology will be assessed as part of the ongoing site evaluation studies.

Comment.—The two most significant factors are seismic activity and the potential for groundwater contamination (after earthquake).

Response.—As noted in Sec. VI.D., the facility will be designed to maintain confinement and safe-shutdown capability in the event of an earthquake of intensity appropriate to the site. Details of the facility earthquake design criteria will be outlined in the facility Conceptual Design and Safety Report. The potential for seismic events which would compromise the integrity of the salt will be evaluated after completion of ongoing site studies. Studies carried out thus far reveal that there are no structural or stratigraphic conditions which would suggest that the site is unsuitable for the proposed use.

Comment.—No evidence is presented to support the contention that the heat effect will counteract subsidence. Since the temperature effect (i.e., thermal expansion) does not take place immediately consideration should be given to this problem, particularly as it applies to contamination of the groundwater.

Response.—The general topic of expansion, subsidence and thermal effects has been expanded in the revised statement (Sec. VI.B.1.d. and Sec. V.B.1.c.) reflecting the additional measurements which will be made to confirm these estimates.

Comment.—The possibility of groundwater contamination is of importance as is the possibility of subsidence and fracturing of the rock above the salt bed allowing waters to penetrate the salt bed.

Response.—The potential impact of subsidence and expansion has been addressed in the revised statement (Sec. V.B.1.d. and Sec. V.B.1.e.).

Comment.—There is no data presented in the Environmental Statement on the relationship of the groundwaters used as water sources for the communities of Lyons, Sterling and Chase to the groundwaters in the vicinity of the proposed site. Should these groundwaters be from the same geologic aquifers there would be a risk of not only contaminating these water supplies, but also the disruption of water supplies. This question requires resolution prior to the initiation of construction.

Response.—The portion of the Environmental Statement describing the details of the near surface aquifer systems existing at the repository site has been expanded to show the general relationship of the aquifers at the site and local groundwater supplies. Additionally, the Statement reflects the fact that there are ongoing hydrologic studies being carried out at the site to assure that there is adequate isolation of the salt from the overlying water-bearing formations. The effluent control systems (Sec. VI.D. and Sec. VIII.B.) states that there will be no liquids released from the facility and the effluent control systems which will be incorporated into the facility will prevent any significant contamination of local groundwater supplies.

Comment.—There is also need for further information on the potential effects of the future development of groundwaters on the salt beds to be employed.

Response.—As part of the site evaluation studies, the effect of future changes in groundwater use patterns or control rates will be evaluated in terms of their effect on the future stability of the salt beds.

APRIL 26, 1971.

HON. RICHARD M. NIXON,
The White House,
Washington, D.C.

DEAR MR. PRESIDENT: On June 17, 1970, the Atomic Energy Commission made public its tentative decision to locate a nuclear repository for the long-term storage of solidified radioactive waste near Lyons, Kansas.

Although a final decision has not been made on the use of this site, considerable attention has focused on the proposal in Kansas. Many Kansans question the desirability of allowing solidified high-level nuclear waste to be transported through or stored in Kansas without further scientific research into the implications of such a project for the environment and public health of Kansas citizens.

As a result of public interest, the Joint Atomic Energy Committee held two days of hearings on the Atomic Energy Commission's request to initiate land acquisition and construction of the proposed project. That Joint Committee is expected to act on the AEC's request for authorization before the end of this month and before a final environmental impact statement is filed in accordance with the National Environmental Policy Act.

I have examined the draft environmental impact statement prepared by the AEC on the project and have submitted a statement to the Joint Committee on my findings, conclusions, and recommendations. This statement is attached. Other Kansans representing the State and its scientific community have also raised questions. Some of these questions deserve answers before proceeding with land acquisition and construction of this project; all of the questions relative to the proposed Lyons, Kansas site deserve answers before the repository is placed in operation.

Scientific information supports the concept of the underground storage of radioactive wastes in salt formations as intrinsically the safest of the alternatives under consideration. My concern, however, is whether Lyons, Kansas is an appropriate site for such a repository.

A continuing review is needed of the risks attendant to the proposed repository adequate to satisfy not only the Federal Government, but the citizens of Kansas. Because this is the first such repository, and in order to insure an independent review of the available information satisfactory to both the Federal Government and the State of Kansas. I request that you appoint an advisory council composed of one representative from each of the following: Council on Environmental Quality, Environmental Protection Agency, Office of Science and Technology, and the Atomic Energy Commission, and two Kansas members. This council would examine the questions raised concerning the Lyons, Kansas site, and in the event that the project is authorized, review the land acquisition, construction, and operation of the facility. A periodic report would be provided to the President and the Congress on its findings, including recommendations for further research required to answer pending questions concerning potential public health and environmental effects.

I would appreciate early consideration of this matter.

Sincerely yours,

BOB DOLE,
U.S. Senate.

Mr. DOLE. Later, on December 1, 1970, during confirmation hearings on William D. Ruckelshaus' nomination as Administrator of the Environmental Protection Agency, he assured me that his agency would take the necessary action to help insure that this repository would not pose any dangers to either the citizens or the environment in Kansas.

In recent months, I and other members of the Kansas delegation have repeatedly raised questions on the environmental and public health implications of this project and called for more funds for research and development to resolve the remaining unanswered questions.

ENVIRONMENTAL IMPACT STATEMENT

On several occasions, I have stressed that the AEC must comply, in a satisfactory and meaningful way, with the requirements of section 102 of the National Environmental Policy Act, by conducting a thorough study of the environmental and safety implications of the proposed project in the public domain.

Following the Atomic Energy Commission's issuance of the draft environmental impact statement, I undertook to obtain an independent scientific evaluation. With the approval of Senator RANDOLPH, chairman of the Senate Public

Works Committee, the draft statement was circulated to members of the committee's scientific advisory panel, and their comments appear in the hearing record on this authorization bill. My statement on the draft environmental impact statement appears in the CONGRESSIONAL RECORD on March 19, 1971.

The advisory panel's comments included the suggestion of an alternative which has been termed the "Thermalt Process." On exploring this process, I found it was still in the developmental phase and not applicable to radioactive disposal at this time. I ask unanimous consent that a letter from Dr. Glenn Seaborg, Chairman of the AEC, on this subject, be placed in the RECORD at this point. Several basic questions were raised by the Public Works' Advisory Panel regarding the potential environmental and safety of this project, and these questions appear in the RECORD. Some of these questions, while recognized by the Atomic Energy Commission, have not been answered in the final environmental impact statement. Many of these questions, however, cannot be answered except during the design and development phases of this project. Funds for studies to answer these questions are contained in H.R. 9388.

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

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 25, 1971.

Hon. ROBERT J. DOLE,
U.S. Senate.

DEAR SENATOR DOLE: This is in response to your letter of May 4, 1971, requesting the AEC's evaluation of a new process ("Thermalt") for immobilizing radioactive wastes. By letter of April 30, Dr. Robert R. Curry of the University of Montana had suggested to you that this process, followed by storage of the wastes in basalt rock, was sufficiently promising to completely change the picture for the proposed Federal radioactive waste repository at Lyons, Kansas.

The basic ingredients of the Thermalt process are a material with a high silica content (for example, powdered basalt); a finely divided light metal (for example, powdered or scrap aluminum); and sodium nitrate and sodium carbonate. The last two ingredients, with the radioactive fission products dispersed through them, are the major constituents of the waste salt cakes which are produced in the Hanford tanks by evaporating the waste solutions. When a mixture of the Thermalt ingredients is ignited, heat is given off and the high temperature fuses the materials into a basalt-like mass. This concept has been known for some years. In fact, the heat-generating reaction is basically that of the classical "Thermite Bomb" of World War II and has been extensively used in the metallurgical industry, as in the welding of steel rails.

The Thermalt work at Hanford to date has consisted of sixteen preliminary experimental runs, in most cases using only a few pounds of the ingredients. The experiments were performed outdoors because of the potential risks from the sudden evolution of heat. No radioactivity was used. We have yet to show, even on a laboratory scale, that the evolution of heat and radioactivity can be safely controlled. Two of the fission products, cesium and ruthenium, are volatile in some chemical combinations at the high temperatures expected.

The Thermalt process was not begun to find an improved or alternate process for any of the waste solidification processes which have been developed for use of private industry by the Waste Solidification Engineering Prototype (WSEP) facility, which is coincidentally sited at Hanford. Instead, the investigation was directed to the specific potential advantages of Thermalt for waste management operations at Hanford. The chemical compatibility of Thermalt wastes with basalt might be an advantage if we should wish to store solidified wastes in caverns excavated out of the basalt beneath the site. Also, since contaminated sand or soil of the site could probably be used as the basic silica-like ingredient, Thermalt might be a way to immobilize radioactive wastes of these types generated during eventual site decommissioning.

The very low solubility of Thermalt wastes might be an advantage in some situations but is not a significant factor in salt mine storage. The basic salt concept is that the salt bed is free from water, and thus relative solubilities of stored wastes are not significant.

With regard to basalt, we have always felt that some types of deep geological formations other than bedded salt might also eventually prove to be satisfactory for long-term storage of radioactive wastes. Exploratory drilling into the basalt beneath the Hanford sites is in progress as the first step in evaluating its suitability for caverns to hold Hanford wastes. However, we have not determined that a reasonable probability exists that a basalt cavern will provide the necessary containment of the radioactive material, nor have we determined that the heat conductivity of basalt is sufficient for the thermally hotter wastes from the nuclear industry reprocessing plants.

In summary, Thermalt processing and basalt storage, either separately or as an integral concept, are not available as substitutes for present waste solidification processes and salt mine storage, nor are they intended to be substitutes. They are in very preliminary stages of development and would take some years to explore to a feasibility decision for the Hanford wastes, assuming a firm need is established. No consideration is being given to adapting Thermalt to the types of waste planned for salt mine storage. We understand that the Hanford scientists who discussed the Thermalt work at a recent symposium at the University of Montana attempted to make its preliminary nature clear, and we reget you were later given a different impression. We feel strongly that it would not be in the best interest of all concerned to interrupt the salt mine project because of these essentially unrelated developments.

With regard to Dr. Curry's reservations on the Lyons salt mine, we are preparing a revision to the draft environmental impact statement which will reflect the comments of previous reviewers, including Dr. Curry and the other members of the Advisory Panel to the Committee on Public Works. Since one of Dr. Curry's criticisms of the AEC was outside the scope of the statement, we are not responding to it in the revision; however, we would appreciate the opportunity of commenting on it in this letter. Of the ninth and tenth pages of his analysis sent to you by letter of February 16, 1971, Dr. Curry states:

"In the case of the disposal site at Arco, Idaho, upon which I have been working for some time, the government has released highly toxic and radioactive liquid wastes into the aquifer and they are already proceeding out of touch and control toward the town of Idaho Falls."

Concentrations of radioactivity in the regional groundwater table below the National Reactor Testing Station have never been found to exceed levels which are considered safe for drinking water. Furthermore, no radioactivity released from the Station has ever been detected in the groundwater beyond the NRTS boundary. In August 1970, the U.S. Public Health Service, evaluating liquid waste disposal practices at the NRTS in response to a request by Senator Church, reported that "Since there is no off-site population exposure attributable to this operation, it can be concluded that the radiation safety criteria of the Federal Radiation Council have been met." Furthermore, the aquifer is monitored, so that anything in it would not be "out of touch;" and the general direction of flow of the aquifer is not eastward, toward Idaho Falls, but southwestward. According to our records, Dr. Curry has not visited the site or communicated with site personnel, including the U.S. Geological Survey personnel stationed there.

If we can provide any further information on these subjects, or if you would like a briefing by the AEC technical staff, please let us know.

Cordially,

GLENN T. SEABORG,
Chairman.

AEC ASSURANCES

Mr. DOLE. On June 4, Mr. John A. Erlewine, Assistant General Manager for Operations of the Atomic Energy Commission, wrote and assured me that these matters will be studied during the course of the design and development of operational procedures for the proposed Lyons Repository. He further assured me that these matters will be resolved during the design and development phase, and before construction of the repository is undertaken.

The Kansas State Geological Survey contends that purchase of the land and construction of the repository should be deferred until scientific tests can be completed and the safety of the project determined to the satisfaction of the citizens of Kansas, scientists, and elected officials.

This amendment will move this project from dead center and enable measured and responsive progress to be made.

PREVENT LAND ACQUISITION

My senior colleague from Kansas (Mr. PEARSON) has joined me on this amendment which restricts the Atomic Energy Commission from initiating construction of the repository for a maximum of 3 years. This authority allows the AEC to proceed only with the design and research necessary to answer the environmental and safety questions, it will prevent the Commission from initiating any action that would be potentially detrimental to the health and safety of Kansans. It will also prevent land prices from escalating during the period required to complete the additional research.

ADVISORY COUNCIL

Another element of this amendment to protect the citizens of Kansas is of crucial importance.

Previously, because of my belief that there was a need for a continuous and independent review in the public domain of the risks attendant to this project, I asked the President to appoint an advisory council composed of representatives of interested Federal agencies and Kansas citizens.

I am pleased to note that the Joint Atomic Energy Committee, in acting on the AEC request for authorizations for this nuclear repository, has endorsed this proposal and recommended that the Council on Environmental Quality or the

Environmental Protection Agency create such an advisory council.

I still believe such an advisory council should be appointed by the President and this amendment accomplishes that purpose.

By this amendment we also preclude the AEC from taking any action other than to proceed with the design of the project and undertake research and development until a Presidentially-appointed advisory council has reported to Congress that construction and operation of the repository and transportation of waste materials to it can be accomplished safely with full protection for the public health and the quality of the environment.

This advisory council will be in a position to publicly raise questions regarding the environmental and safety implications of this project and require their resolution, not only to the satisfaction of the scientific community, but to the satisfaction of Federal, State, and local public officials and the public at large, as well.

NEW SITE MAY BE REQUIRED

Not until all interested parties are reasonably assured of the safety of this project, should operation of this project be permitted. It may very well turn out that the questions raised concerning the Lyons Site cannot be resolved within the 3 years provided by the lease, and, if so, then another site will be required.

JOINT COMMITTEE WILL REVIEW

The Joint Atomic Energy Committee has recognized the importance of proceeding with this project and answering the questions which have been raised and, for this purpose, an additional $1 million is authorized for research and development. Only $3,500,000 is provided for design and initial construction, instead of the $21,500,000 requested by the AEC. In addition to the continuing review provided by the advisory council, semiannual written reports are required on this project. The Joint Committee will have the opportunity to review all of the data on the remaining environmental and safety questions during 1973 authorization hearings.

Additional expenditures will not be authorized if research or the reports of the advisory council indicate adverse environmental or safety implications.

This position is clearly stated twice in the committee's report. If the research and demonstration program at the Lyons, Kans., site does not meet reasonable standards before commercial operations begin, the project "will be canceled and appropriate steps will be taken to safely terminate any activities undertaken prior to that decision." The amendment would require this issue to be resolved within 3 years or a new site would have to be selected.

Mr. PASTORE. Mr. President, I have discussed this matter with the two Senators from Kansas, and I think that this is a good solution to a very thorny problem. I congratulate the Senators from Kansas for the very judicious and impartial way in which they have met this tremendous responsibility. I know what they are up against, and I know that sometimes in matters of this kind emotions run high, and it is hard to deal with them. But this amendment, I understand contains an authorization which could include a lease with an option to buy, is that correct?

Mr. PEARSON. That is correct.

Mr. DOLE. That is correct.

Mr. PASTORE. Is there an option to buy included?

Mr. DOLE. The authority granted could include an option to buy which could be exercised only after the passage of 3 years from the date of enactment of this bill, and provided that certain conditions have been met. In other words, they cannot acquire the land in fee simple, or any interest in the land in excess of 3 years, to allow time for study, research, and design.

As the Senator knows, the problem is very important to the State of Kansas. One of our colleagues, Representative JOE SKUBITZ, has been especially helpful in bringing the implications of the Lyons repository to our attention.

Since we realize that there must be a repository, consistent with safety and the public interest, we are willing to accept the decision of the Joint Committee to authorize funds for research and design subject to the amendment of myself and the senior Senator from Kansas (Mr. PEARSON).

Mr. PEARSON. Mr. President, H.R. 9388, as reported by the Joint Committee on Atomic Energy, includes authorization for the acquisition and development of a national radioactive waste repository at Lyons, Kans. While the long-range need for atomic waste disposal is one of the most pressing problems of the atomic age, this proposal before the Senate today could seriously affect the people and the environment of Kansas.

It is my belief that the complex nature of this problem requires a careful and logical evaluation. Those who emotionally react to this issue render a disservice, in my opinion, to the present and future needs of our country. Accordingly, I have endeavored to study the problems involved. That study prompts me to conclude that the authorization for acquisition of a site for the Lyons, Kans., waste repository should not be approved at this time for two reasons.

First, it is important to consider the unanswered scientific questions. The wastes involved, described by the AEC in its June 1971 environmental statement, are principally high level and alpha wastes which contain "radioactive nuclides that decay so slowly as to require that they be isolated from the biosphere for thousands of years." These wastes would be packaged into containers and placed in an abandoned salt mine, which the Atomic Energy Commission argues is the safest method of permanent storage.

Despite this belief, a number of scientists have questioned the strongly held opinions of the AEC. Dr. William W. Hambleton, director of the respected Kansas Geological Survey at the University of Kansas has stated that the Atomic Energy Commission's statement fails to conform to the letter and spirit of the National Environmental Policy Act of 1969. He also states that it fails to respond to specific comments and criticism leveled at the proposal.

At least four areas highlight the uncertainty of the proposal's ultimate impact. The questions are: First, whether structural deformations—fractures in sandstone and abandoned oil and gas wells—would impair the geological integrity of the proposed site; second, whether the seal of overlying rock formations could be broken by thermal and radiological stress, thus creating vertical permeability of the wastes; third, whether storage containers would present problems of retrieval upon migration to lower depths of the salt mines; and, fourth, whether surface transportation of wastes at 350° C. from Oak Ridge, Tenn., would present hazards to surrounding areas.

These problems are tacitly admitted in both the committee report and the AEC statement. The committee, on page 28 of its report, recognizes the problems but states that the question can be explored while further steps are taken toward actual construction of the repository. The AEC is also cognizant of the problems, but "assures" the public that they can be solved once the facility is in operation. For example, the AEC posits that "retrieval would only be considered in light of an objective safety problem under circumstances which to date have not been postulated. The facility will, however, be designed so as not to preclude retrieval." No specific delineation or outline of this solution is presented.

Overall, the concerned layman cannot help but conclude that serious unanswered questions remain which could adversely affect the health and environmental well-being of both Kansans and Americans in general.

The "assurances" of the committee and the AEC lead to the second argument for withholding final legislative approval. As a matter of policy, this country has developed a disturbing tendency to authorize carte blanche authority to executive and administrative agencies. The pending Lyons project authorization does precisely that. While the committee report and AEC statement assure much, they guarantee little. The committee report, for example, emphasizes that on several occasions continued authorization for projects has been refused if justification was considered inadequate. Other statements reiterate that the project would be canceled should the research and development program at the salt mine fail to meet reasonable standards.

The practical effect of this position, however, is to retain maximum flexibility for AEC. Moreover, having committed large sums of money to this course of action, it would be difficult for Congress then to end the project. Recent experience with other technological "experiments" strongly argues for absolute guarantees of environmental safety prior to final legislative approval.

Mr. President, a recent Washington Post editorial stated that the "Nation's energy needs have been regarded too long as ones best left to the experts." Kansans, who have a long history of popular participation in government, do not wish quiet acquiescence to such ex-

perts when they feel themselves threatened by dangerous atomic wastes.

It is for the reasons I have outlined, Mr. President, that I join today with my colleague, Senator DOLE, in offering an amendment to H.R. 9388. Our amendment would provide that land could not be purchased for the construction and development of a nuclear waste facility at Lyons. Rather, funds could only be spent for a lease or easement on such land. The lease or easement could not extend beyond 3 years from date of enactment of this bill. Funds could also be used, moreover, for research and development regarding potential effects on public health and the environment, and the design of such project. Our amendment would provide assurance to the people of Kansas that all necessary research will be undertaken and that all safeguards will be implemented before funds could be used for the acquisition of land. The decision to proceed would be made at the highest level of our government, by an advisory council composed of representatives from the State of Kansas, appropriate environmental agencies, and the Atomic Energy Commission. And most importantly, these representatives would be appointed by the President of the United States.

Mr. President, I think this is a reasonable proposal. It would allow the Atomic Energy Commission to proceed with its research. But above all, it would guarantee the safety of this project to the people of Kansas.

The PRESIDING OFFICER. Do Senators yield back their remaining time?

Mr. DOLE. I yield back the remainder of my time.

Mr. PASTORE. I yield back the remainder of my time.

The PRESIDING OFFICER (Mr. FANNIN). All remaining time having been yielded back, the question is on agreeing to the amendment of the Senator from Kansas (Mr. DOLE).

The amendment was agreed to.

Mr. CURTIS. Mr. President, can the distinguished Senator from Vermont yield me 5 minutes on the bill?

Mr. AIKEN. I am glad to yield the Senator from Nebraska 5 minutes on the bill.

THE RAILROAD STRIKE

Mr. CURTIS. Mr. President, I rise to urge Congress and the President to take immediate action to end the railroad strike. Our economy has become so complex and so interdependent that this Nation can ill afford a transportation strike.

It is not right, and it is not moral, for a dispute between the few to be permitted to bring damage of an irreparable nature to the many. This railroad strike is creating havoc in many parts of Nebraska and throughout many other parts of the country. In certain sections of my State, we are still in the wheat harvest, or are still in the process of bringing the wheat harvest to market. If the railroads cannot run, the elevators cannot ship the grain, and if they cannot ship any grain out, sooner or later they cannot buy from the farmers.

Moreover, my attention was called this morning by telephone to a situation in reference to an important meatpacking concern in western Nebraska. All of their product is perishable; 80 percent of it is shipped by rail. If we have a railroad strike, these packing plants have limited storage space, so if they cannot ship their product out, they cannot operate, and they cannot provide a market for the farmers and cattle feeders of the area.

This amounts to much more than just a delay for these people, because day after day the cattle must be fed. And the cattle go out of condition if their weight goes up too much.

Mr. President, I could go on and on citing the injustice of this railroad strike, not only to farmers but to our entire economy. It should not be permitted to go on. Whatever is necessary should be done. If it is legislation, if it is action on the part of the President, I urge that it be done now.

I hope that appropriate committees will bring to this floor whatever legislation is necessary to put an end to this strike. We have done it before, and we should do it now.

Furthermore, Mr. President, I think the Congress of the United States is derelict in its duty if it does not provide some future protection against these transportation strikes. I believe the time has come when we must give consideration to a well-balanced and well-thought-out system of compulsory arbitration concerning labor-management disputes in the field of transportation.

Mr. President, our obligation as the Congress is to the general public, and the demands of no small group should be able to jeopardize and damage the interests of the many.

Mr. President, again I express the hope that the appropriate committees will bring us legislation, and that we can bring this strike to an end.

ATOMIC ENERGY COMMISSION AUTHORIZATIONS, 1972

The Senate continued with the consideration of the bill (H.R. 9388) to authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes.

Mr. GRAVEL. Mr. President, prior to calling up my next amendment, I ask unanimous consent to have printed in the RECORD a statement relative to the emergency core cooling system, and ask that it appear in connection with my previous remarks.

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

EMERGENCY CORE COOLING BUDGET

Summary: what the amendment does.
Radioactive Power Plants (general).
Failures in ECCS Mini-Model.
Consequences of failure; Brookhaven Report.
Consequences of failure; Ergen Report.
Licenses based on effective ECCS.
Initial AEC response to test failures.
AEC's later response to cooling troubles.
Counting on luck until 1975.
Description of the LOFT Facility.
Shifting the burden of proof.
Public not consulted.
Advisors reveal "urgent need" for research.
Reduction in safety research: budget.
Deficient quality control.
Reduction also in "general reactor technology".
Request for distress funds, May 13, 1971.
Moratorium on nuclear power plants.
Resumé of amendment.
Counting on emergency core cooling.
Final warning from Providence?

SUMMARY: WHAT THE AMENDMENT DOES

This amendment increases the fiscal 1972 funds specifically for nuclear safety research in emergency core cooling systems and loss-of-fluid-tests, from $12,600,000 to $14,900,000, which is the minimal amount the atomic energy commission wants.

The office of management and budget (OMB) reduced the AEC's core cooling and loss-of-fluid testing budget to only $9,900,000, which is several million dollars less than the amount requested by the AEC.

After some recent emergency core cooling experiments had produced some alarming failures, whose significance I will explain in a moment, the AEC asked OMB for an additional $5,000,000, largely for intensified emergency core cooling research (Source: Testimony by Dr. George Kavanagh, AEC Asst. Gen. Mgr. for Reactors, May 13, 1971 to JCAE).

Again the OMB cut the AEC request—this time, from $5,000,000 down to $2,700,000 new obligational authority (So stated by Rep. Chet Holifield in the hearing May 13th).

The amendment I am proposing would simply restore the $2.3 million distress funding which the OMB denied to the AEC. This money is needed urgently for work which is fundamental to the safety of American citizens in more than half our states.

RADIOACTIVE POWERPLANTS—GENERAL

The Emergency Core Cooling System (ECCS) is one of the vital "engineered safeguards" which stand between the public and the immense quantities of radioactive poison inside a nuclear power plant.

In order to appreciate the importance of the Emergency Core Cooling System (ECCS), it is necessary to appreciate the load of radioactivity inside a reactor.

A 1000-megawatt nuclear power reactor produces as much long-lived radioactivity every year as would the explosion of about 1000 Hiroshima bombs, plus enough radioactive plutonium to give 500 billion people the maximum permissible plutonium dose.

That is a fact of physics, and better engineering can not change it. That is perhaps the reason that two Supreme Court judges (Black and Douglas, 1961) have called the production of electricity with nuclear fission "the most awesome, the most deadly, the most dangerous process that man has ever conceived."

Obviously it is essential—crucial—to keep the radioactive poisons which are inside nuclear reactors from getting outside into the environment, where they can poison life for generations and even for centuries to come. The plutonium needs 24,000 years to lose half of its harmfulness. Radioactive pollutants are especially effective at causing cancer, genetic mutations, defective babies, and increases in all genetically-related diseases, which would include heart disease.

As nuclear power plants proliferate around the country, with projects already underway in 29 states plus Puerto Rico, the safety of the some major cities and large regions of the country depends on virtual human infallibility in designing these plants, manufacturing their components, constructing them, and operating them. Common human errors, and even a faulty electrical component, can put whole states and whole cities in peril.

This, then, is a super-technology—a little like the Apollo program, except that each nu-

clear machine puts many thousands of lives at stake instead of just three. I find it sobering that, even with the super-care given to the Apollo program, two out of 14 missions had serious accidents. We *have* to do better with nuclear reactors.

As Representative Chet Holifield, senior member of the Joint Committee on Atomic Energy, said last year: "The construction and operation of nuclear reactors are very, very complex, costly, and inherently highly dangerous matters" (May 21, 1970).

So far, we have been lucky, *but our luck could run out at any moment.*

We are actually licensing and operating nuclear power plants without ever having had a single large-scale test of one vital safety system called the Emergency Core Cooling System (ECCS). I doubt that most of my colleagues would endorse such recklessness if they were aware of it.

FAILURES IN ECCS MINI-MODEL

Thanks to the front-page story May 26th in the *Washington Post* and the second story May 28th, most of my colleagues may be aware for the first time that, in recent mini-scale tests on an Emergency Core Cooling model, part of the system failed. Simply *failed* in six straight tests. This, after years of assurance that computer models and component-tests should give us complete confidence that the real things will actually work. This, after years of assurance that it is perfectly safe to claim safety for real reactors on the basis of mini-scale tests.

Now we are suddenly told that the mini-scale tests are "not a fair model" of real reactors (*Nucleonics Week,* May 6, page 1) and that the results can not be extrapolated from small scale tests to real reactors conditions (*Nuc. Week,* May 6, p1).

I say that the so-called experts can not be allowed to have it both ways—they can't tell us, as long as the mini-tests are going well, that the models are appropriate and that we can safely extrapolate from small scales to big scales. And then turn around when their mini-tests backfire and tell us that they designed in appropriate models and that mini-tests bear no relation to reality anyway.

With the safety of states from coast to coast riding on the mere *assumption* that the Emergency Core Cooling System will work if it is needed, the tests in which it did NOT work may become front-page news across the country, once their significance is understood. We in Congress should not be caught ignorant.

CONSEQUENCES OF FAILURE: BROOKHAVEN

The Emergency Core Cooling System is one of the essential safety systems standing between nuclear power plants and disasters like the hypothetical one described in the AEC's 1957 Brookhaven Report—which unfortunately is not easily available to the public.

If we use the AEC's own Brookhaven Report as a basis, what shall we consider to be the maximum consequences of a single severe accident?

1. Fifteen states the size of Maryland might be contaminated radioactively (150,000 square miles); water supplies contaminated; other power plants contaminated.

2. Half a million people might need evacuation fast—radiation refuges with nowhere to go.

3. Perhaps another 3½ million people might have to have their time outdoors restricted to keep them from receiving high radiation doses.

4. There might be general panic.

5. In addition, there might be 3,000 or 4,000 people dying from acute radiation overexposure.

6. Plus another 50,000 people—especially children—dying later from radiation-induced cancer.

7. Damages in monetary measure of $7 billion or more.

The Brookhaven Report itself states that about 5% of the time, weather conditions exist which could make the consequences even worse.

The Brookhaven Report was written in 1957.

In 1965 it was reviewed, and in June, 1965, AEC Chairman Glenn Seaborg wrote to the Joint Committee on Atomic Energy that, "The likelihood of major accidents is still more remote"—due to engineered safeguards such as Emergency Core Cooling Systems—"but the consequences could be greater".

In July 1970, the AEC was still issuing that statement. Thirteen years after its one-and-only, not-very-public description of the risks of nuclear electricity, the AEC promises to update the report—starting "next year or so" according to Commissioner Clarence Larson's replies Dec. 4, 1970 to some of my questions (*Underground Uses of Nuclear Energy,* Part 2, page 1664, Hearings on S. 3042 before the Senate Subcommittee on Air and Water Pollution). Such a study is urgently needed, as I pointed out in my remarks introducing S. 1855. Whether or not the AEC can be objective about its own baby is another matter.

CONSEQUENCES: THE ERGEN REPORT

Manwhile, in 1967, the AEC Advisory Task Force on Power Reactor Emergency Cooling, under W. K. Ergen, produced a report called "Emergency Core Cooling"—the subject of the amendment I am offering.

This report, which is the most recent *comprehensive* study of the system, makes it clear that if the ECCS does not work in the way it is supposed to work, the consequences could render the other safety features—the much-touted "redundant" safety features—ineffective too. In short, containment of the radioactivity I described earlier COULD NOT BE GUARANTEED, and we could have a Brookhaven-type of accident. This was written ten years after the Brookhaven report. In 1968, the AEC's Advisory Committee on Reactor Safeguards stated its agreement with the Ergen Report. In fact, just last year, a member of the AEC's licensing board, Dr. Walter Jordan, wrote that "we can see ways it could happen" (*Physics Today,* May 1970). (ck)

I recommend the full Core Cooling Report to everyone who enjoys feeling the hair stand up on the back of his neck. Appendices 5 and 6 are especially thrilling. Although the report's introduction explicitly warns against taking anything out of context—which probably means, journalists STAY AWAY—the report is 226 pages long, and obviously I shall have to take parts out of their full context.

Appendix 5 is called "Core History Without Effective Emergency Core Cooling". The core is the nuclear part of a nuclear power plant, and this appendix tells what may happen to it if Emergency Core Cooling is needed and fails.

Emergency Core Cooling would be needed in an accident which caused the regular water to escape from the nuclear core. This accident is called a Loss of Coolant Accident, or LOCA for short and one defective weld could cause it. Fortunately, a LOCA has not yet happened and therefore the ECCS has not yet been needed.

When a LOCA does happen and if the ECCS fails to work, Appendix 5 describes what may happen in steps:

First: The nuclear core heats up.

Second: The nuclear core melts and falls as a "heap" or a "glob" at the bottom of the reactor vessel. What happens *during* the meltdown is both extremely uncertain and extremely important.

"The role of uranium and fission-product vaporization during core meltdown is presently uncertain . . . Vaporization of a few percent of the fuel . . . could have profound consequences in terms of fission product release and subsequent deposition at undesirable locations" (ECC p143).

Also, "The first effect of the core material falling into the vessel head would be to rapidly evaporate any water in the vessel. A rapid production of steam might affect the flow of core material through the grid plate and might blow molten core material up through and out of the pressure vessel" (ECC p144).

Also: "If (the less volatile) fission products are distributed throughout the containment (building), they may adversely affect the operation of the fission product removal systems and even cause containment failure" (ECC p154). In other words, they might mess up the operation of the only remaining engineered safeguards on which we are all having to bet our lives.

Third: The molten nuclear core would melt right through the metal reactor vessel in 30 minutes to two hours. "If the core were allowed to settle onto concrete, the concrete would decompose, perhaps rather violently. It would certainly not be prudent to depend on concrete which is in contact with a thick section of the core to have any structural characteristics" (ECC p210).

"The nature of the molten core and its flow behavior are unknown. Whether it would rapidly spread out into a thin layer or remain more in a heap is unknown (ECC p147).

"It seems certain that melt-through will be a catastrophic event in that large quantities of molten material will be discharged suddenly . . . A major question concerns the interaction of the molten stream with the water pool likely to be at the bottom of the containment vessel. The molten core material, in falling into a water pool, is likely to cause steam explosions . . . Our predictive ability is very limited . . . The most serious effects of such explosions might be the tendency to scatter molten core materials to higher regions of the containment wall where localized melt-through might occur. Another serious effect of localized explosion is to promote subdivision of the molten core material and increase the overall rate of the reaction of water with the metallic constituents of the molten core material. The increased production of hydrogen is the serious feature which can lead to containment failure by gradual hydrogen overpressure in spite of the successful operation of containment sprays or suppression pools." (ECC p145).

In other words, without the ECCS, the worst conceivable accident might well happen. The containment could be ruptured by melt-throughs, by stream explosions, by hydrogen explosions and overpressure—"opening the containment like a ripe mellon", someone has said.

If just 5% of the radioactive inventory escaped into the environment, we would have an accident equivalent to the one hypothesized in the Brookhaven Report. In fact, far worse. The reactor in the Brookhaven Report was postulated to be 30 miles from a major city. The AEC is in fact granting construction permits for mammoth reactors

4 miles from New London, Conn.
5 miles from Trenton, New Jersey
10 miles from Philadelphia, Penn.
12 miles from Gary, Indiana
24 miles from New York City.

Dr. Seaborg thinks someday the AEC will license them in the heart of major cities (testimony to JCAE, May 13, 1971).

LICENSES BASED ON EFFECTIVE ECCS

What is the reason for putting such "inherently complex and highly dangerous" machines closer and closer to cities? I suppose the real reason may be to make nuclear power economically competitive—transmission from a distance costs money—but the ostensible reason is the safety provided by more and more engineered gadgets—like the never-tested Emergency Core Cooling System.

Now that the effectiveness of the Emergency Core Cooling System is so uncertain, I would not be surprised if efforts were made to convince the public and Congress that Emergency Core Cooling is not so important after all. I think the Ergen report of 1967, the ACRS agreement of 1968, and the 1969 Internal Study Group Report by Mengelsdorf, demolish that line of argument. After studying these reports and other documents, Dr. Ralph Lapp concluded:

"The point to stress here is that emergency core cooling systems which may spray water into or flood the reactor core have to work within five to 10 seconds. Otherwise one is no longer dealing with a reactor core but with a glowing mass of molten and melting material for which additional cooling or preventive measures are no longer effective. Yet as one reads through the Ergen report, the phrases 'a matter of speculation' or 'it is not known' keep recurring. I have not been able to find any more recent AEC analysis of core cooling, nor have I come across any overall evaluation of nuclear safety. I therefore urge that a high-level review of reactor safety be made by some independent group such as the National Academy of Engineering, funded by the Environmental Protection Agency." (in *New Republic* series, January 23, 1971, p. 20).

In case anyone would like to argue that the ECCS lost importance between the 1967 Ergen report and today, I shall quote from the AEC's Asst. General Manager for Reactors, Dr. George Kavanagh, testifying May 13, 1971 to the JCAE:

"Heavy reliance has been put on engineered safety features such as emergency core cooling." Please note the commendable candor: "heavy reliance".

Kavanagh also explained that a loss-of-coolant-accident (LOCA) is the major accident which concerns them most, and that engineered safeguards have been figured out which "would prevent the worst conditions from taking place, largely through cooling the core by an auxiliary cooling system". Please note the admission: "largely through" emergency core cooling systems.

Kavanagh explained the urgent need for more money for emergency core cooling experiments by saying, "Some of these experiments, notably a recent series of experiments on a small device with electrically heated elements, have had results which have not been confirmatory of what the people doing those experiments thought might happen."

Kavanagh was asked by a Committee member whether the result was better or worse than expected. Kavanagh replied, "Worse. If it were better, we might not have been allowed to come up here asking for money."

INITIAL AEC RESPONSE TO TEST FAILURES

The objectivity and intellectual honesty of promoters in any field is questionable, especially when they are in serious trouble. That is human nature, and we could all be called fools by our constituents if we suppose otherwise.

It is painful to hear AEC officials, in whose hands we are all presently forced to place our very lives, trying to squirm out of the present difficulty by applying a biological argument to an engineering problem. Namely, in *Nucleonics Week* of May 6th (front page), an AEC official (unnamed) is quoted as saying, "it is absolutely amazing to me that anyone could take a bit of data among thousands of results and build up a case on it".

Now that is sound reasoning in biology and medicine. Living systems are plastic, infinitely variable, and unpredictable. Therefore if you have 1,000 studies which show a positive correlation between, for instance, smoking and heart disease, and three studies which show a negative correlation, you probably "Go" with the bulk of the data. To hear such reasoning applied to machinery—especially such dangerous machinery—is (to use the AEC phrase) "absolutely amazing to me". Desperation can do bad things to good men.

What really should amaze us is that the AEC builds up a case for effective core cooling on no data at all. I repeat: There has never been a single large-scale integrated test of the emergency core cooling system.

It will further amaze me if anyone has confidence in the AEC's latest safety claims, made on Saturday, June 19th.

AEC'S LATER RESPONSE TO COOLING TROUBLES

In the face of two reductions in nuclear powerplant safety-margins, the Atomic Energy Commission claimed (June 19th) that its newest calculations show the plants are reasonably safe anyway; at the same time, the AEC issued stricter new criteria for Emergency Core Cooling Systems which "the industry can live with".

Every safety decision which emerges from the AEC's secret internal debates already incorporates numerous moral judgments about how much safety we *should* have, as well as technical estimates about how much safety we actually *do* have.

It is imperative that the technical judgments be checked out by a team of engineers with no ax to grind, and that the moral judgments be checked out by Congress and the public. There is no justification for the present obscurity and secrecy on either score.

The AEC's announcement on June 19th was remarkable. The AEC had found unexpected reactor safety trouble—higher fuel—cladding temperatures—which means less safety. The AEC had *also* found in mini-model tests six months ago that the emergency cooling water from accumulator tanks would most probably *not* go where it was supposed to go in a nuclear power reactor during a loss-of-coolant accident—which was a real shock.

Nevertheless, the AEC's new calculations coincidentally "show" that the plants are safe enough anyway. What is enough?

The head of the AEC's task force on emergency cooling, Stephen Hanauer, of the Regulatory Division, said:

"We have always known there were large margins of safety, and now we are using them . . . (to offset the lower margin of safety) we are going to require more safety measures. If we require better pumps, that's more safety, right? If we require cooler temperatures, that's more safety, right?"

The confidence that these measures will provide safety is based entirely on calculations, not on integral demonstrations on any scale, small or larger. It is interesting that the mini-model tests which backfired have not been repeated to test the effectiveness of the new measures.

What confidence can we have in new calculations and new safety claims from the very same people who have had to admit that their last calculated margin-of-safety was wrong? For all we know, the present safety margin may really be *zero*, and the AEC may be miscalculating *again*. There are many mysteries in the behavior of large nuclear reactor cores—especially in the course of accidents.

In a few months, more small-scale loss-of-coolant tests will be performed, using a different model from the one which backfired.

As everyone knows, it is possible to design models either to be more realistic, or to be more reassuring. Which will it be? How will we know? The temptation to make the next tests successful at any cost is apparent. The AEC admitted its earlier core cooling errors only after *Nucleonics Week* broke the story on May 16th, although the AEC was aware of the problem five months earlier.

COUNTING ON LUCK UNTIL 1975

The consequences of another miscalculation on loss-of-coolant accidents would be disasterous. If such an accident occurs, the never-tested emergency core cooling system (ECCS) must work instantly and effectively.

Since there has never been a single large-scale integrated test to find out if the emergency core cooling system will work effectively, or even operate at all when needed, we have been extremely lucky that no loss-of-coolant accident has occurred yet.

It is impossible to test the emergency core cooling system under anything approaching real reactor conditions, with real nuclear fuel, until 1975. Suppose our luck runs out first? Whole regions, cities, states could be radioactively contaminated by a single severe accident, producing half a million radiation refugees, 50,000 deaths, panic from coast to coast, and an economic crisis as well. A single major accident in San Clemente, California, in Illinois, Michigan, New York, or New England, would practically bring this country to its knees.

If the Federal Aviation Agency allowed the operation of airplanes with dubious and untested emergency systems for even a few months, Congress would not stand for it. Why does Congress put up with the very same policy from the AEC, when the stakes are so much higher?

I believe Congress has simply been unaware of the policy.

However, the fact is that the facility for the integrated emergency tests is only 60% built and only 90% designed. (Source: Milton Shaw to JCAE, March 4, 1971).

DESCRIPTION OF THE LOFT FACILITY

The loss-of-fluid-test facility, known as the loft facility, is described as "the only integral test facility in the world planned to carry out a major loss-of-coolant-accident experiment in which all of the accident initiation, response, and consequence phenomena are present in one test; it is the only one which incorporates the important variables and parameters of nuclear heat, behavior, and actual fuel materials under conditions typical of current power reactors . . . (because loft is) a live reactor in an accident mode, it makes the investigators face reality".

That is the opinion of Milton Shaw, AEC's Director of Reactor Development and Technology (Source: JCAE Testimony, March 11, 1970).

The loft emergency tests will cost $100 million, and Shaw believes they are worth it. I believe he deserves our gratitude for preserving the loft program against some internal AEC and industry opposition.

It defies *my* understanding how the AEC could license a single nuclear power plant *before* such tests are done.

I knew that the AEC had not "faced reality", but I was shocked to learn from *Nucleonics Week* (May 13, 1971, p. 5) just how *far* removed from reality the AEC safety experience *really* is.

For one thing, the mini-model tests for emergency core cooling didn't even use real nuclear fuel; they used electrically heated fuel pins, and there is a big difference.

For another thing: The mini-model was only 9-inches, compared with about 172-inches for a real reactor core.

For another thing, the geometry of the mini-model may have been unrealistic.

For another thing: The number of pipes and loops on the mini-model differs from a real reactor.

What assurance do we have that the next model will be more intelligent?

Although the press has focused its attention on the mini-tests which failed, the AEC's error in estimating fuel-cladding temperatures may be even more serious. Those temperatures effect everything crucial mentioned in the Ergen report—emergency coolant behavior, fission-product behavior, and meltdown behavior.

SHIFTING THE BURDEN OF PROOF

There is a question which I do not ask frivolously: What other crucial miscalculations still lie undetected?

I believe that people who doubt the safety of nuclear power plants do not have to justify

their skepticism to the AEC. I believe anyone who wants to put a machine holding as much radioactivity as 1,000 Hiroshima bombs in our backyards, has to do the explaining.

I believe the AEC was chartered to serve the public, and not the other way around. There has been far too much self-serving secrecy from the AEC.

Nuclear power is a responsibility which Congress can no longer afford to leave to bureaucrats and businessmen conferring secretly to reach decisions "they can live with".

The AEC's soothing announcement June 19th about nuclear safety was a sure bet long before it was made. It would probably have been the end of the AEC, and of private investment in nuclear power, if the AEC had used its regulatory power to shut down nuclear power plants and deny further licenses until safety systems can be tested. Bureaucracies do not commit suicide.

Unfortunately, the AEC's statement on June 19th provides no guarantee of public safety. If the announcement provides anything at all, it provides a little safety for the financial community regarding its seventeen-billion-dollar investment in nuclear power plants. I, too, have often expressed my respect for the size of that investment, which the government encouraged and facilitated. It is possible, however, to solve nuclear safety problems with honesty and fairness to the public, as well as to investors and to atomic workers. The sooner Congress pays attention, the less it will cost.

PUBLIC NOT CONSULTED

It looks presently as if the "fairness" is lavished unevenly. Why were there no public representatives at the recent core cooling meetings between the AEC and the nuclear "vendors"? Value judgments as well as technical judgments were being made about safety, and several public groups had expressed intense and explicit interest in the subject.

The AEC announcement June 19th did not respond at all to appeals earlier this month from the businessmen for the public interest in Chicago, the Lloyd Harbor study group in Long Island, friends of the earth, the Sierra Club, zero population growth, Citizens Committee on Natural Resources, Natural Resources Defense Council, and Environmental Action, Inc.

The requests of these groups variously included shutting down eleven of the country's most dangerous nuclear power plants, denial of any more construction or operating licenses until the emergency core cooling system has had its first realistic tests with nuclear fuel, an evaluation of the AEC safety claims by an independent commission, and a shift in the burden of risk from the public onto the advocates of nuclear power.

By the time the first large-scale loft tests can be performed on the emergency core cooling system, there will be about 80 large nuclear power plants in operation, according to AEC projections. Since a severe accident at just one would affect the whole country, it is urgent to examine what is known and what is unknown about their safety. It is urgent to ask what the public considers to be an *acceptable* risk, in view of the AEC's admission that it can never guarantee complete safety from radioactive calamity.

It is important to realize that additional funds will not automatically decrease nuclear hazards, or cure the emergency cooling problem, but they are required to find out if the problems can be solved at all.

All my amendment does is provide the AEC with the distress funds it requested in order to accelerate the emergency core cooling investigation and the loft program.

Furthermore, it is important to realize that the ECCS crisis is not the only safety problem with nuclear electricity. The current flap on emergency core cooling only hints at the other unsolved safety problems with nuclear power plants.

ADVISORS REVEAL "URGENT NEED" FOR RESEARCH

Only 19 months ago (Nov. 12, 1969), the AEC's advisory committee on reactor safeguards (15 members) wrote AEC chairman Seaborg a letter with desperation in its tone. I shall read only the parts which concern light water reactors (LWR's), because that is the kind of reactor already in operation and the kind of reactor the AEC expects to license for the next twenty years. In fact, the AEC expects to license about 500 light water reactors. Their safety is vital to the health and livability of this country, for a severe accident at just one could ruin a major city and contaminate whole states.

Although the AEC has so far spent about $2 billion tax-dollars trying to develop and promote the light water reactors (testimony Milton Shaw, March 4, 1971, p. 33), it is clear from the letter I shall quote that the AEC's Advisory Committee has severe worries about their safety—especially about the mammoth reactors now receiving licenses.

"Dear Dr. Seaborg:

"The Advisory Committee on Reactor Safeguards wishes to reemphasize some previous recommendations concerning the need for safety research in several important areas in which the effort has not been sufficient. The Committee has recently been informed that overall reactor safety funding for Fiscal 1970 and 1971 will be considerably below the AEC estimates of need for the water reactor safety research program . . . As a consequence, many safety research activities have not been initiated, have been slowed, or have been terminated. The Committee reiterates its belief in the urgent need for additional research and development . . .

"In its letter to Mr. Hollingsworth (AEC Gen. Mgr.) of March 20, 1969, the ACRS stated its belief that '. . . more effort should be devoted to gaining an understanding of modes and mechanisms of fuel failure, possible propagation of fuel failure, and generation of locally high pressures if hot fuel and coolant are mixed, and that effort should commence on gaining an understanding of the various mechanisms of potential importance in describing that course of events following partial or large scale core melting, either at power or in the unlikely event of a loss-of-coolant accident.' The Committee has strongly recommended safety research of this kind several times during the last three years; the Regulatory Staff has also strongly supported such work. However, only small or modest efforts have been initiated thus far.

"In its comments of March 20, 1969, the Committee also recommended that '. . . considerable attention be given now to the potential safety questions related to large water reactors likely to be proposed for construction during the next decade. Larger cores, higher power densities, and new materials of fabrication are some of the departures from present practice likely to introduce new safety research needs or major changes in emphasis in existing needs.'

"It appears that, because of funding limitation and for other reasons, the recommendations of the ACRS will not be implemented at this time.

"The Committee is unanimous in its belief that, if the Loss of Fluid Test (LOFT) program is to be implemented, every reasonable effort must be made to accomplish it on an improved time scale (to start high temperature tests before 1975), and at a reduced cost in order to make adequate funding available for other high priority safety research. . . .

"In summary, the Committee again emphasizes the importance of safety research to the protection of the health and safety of the public, and urges that adequate funding be provided to permit timely pursuit in all high priority areas." (Source: Letter printed in AEC Authorization Hearings before JCAE, Part 3, March 11, 1970, pp. 1619–1622).

REDUCTIONS IN SAFETY RESEARCH: BUDGET

The appeal was to no avail.

AEC funding of reactor safety research over the last four years has actually declined, instead of increasing, if we consider inflation:

Fiscal 1969: $36 million appropriated (Report June 18, 69 p36).

Fiscal 1970: $38 million authorized (Report June 18, 69).

Fiscal 1971: $37.3 million authorized (Report May 11, 70 p27).

Fiscal 1972: $38.6 million we are now discussing.

The casual observer would not realize from these figures that, of the $38.6 million for fiscal 1972, only $15.9 million (approximately) is for light water reactors; the rest is for the breeders.

In the JCAE's May 11, 1970 report on the Fiscal 1971 budget request, it revealed (page 27–28) that it has been the policy of both the JCAE and the AEC to cut safety research on the light water reactors—which is the only kind which matters for the foreseeable future—and to put the money into research on the breeder reactor which might go into commercial operation 20 years from now. The JCAE added $1.3 million to the safety budget for Fiscal 1971, but said that most of it should be spent on the breeder.

"The Committee has observed that in recent years the development staff of the Commission has quite properly reduced certain efforts relating to research on light water reactors while concurrently urging that appropriate work be continued by sponsorship within the private sector of the nuclear industry. The regulatory portion of the Commission staff, in like manner, has urged that applicants for reactor licenses and manufacturers of nuclear systems undertake privately sponsored research to assure proper design and prooftesting of proposed engineered safeguards systems. The tenor of the Commission's testimony this year and, indeed, the thrust of this report, has been to underscore the importance of moving forward with this Nation's fast breeder development program in order to assure the availability of a proven commercially feasible high gain fast breeder reactor prior to the turn of the century."

It is crystal clear that we are taking risks with current nuclear power plants—national safety advertisements not withstanding—in order to push development of a breeder reactor which is decades down the road. I believe Congress has gone along with this policy out of sheer inadvertence—or bluntly, ignorance.

I think Congress should think twice, starting today, about the implications of a policy whereby safety in 29 states, where reactors exist or are under construction, depends on the AEC's success in "urging" the private nuclear industry, which is in deep financial trouble anyway to finance the safety research itself.

Obviously there is concern even within AEC ranks. In March 1970, Dr. Milton Shaw, AEC director of Reactor Development and Technology—which includes the safety program—testified as follows:

"In view of the industry position that only a minimal amount of research and development (on light water reactors) is required, such an approach would meet the intensive opposition and significant delays arising from differences of opinion as to the extent and nature of research and development required." (Authorize Hearings FY 71, p. 1375, See also p. 1341.)

In that same testimony, Milton alluded (as did the ACRS letter four months earlier) to safety research in light water reactors

which had been "closed down", "deferred", "sharply reduced", "stretched out", and "terminated" (March 70 hearings, p1338–40).

Surely we must wonder if anyone is now doing the research called "urgent" and "important" by the ACRS.

DEFICIENT QUALITY CONTROL

Unfortunately, the safety problems with nuclear electricity are not confined to research and design. Severe nuclear accidents can originate in manufacturing parts and putting them together. The frightful loss-of-coolant-accident which requires the emergency core cooling—that kind of accident can be caused by a defective weld in the pipe system.

Therefore, it should give us all pause to read Milton Shaw's testimony last year that quality assurance practices "fall far short of what is needed" (p1191–92, Mar 70) and that this country may soon be at the mercy of giant nuclear power plants built by amateurs and novices. I quote Milton Shaw again:

"There are now 71 utilities and some 20 architect-engineering firms dispersed throughout this country working on nuclear plants. Most of these personnel are trying to build the first nuclear plant they have ever built. They have to get their nuclear education with this plant" (testimony to House Appropriations Com., April 21, 1970).

Since this was all said last year, you may be hoping that some miracle has produced safety in the last 12 months.

In discussing the status of the light water reactor industry, Dr. Shaw testified on March 4, of this year.

"While much progress has been made . . . the problems of inadequate quality assurance, engineering extrapolations, lack of experienced management and other personnel, siting delays and licensing difficulties, skilled labor shortages and productivity, and late component deliveries and repairs must still be compensated for, far too often, with attendant delays, cost increases, and uncertainties.

"It is also important to note there are still too many first-of-a-kind components not being proof-tested until after installation in the plant, and there are many new features which remain to be proven out until the plants operate at full power. Moreover, only limited experience has been gained with one commercial type 800 megawatt (electrical; meaning about 270 megawatts electrical power) light water plant . . . Experience is yet to become available with many first-of-a-kind components for 800 megawatt thermal and larger size plants . . .

"Further, more and more plants going into operation will have been built by utilities and architect-engineers with limited large plant experience of any type." (pages 16–17).

It is interesting to note the contrast between such testimony and the double-page nuclear power advertisements appearing in magazines like *Time, Newsweek,* and *Look.*

REDUCTION ALSO IN "GENERAL REACTOR TECHNOLOGY"

When discussing the budget for "General Reactor Technology", Dr. Shaw testified:

"Continuing its recent budgetary trend, the GRT request for FY 1972 is $38.5 million, a decrease of $3.5 million from the FY 1971 estimate and a cumulative decrease of about $11.0 million from the FY 1969 budget level, which was the peak budget year for the program."

What does the General Reactor Technology program cover? Shaw says the AEC relies on it to provide designers with basic information on the properties and limitations of various materials "in the reactor environment", to provide the designer with basic information on the behavior of neutrons in the nuclear core, on techniques to calculate their effects, and to control the reactor, and to find and demonstrate technical feasibility of reducing radioactive effluents and improving nuclear fuel integrity, "and to uncover and hopefully correct potential problem areas before they can become real problems". (pages 62–63).

"As a result of the funding trends, many important activities previously supported have been consolidated, stretched out, or cancelled . . . The previous reductions have already required such major cuts that, no matter what choices we make, we can not avoid the curtailment of highly important work and the loss of many competent personnel." (page 64).

When Dr. Shaw comes specifically to the category called "Nuclear Safety", which includes the ECCS and LOFT research, it becomes clear that only $16 million (approx) of the $38.6 million budget will go for safety in the most urgent field: light water reactors. In order to prevent a calamity which could cost 50,000 lives and $7 billion in damages, we spend $16 million a year, while the AEC's Advisory Committee says the undone safety research is "important" and "urgent".

I am sure Congress would not endorse such a policy if even half the members were aware of it.

REQUEST FOR DISTRESS FUNDS; MAY 13, 1971

When the AEC returned to Congress on May 13, 1971 to ask for $2.7 million additional distress funds for light water reactor safety, including ECCS, I believe the decision to ask was fueled by sheer desperation—for no one expects a friendly reception from the Committee which thinks it has wrapped up its budget hearings weeks earlier.

On May 13th, Milton Shaw's boss, Dr. George Kavanagh testified. He is AEC Asst. Gen. Mgr. for Reactors. He was asked by a new member of the JCAE (Sen. Baker) what level of funding would be sufficient to accomplish the safety projects which had been reduced and cancelled outright by previous budget cuts.

To everyone's horror, no doubt, Dr. Kavanagh blurted out, "We are asking for $2 million. If you ask me what my personal view is, I think we could use $30 or $40 million, but that is not what we are in for. $2 million would be very helpful . . . These are important experiments".

It may be argued that Dr. Shaw and Dr. Kavanagh want funds just to increase their empire. I doubt this, because I believe it takes some courage to present testimony in direct conflict with the announced policy of the Office of Management and Budget and the JCAE.

We may all end up wishing they had just enough additional courage to do what the Federal Aviation Admin. and the air controllers have done: they ground all planes of a single type when a defect is observed in just a few, and they walk off the job rather than allow dangerous air traffic conditions to continue indefinitely. Perhaps it will come to something like that in the AEC ranks over the Emergency Core Cooling debacle and other safety problems.

All members of Congress will be held responsible, too, for it *is* our responsibility to pay attention to the potential and unprecedented risks of nuclear electricity.

Fortunately, nuclear power today is providing only 2% of the country's electricity. Congress owes it to the country to consider the safety implications before the economy grows dependent on nuclear energy—what AEC Chairman Seaborg refers to as "the plutonium economy of the future".

MORATORIUM ON NUCLEAR POWER PLANTS

A moratorium on nuclear electricity would provide time-out for serious and urgent consideration of safety by several committees of Congress, for a single serious nuclear accident would involve air and water pollution on a tragic scale, contamination of the ocean, agriculture health, the economy, employment, insurance, banking, the Federal Power Commission, fuels, transportation, government operations, defense, consumer rights, constitutional rights, and even foreign relations.

In view of the serious doubts about the effectiveness of one of the vital nuclear safety systems, Congress has more reason than ever to consider declaring a moratorium from coast to coast on the operation and construction of nuclear power plants—especially next to earthquake faults.

Moratorium legislation has already been proposed in Minnesota and Oregon and New York City.

In California, where one out of every ten Americans lives, the issue is being submitted directly to the voters, in a citizens' initiative measure on the June 1972 ballot. A year from now, Californians will vote on an environmental initiative which includes a five-year moratorium on the construction of nuclear power plants in California.

It is ominous to note that the reactor already operating at San Onofre, California, is one which the AEC named on June 19th as requiring extensive improvements on its emergency core cooling system.

It is even more ominous to note that just a small 4.0 earthquake on June 21, a couple of hundred miles *away* from San Onofre, sloshed water out of the Western White House swimming pool which is located only 2½ miles from the San Onofre reactor.

No one can be sure if the San Onofre reactors can withstand an earthquake in San Clemente itself. Calculations prove nothing. After all, bridges engineered and calculated to be earthquake-proof, collapsed in the Los Angeles quake last February.

A falling bridge may kill 50 people on the highway. A reactor out of control may kill 50,000 people. If just 1 percent of the long-lived radioactivity inside escapes, that is equivalent to the long-lived radioactivity of ten Hiroshima bombs.

I do not mean to pick on California reactors in particular. No one knows if the Trojan Reactor near Portland, Oregon, can withstand an earthquake either. That one is under construction only 4.7 miles from an earthquake fault.

Although I believe that Congress must no longer ignore the need for a nuclear moratorium in this country, the amendment I am proposing at this time does *not* include a moratorium provision—nor will the passage of my amendment magically make nuclear power safe. Far from it. As I have tried to point out, emergency core cooling is just one problem among many.

RÉSUMÉ OF THE AMENDMENT

The amendment we have under consideration proposes a minor addition—$2.3 million—to just one of the safety programs which should have been completed before nuclear power plants were ever licensed at all.

It proposes more funds for just one of several essential safety studies which should be continued and completed during a moratorium.

It proposes more funds for just one essential safety program which is even more urgently needed in the *absence* of a moratorium today.

It proposes to restore the funds which the AEC itself has been almost begging for.

It represents a tiny step in the direction of substitution knowledge for dumb luck.

In our human arrogance, we have pushed a program of nuclear electricity which produces enough radioactivity every year to poison the planet permanently, and we have pushed it *before* we figured out if we can ever make it safe.

COUNTING ON EMERGENCY CORE COOLING

Let us not fool ourselves. Nuclear promoters from coast to coast are absolutely *counting* on emergency core cooling systems working.

For instance, Portland Gas and Electric widely advertises the safety of its proposed

"Trojan" plant—and the small print in unpublished reports says *providing* the emergency core cooling works fast and constantly.

Scientists from the AEC's Brookhaven National Laboratory, who are pushing in favor of the license for the giant Shoreham plant on Long Island, are definitely counting on effective emergency core cooling. I would like to quote from their testimony at the license hearing, because their faith is classic:

"The emergency core cooling systems previously described will start . . . emergency cooling must start at once and continue . . . emergency core cooling systems will function . . ." (Source: Testimony August 31, 1970 by T. V. Sheehan for the Suffolk Scientists in the Matter of the Long Island Lighting Co., Docket No. 50-322 license application).

I wish there were a real basis for their confidence—at the very least, *one* successful demonstration—since about half a million people will be living in the vicinity of that reactor. Unless, of course, the existence of the reactor *reverses* the growth curve in Suffolk county.

Everyone is counting on the emergency core cooling system to work when it is needed.

If the loss of fluid tests (LOFT) show it will *not* work, nuclear power will immediately be known as an investment scandal as well as a moral outrage.

Is it any wonder that some people in the AEC and in industry oppose the LOFT program? Is it any surprise that there have been some efforts to cut the LOFT budget and delay the moment of truth as long as possible?

I am *not* impugning the honor of everyone in the AEC or in industry. But I am also not so naive that I imagine there are *no* unscrupulous men at large in the world. It is blazingly clear that we must not allow such people to take over any part of the most dangerous process known to man—nuclear fission. And I am warning that we do not even know the *names*, much less the character, of the men who are really wielding the influence in nuclear safety decisions.

FINAL WARNING FROM PROVIDENCE?

Our luck so far with nuclear power plants is no basis for confidence in nuclear safety. *Most* accidents are preceded by a whole string of successes, and we do not even have much of a string yet.

Perhaps the recent results of the emergency core cooling mini-tests and the fuel-cladding calculations are the final warnings which Providence will offer us before a major radioactive calamity.

I solemnly urge you to heed those warnings in the love of this country, and to take the first step today by passing this amendment for some accelerated safety research.

This is not just the request of a nuclear critic. Please remember: *This funding is the request of the AEC itself.*

If there is any reason to deny these funds, let us hear it now. (Otherwise, roll-call vote).

Ending Secrecy in Nuclear Safety Decisions

(Statement by Senator Mike Gravel)

Polls and mail-counts show that the American public is fed up with secrecy from a government "of the people, by the people, and for the people."

I contend that secrecy extends dangerously into policy decisions within the Atomic Energy Commission, and that these decisions are putting this great country at the mercy of untested, experimental nuclear power plants, each containing about as much long-lived radioactivity in its core as 1,000 Hiroshima bombs.

When an agency of Government puts that kind of load above ground near our cities from coast to coast, it is up to that agency to try explaining its policy—not up to the public to justify its fears. However, the opposite situation presently exists. Closed and secret meetings between AEC bureaucrats and nuclear businessmen are held—no public or environmentalists or consumer groups invited—and then nuclear safety-policies which "the industry can live with" are announced.

TIME TO EXAMINE DECISIONS

Such an announcement was made by the AEC on June 19th. I believe it deserves the closest possible scrutiny by Congress *before* the AEC budget bill for fiscal 1972 comes winging along. For fiscal 1972, the AEC will be asking Congress to dedicate another half-billion tax-dollars to subsidizing and promoting nuclear electricity—a program which has already gobbled up three billion tax-dollars, a program which has produced 21 machines which boil water, a program which is already producing as much undisposable radioactive by-product every year as all the Russian, American, and British atmospheric bomb-tests combined. The difference is that in the civilian nuclear power program, every effort is made to keep the radioactive poisons contained, whereas the bomb tests blew them all over the northern hemisphere as fallout.

The crucial question is this: Can man *succeed* in containing the enormous annual production of radioactive pollutants in nuclear power plants? In view of the quantity, does even 99.99% success produce an ecological disaster? Is it realistic, or even rational, to rely on 99.99% success in any human activity?

CONGRESS OPERATING WITHOUT BASIC INFORMATION

I suggest that it is time to wonder why Congress has never been given an "Environmental 102 Statement" describing the radioactive hazards of the civilian nuclear power program, as required under the National Environmental Policy Act. Neither is there any hazards-analysis prepared independently from the AEC.

Accidents are one of the great hazards of these great water-boiling machines. A single major accident at a nuclear power plant in San Clemente, California, in Illinois, Michigan, New York, or New England, could cause a disruption which would practically bring this country to its knees—not only economically and militarily, but also in terms of public rage.

CONGRESS UNPREPARED FOR PUBLIC RAGE

Suppose there is an accident releasing just 5% of the radioactivity inside a nuclear power plant—and AEC experts have said repeatedly that this possibility can not be ruled out. That kind of accident would poison the population with radioactive contaminants (not explosives) equivalent to about fifty Hiroshima bombs.

The public would be demanding to know why their Representatives in Congress allowed such machines ever to be built above ground in the first place. I contend that people would be extremely slow to forgive the radioactive contamination of their land. According to the AEC, a single severe accident might contaminate 150,000 square miles—which is an area 350 miles to a side. That's Manhattan to Portland, Maine. That's Cleveland almost to Baltimore. That's Chicago past Detroit. That's San Diego to Phoenix, Arizona.

The AEC has never, and can never, guarantee nuclear power plant safety. The AEC swears it is doing the best job man knows how to do, and it hopes that it will be good enough. Does anyone believe that good intentions cancel out common human errors? One defective welding joint, undetected in the piping system of a nuclear power plant, might lead to the kind of calamity I have just described—good intentions notwithstanding.

When the stakes are so high, it is imperative to understand the kind of safety judgments being announced by the AEC.

SECRET JUDGMENTS—TECHNICAL AND MORAL

Every safety decision which emerges from the AEC's secret internal debates already incorporates numerous moral judgments about how much safety we need to have, as well as technical estimates about how much safety we actually do have.

It is imperative that the technical judgments be checked out by a team of engineers with no ax to grind, and that the moral judgments be checked out by Congress and the public. There is no justification for the present obscurity and secrecy on either score.

That is why I am calling for "the nuclear debates of 1972"—a proposal which I shall describe at the close of these remarks. The need for such debates is illustrated by the method and content of the AEC's most recent safety-decision.

WHAT "INDUSTRY CAN LIVE WITH"

In the face of two, recently-revealed *reductions* in nuclear power-plant safety-margins, the Atomic Energy Commission claimed at a press conference June 19th that its brand new calculations show the plants are safe enough *anyway*.

At the same time, the AEC issued somewhat stricter criteria for emergency core cooling systems. According to Harold Price, AEC Director of Regulation, "the (nuclear) vendors believe our criteria are conservative, but they can live with them."

What "industry can live with" is not always a healthy omen for public safety, as consumers know. For instance, according to the *Washington Post* July 5th, an estimated 4,000 people *burn* to death in this country each year because the textile industry and the Commerce Department have trouble "living with" less flammable fabrics.

There are many additional examples which justify public and congressional skepticism about all safety-regulations which are worked out between Government and industry at secret sessions from which public representatives are excluded.

The AEC's newest *public safety* claim was constructed at closed, exclusive, definitely *un*public meetings, in spite of intense and explicit interest expressed by several public groups which I shall describe later.

Therefore, there is reason to approach the AEC's new safety claim with skepticism. Even without prior doubt, the claim itself is quite capable of creating uneasiness in Congress and elsewhere. The situation boils down to this, I see it:

EYEWASH INSTEAD OF SAFETY?

The AEC discovered unexpected reactor safety trouble—higher fuel-cladding temperatures—which means less safety. The AEC had also found in mini-scale tests six months ago that the emergency cooling water from accumulator tanks would most probably *not* go where it was supposed to go in a nuclear power reactor during a loss-of-coolant emergency—which was a real shock.

The two discoveries meant that reactors had been licensed on false safety assumptions, and their operation might be subject to challenge in court—which is still a possibility, for months, the AEC kept quiet about the safety problems.

But on May 6th, *Nucleonics Week* broke the story.

Six weeks later, to no one's surprise, the AEC announced that everything is OK again.

Since nuclear reactors are exactly the same machines as they were *before* the two safety problems were discovered, the mind boggles. If the machines did not change, what had the wonderful power to cancel out both safety problems?

The answer is essentially *"nothing"*.

The older nuclear power plants, like the

one near the western White House, are allowed three *years* to install better pumps and other equipment; meanwhile, nothing has changed except the frequency of inspections. In other words, since they may not be able to cope with breaking pipes after all, they will try harder to prevent breaks.

The newer plants are alleged to be safe enough *in spite of* the two reductions in safety; only "minor modifications in operating procedures" will be required.

How can this do-nothing policy be reconciled with public safety?

USING UP SAFETY MARGINS

The head of the AEC's task force on these problems, Stephen Hanauer of the regulatory division, said:

"We have always known there were large margins of safety, and now we are using them . . . (to offset the new reductions in safety) we are going to require more safety measures. If we require better pumps, that's more safety, right? If we require cooler temperatures, that's more safety, right?"

It is possible that the safety-margin he is using up may be imaginery, non-existent. There is no way for anyone—inside or outside the AEC—to be sure at this time. We only know that the AEC thought it had a large margin of safety, and then discovered it did not. There can be a real difference between what people calculate to be a margin of safety, and the margin of safety *really* in the system. One margin is in the head, and the other is in the machinery.

Confusion is generated by Hanauer's phrase "more safety", because Hanauer is definitely *not* claiming that the country is safe in spite of nuclear power plants.

Webster defines "safe" to mean "free from damage, danger, or injury . . . involving no risk . . . unable to cause trouble or damage."

In contrast, when the ABC licenses a nuclear power plant, it claims only that there is "reasonable assurance" that it will not cause "undue risk to the health and safety of the public".

UNSPECIFIED MORAL ASSUMPTIONS

I find it outrageous that the AEC never honors us with an explanation of what it considers "reasonable" or "undue". Although the AEC exercises life-and-death powers over this country, we are left to guess at the AEC's philosophical premises about the value of a human life, and about how much safety we *need*.

It is definitely *not* reassuring to consider the AEC's history, or to hear AEC officials defend nuclear risks by pointing to *other* grotesque hazards. By now, the routine is familiar to all nuclear critics. Nuclear promoters ask why we pick on *them* when there are also CBW stockpiles, highway fatalities, deaths from fossil-fuel pollution, and callous abuse of life in quite a variety of ways.

It is morally bankrupt, in my opinion, to try justifying a new outrage by pointing to other outrages. That kind of mentality could excuse the whole Vietnam War by saying that more Americans are killed on the highways every year than were ever killed in Vietnam. Likewise, the use of flammable fabrics in baby clothes could be justified by the existence of unlocked household medicine cabinets, if more children are poisoned at home than burned. I believe the public is sick and tired of that kind of reasoning in its government. Yet we hear it often from the AEC.

A BIZARRE SITUATION

What is happening in nuclear safety should give pause to every public representative in Congress—for nuclear reactors are underway in 28 States already, and public concern is growing fast. The situation is bizarre, to say the least:

The AEC fails to announce major safety miscalculations already incorporated into the licenses of nuclear power plants; at risk are whole regions of this country.

When the story hits the press anyway, the AEC fails to consult with public groups who express their concern.

The AEC announces that the problems are serious enough to delay several new licensing procedures.

Six weeks later, the AEC announces it has figured out a solution:

1. Declare safety again.
2. Appear to be tough on industry.
3. But don't require any real changes.
4. Continue business as usual.

CONTEMPT FOR PUBLIC INTELLIGENCE

What is even queerer is the AEC's apparent assumption that the public and Congress are too dumb to comprehend this maneuver. The AEC displayed its contempt for the public and Congress in additional ways:

By reaching decisions on *public* safety in *secret* meetings.

By failing to reveal the names of the people inside and outside the AEC who actually influenced the decisions—leaving the public to wonder about their technical competence, philosophical assumptions, and disagreements.

By ignoring explicit appeals and input from various public groups.

By failing to sort out the technical and ethical premises for the new declaration of adequate safety.

On the technical side, for instance, Harold Price's statement on June 19th left much to the imagination. After stating that the AEC now assumes one part of the emergency core cooling system will *not* work effectively during the "blowdown" phase of a coolant accident, Mr. Price continued as follows:

"After the blowdown, we assume that the *rest* of the accumulator water goes where it is *supposed* to go, and then the pumps work."

In view of the failure of the accumulator water even to get into the reactor core *during* blowdown, it is natural to wonder, what basis is there for the AEC's enduring faith that "the rest of the water will go where it is supposed to go"?

FAILURE TO TRY TESTS AGAIN

The AEC's confidence turns out to be based entirely on calculations, not on any realistic demonstrations, small or large. It is interesting that the mini-model demonstrations which failed have *not* been repeated to test the effectiveness of the AEC's "minor modifications".

What confidence can we have in new calculations and new safety claims from the very same people who have had to admit that their last calculated margin-of-safety was *wrong*? For all we know, the present safety margin may really be zero, and the AEC may be miscalculating again. There are many mysteries in the behavior of large nuclear power cores—especially in the course of accidents.

In a few months, more small-scale loss-of-coolant tests will be performed, using a different model from the one which backfired.

As everyone knows, it is possible to design models either to be more realistic, or to be more reassuring. Which will it be? How will we know?

The temptation to make the next tests successful at any cost is apparent. There is little comfort in the fact that the AEC made a public statement about its earlier core cooling errors only after *Nucleonics Week* broke the story, although the AEC was aware of the problems five months earlier.

WHO IS PREVAILING?

While I am not impugning the honor of everyone in the AEC, I am also not naive enough to imagine that the AEC is miraculously and singularly spared the influence of *any* unscrupulous individuals. It is quite proper to demand to know who is prevailing in any particular public safety decision. I object to the secrecy involved in such decision-making.

The AEC's announcement on emergency core cooling criteria probably conceals a great deal of dissent and worry about public safety within the AEC. I believe the country would accord dissenters the deepest respect if they spoke out now, instead of too late.

The stakes involved in nuclear safety are too high to accept secrecy, or bury dissent. The consequences of another AEC error on loss-of-coolant phenomena could be disastrous.

If such an accident occurs, the never-tested emergency core cooling system must work instantly and continuously. Otherwise, the consequence from one accident could be radioactive contamination reaching major cities and water supplies, half a million radiation refugees, 50,000 deaths, panic and rage from coast to coast, and an economic crisis as well.

RIDING ON LUCK

Since there has never been a single large-scale integrated test to find out if the emergency core cooling system will work effectively, or even operate at all when it is needed, we have been extremely lucky that no loss-of-coolant accident has occurred yet.

It is impossible to test the emergency core cooling system under anything approaching real operating condititons, with real nuclear fuel, until 1975. Suppose our luck runs out before 1975, and a loss-of-coolant accident occurs during the next four years?

INCONSISTENCY

If the Federal Aviation Agency allowed the operation of airplanes with dubious and untested emergency systems for even a few months, Congress would not stand for it. Why does Congress put up with the very same policy from the AEC, when the stakes are so much higher?

I believe Congress has simply been unaware of the policy. I believe Congress is also unaware of the budget cuts in AEC safety research.

Mr. President, I ask unanimous consent to have an article on this matter entitled "Nuclear Reactor Safety" by Robert Gillette in *Science* magazine, July 9th, printed at the end of my remarks.

Nuclear safety is a matter of growing concern to many committees of Congress, since a single serious accident would involve air and water pollution on a tragic scale, contamination of the ocean, agriculture, health, the economy, employment, insurance, banking, the Federal Power Commission, fuels, transportation, government operations, defense, consumer rights, constitutional rights, and even foreign relations.

AVOIDING BUREAUCRATIC SUICIDE

Nuclear safety is a responsibility which Congress can no longer afford to leave to bureaucrats and businessmen, conferring secretly to reach decisions "they can live with." The AEC's soothing announcement June 19th about nuclear safety was a sure bet long before it was made. It would probably have been the end of the AEC and of private investment in nuclear power if the AEC had used its regulatory power to shut down nuclear power plants and deny further licenses until safety systems can be tested. Bureaucracies do not commit suicide.

Unfortunately, the AEC's statement June 19th provides no guarantee of safety. If the announcement provides anything at all, it provides a little safety for the financial community regarding its seventeen billion-dollar investment in nuclear power plants. I, too, have often expressed by respect for the size of that investment, which the Government encouraged and facilitated. It is possible, however, to solve nuclear safety problems with honesty and fairness to the public, as well as to investors and to atomic workers. The sooner Congress pays attention, the less it will cost.

UNEVEN FAIRNESS: PUBLIC APPEALS

It looks presently as if the "fairness" is lavished unevenly. Why were there no pub-

lic representatives at the recent core cooling meetings between the AEC and the nuclear "vendors"? Value judgments as well as technical judgments were being made, and several public groups had expressed intense and explicit interest in the subject.

The AEC announcement did not respond at all to earlier appeals from the businessmen for the public interest in Chicago, the Lloyd Harbor Study Group in Long Island, Friends of the Earth, the Sierra Club, Zero Population Growth, Citizens Committee on Natural Resources, Natural Resources Defense Council, and Environmental Action, Inc.

The requests of these groups variously included shutting down eleven of the country's twenty-one operating nuclear power plants, denial of any more construction or operating licenses until the emergency core cooling system has had its first large-scale tests with real nuclear fuel in 1975, an evaluation of AEC safety claims by an independent commission, and a shift in the burden of risk from the public onto the advocates of nuclear power.

Congressional committees have not yet provided any opportunity for the public to testify on what kinds of risks are acceptable to it, although six months have passed since the reduced safety margin in nuclear power plants was known to the AEC.

Mr. President, I therefore ask unanimous consent that the following material be printed at the end of my remarks:

1. Letter June 3, 1971, from David D. Comey, Businessmen for the Public Interest, to AEC Chairman Glenn Seaborg.

2. Letter June 2, 1971, from Friends of the Earth, Sierra Club, Zero Population Growth, Citizens Committee on Natural Resources, Natural Resources Defense Council, Environmental Action, Inc., to President Richard Nixon.

3. Letter June 3, 1971, from William P. Carl, Lloyd Harbor Study Group, to AEC Chairman Glenn Seaborg.

4. Telegram from Steve J. Gadler (P.E.), member of the Minnesota Pollution Control Agency, to AEC Chairman Glenn Seaborg.

5. Draft report June 3, 1971, by David D. Comey, "Emergency Core Cooling Systems."

6. Article called "Safety," by Dr. Ralph E. Lapp, from the *New Republic*, January 23, 1971.

7. List denoting locations of 114 nuclear power plants presently operating, under construction, or planned, according to the AEC, March 31, 1971.

THE NUCLEAR DEBATES OF 1972: A PROPOSAL

By the time the first large-scale tests can be performed on the emergency core cooling system with a real nuclear core, there will be about eighty large nuclear power plants already in operation, according to AEC projections. Since a severe accident at just one would affect the whole country, it is urgent to examine what is known and unknown about their safety.

Therefore, I am proposing "The Nuclear Debates of 1972".

It surely falls within human ability—providing the goodwill is there—to find a way by which the scientific community, in full public view, can calmly examine together the evidence, the assumptions, and the conclusions which comprise the risk-estimates from nuclear power.

I propose that Congress this session appropriate to the Atomic Energy Commission an amount equal to 1% of the AEC's proposed budget this year for nuclear power. Just 1%. That would be about $4 million.

I propose that Congress direct the Commission to execute an intensive one-year investigation of the engineering and biological hazards with regard to nuclear power, and that the investigation end with public debates between advocates and critics before unbiased scientific juries.

Since nuclear engineers and radiation biologists have an absolutely natural tendency to promote nuclear power, where shall the investigators turn for the opposite bias?

It is obviously time to fund some non-nuclear engineers and some non-atomic biologists to challenge all the nuclear safety assertions offered to the public, to take a fresh and deliberately skeptical look at nuclear electricity, and to analyze the basis for the contradictory claims with regard to nuclear hazards.

And the public must be allowed to present questions to these investigators, and the investigators must find answers.

I propose that Congress appropriate $1 million for the engineering inquiry, and $1 million for the biological inquiry.

No one can possibly argue that this plan would leave the Government financing only the negative side of the nuclear picture. The Government supports gung-ho nuclear promoters with some hundreds of millions of dollars year after year. My proposal is an extremely modest one by comparison.

The investigators and their consultants may publish reports, raise questions, and issue statements with the same freedom enjoyed by nuclear engineers and radiation biologists. Public discussion shall be encouraged.

Within one year after enactment of this proposal, the investigators shall issue initial conclusions. The investigators and their consultants shall be required to defend their hazard claims in public debate with nuclear engineers and radiation biologists, who, in turn, shall be required to defend their own safety claims. Such debates shall take place publicly before juries of non-nuclear scientists selected with the unanimous consent of advocates on all sides.

The debate format would be approximately this:

Three sessions would be held, each approximately a month apart.

In the first session, the advocates and jurors would discuss which information, data, experiments, and papers they agree to evaluate. The jurors would hear and participate in the arguments, and if there were disagreements, the jurors would make the final decision. All participants would have unrestricted access to the data.

In the second session, the same procedure would be used to decide what assumptions would be applied to the data.

In the third session, each advocate would present his risk-estimates based on applying the agreed assumptions to the agreed data.

In all sessions, questions and cross-examination mutually between the advocates and the jurors would proceed freely and with minimal formality. The motto would be one which has recently been ignored:

"Science is the search for truth—it is not a game in which one tries to beat his opponent, to do harm to others" (Linus Pauling).

After the discussions, the jurors would openly deliberate and publicly announce their estimates of the size of the worst nuclear accidents which could happen, the biological damage from such accidents, and the likelihood of occurrence. Degrees of uncertainty and areas of ignorance would be described, and dissent (if any) among the jurors would be summarized.

I propose that Congress appropriate $500,000 for conducting the engineering debate, and $500,000 for conducting the biological debate.

Uncertainty about the emergency core cooling system is not the only uncertainty in nuclear power safety—it simply is the one recently in the news. It is preposterous for a great nation to be on the brink of committing itself to a "plutonium economy", as AEC Chairman Glenn Seaborg calls it, without honest open debate about the size of the concomitant hazards.

DISSOLVING SECRECY

The technical debates I propose would dissolve the secrecy and surely clarify the presently contradictory claims about how much safety we really have.

How much safety we want to have, how much nuclear risk we should leave for future generations, are not technical matters, they are moral matters which require separate discussion—and not in secrecy either.

The entire thrust of my effort is to stop nuclear power *long enough* for people here and around the world to understand what kind of a gamble is going on, and to participate in the decisions.

An issue like nuclear electricity, whose undisposable radioactive legacy will affect the next 50 generations as well as our own, deserves at least as much consideration as the supersonic transport and the Vietnam War.

BUSINESSMEN FOR THE PUBLIC INTEREST,
Chicago, Ill., June 3, 1971.

Dr. GLENN SEABORG,
Chairman, U.S. Atomic Energy Commission, Washington, D.C.

DEAR DR. SEABORG: We have reviewed the Idaho Nuclear Safety Reports on Tests 845–850 of the Semiscale Blowdown and ECC Project, and have compared them with the Water Reactor Safety Program Plan and other AEC documents.

Warnings that ECC water might bypass the core and be blown out the primary system break appear explicitly at page 90 of the Ergen report, page 49 of NSIC–24, and pages 2, 19 and 20 of IN–1384. Moreover, the Leidenfrost effect is a well-known phenomenon in two-phase flow theory.

In view of the fact that the tests verified the accuracy of these test objectives, we feel that the Commission is wrong in regarding the test results as "surprising" or "unexpected."

We are particularly disturbed by an AEC press release, dated May 28, 1971, which attempts to denigrate the tests by saying:

"The recent small mock-up tests at NRTS were not designed to represent the response of an actual operating nuclear power plant to a loss of coolant accident. There were significant differences in the experimental system which was tested as compared to an operating reactor."

In view of the fact that the blowdown test data from that same facility has been used to support license applications, we do not see how the Commission can have its cake and eat it too. Either the facility does "closely model commercial plant. ECC systems (page 27 of IN–1384), in which case the ECC systems on commercial PWR's do not work, or the test results on blowdown used in previous license applications must be cast out and the matter remanded for *de novo* consideration, which would entail holding new hearings on those license applications.

In view of the crucial nature of this problem, we believe the only prudent course for the Commission to follow, in addition to its expressed intention to hold up licensing new plants, would be to suspend the licenses, until the ECC system has been experimentally verified, of the reactors named on the attached list.

We ask the Commission to suspend these licenses on the grounds that the assurance of no undue risk to the public health and safety demands that no other course be followed by the Commission.

Sincerely,

DAVID DINSMORE COMEY.

OPERATING LICENSES TO BE SUSPENDED

Name of Plant, Location, and Operator:

Connecticut Yankee, Haddam Neck, CT, Connecticut Yankee Atomic Power Co.

Dresden 2 3, Grundy County, IL, Commonwealth Edison Co.

Ginna, Ontario, NY, Rochester Gas and Electric Co.

Monticello, Monticello, MN, Northern States Power Co.

Millstone 1, Millstone Point, CT, Connecticut Light and Power Co.

Nine Mile Point, Oswego, NY, Niagara Mohawk Power Co.

Oyster Creek, Oyster Creek, NJ, Jersey Central Power and Light Co.

Point Beach 1, Two Creeks, WI, Wisconsin Electric Power Co.

Robinson 2, Hartsville, SC, Carolina Power and Light Co.

San Onofre, Camp Pendleton, CA, Southern California Edison Co.

NOTE: These eleven reactors have a net generating capacity totalling 6080 megawatts.

FRIENDS OF THE EARTH,
Washington, D.C., June 2, 1971.

THE PRESIDENT,
The White House,
Washington, D.C.

DEAR MR. PRESIDENT: In light of recent evidence collected by the Atomic Energy Commission, it appears that key safety systems involving nuclear power plants are not adequate to protect the health and safety of citizens of the United States, particularly those citizens residing near the large power plants. We urge you to initiate a full-scale investigation of this matter by an independent commission, drawing upon the staff of the Council on Environmental Quality and the Office of Emergency Preparedness, and providing for public hearings. In addition, we offer the following evidence of the gravity of this problem and some suggestions for its alleviation.

On April 29, 1971, AEC Chairman Glenn T. Seaborg notified the Joint Committee on Atomic Energy that, ". . . some problems have been encountered during construction, pre-operational testing and early operation which indicate the need for a more rigorous effort in this area [reactor safety]."

Dr. Seaborg added: "One of the engineered safety features provided on current nuclear power plants to mitigate the consequences of postulated loss-of-coolant accidents is redundant emergency core cooling systems (ECCS). The use of recently developed, improved techniques for calculating fuel cladding temperatures following postulated loss-of-coolant accidents, and the results of recent preliminary safety research experiments have indicated that the predicted margins in ECCS performance may not be as large as those predicted previously."

Dr. Seaborg concluded his letter to the Joint Committee on Atomic Energy by assuring the Committee that a senior AEC Task Force is currently investigating the question of emergency core cooling performance, and by noting that, "pending completion of this review, we anticipate that there will be delays in the licensing of some plants now under consideration."

Dr. Seaborg's reference to the "preliminary safety research experiments" refers to tests of emergency core cooling systems in simulated reactor models conducted under AEC auspices at the National Reactor Testing Station, Idaho Falls, Idaho, in November and December, 1970. In a series of six experiments designed to test this essential reactor safety system, results indicated that 90 per cent of the emergency cooling water failed to enter the simulated reactor vessel (due to steam pressure build-up) under loss-of-coolant accident conditions. The experiments conclusively show, at least to the extent of present knowledge of such postulated accident conditions, that the essential emergency core cooling systems do not work.

The seriousness of this set of experiments may be judged by considering what would happen in actual nuclear power plant operation if such a loss-of-coolant incident occurred under conditions of fuel meltdown. A report commissioned for the AEC in 1967 entitled *Emergency Core Cooling* (W.K. Ergen and others) confirms that ". . . if emergency core cooling systems do not function and meltdown of a substantial part of an irradiated core occurs, the current state of knowledge regarding the sequence of events and the consequences of the meltdown is insufficient to conclude with certainty that integrity of containments . . . will be maintained." This conclusion was specifically endorsed by AEC's Advisory Committee on Reactor Safeguards (ACRS) in February, 1968. (The ACRS urged further expenditures for safety research to identify and correct such possible problems with core cooling systems.)

We need not overemphasize the consequences of such a disaster described in the *Emergency Core Cooling* report. In short, were such a failure of the emergency cooling system to occur in a full-scale nuclear power plant under the postulated conditions, a disaster of grave proportions would probably ensue. In addition, the *Emergency Core Cooling* report emphasizes that reactor containment would be breached within a few hours of the initial accident, too short a time to evacuate the population residing near the power plant.

We believe that the significance of these problems would best be debated in public, not in the private confines of the Joint Committee on Atomic Energy (JCAE) and the Atomic Energy Commission. We particularly decry the fact that the impact of these experiments, as well as the operational difficulties of operating reactors, were discussed in a secret session of the JCAE on May 3, 1971. Since these grave questions of reactor safety involve not classified state secrets, but the health and safety of millions of Americans, we find no justification for concealing the issues from the public. For this reason, we request an independent and public review of the issues.

We also urge an immediate review by an independent commission of the adequacy of reactor safety funding by the Atomic Energy Commission. In a public hearing before the JCAE, on May 13, 1971, AEC's Assistant General Manager for Reactors, Mr. George Kavanagh, stated under questioning that AEC needs $30–40 million more than its current budgeted figure of approximately $36 million for reactor safety research. Yet, AEC is currently requesting an increase of only $2 million for reactor safety research. We strongly believe that in the development of such a new and potentially lethal technology, it is necessary to establish safety before construction begins.

In this instance, AEC is not starving its reactor safety budget, but in addition, AEC does not plan to test the adequacy of the Emergency Core Cooling Systems in an actual operating reactor until 1975—and even then only in a small test model. By that time, more than 80 nuclear power plants are scheduled to be in operation in the U.S. Are we to ignore the experimental evaluation, and proceed with construction of scores of giant nuclear power plants, trusting that somehow the reactor emergency systems will function properly?

We hope that you will agree with us that avoiding potential reactor disaster of the sort AEC has described in past technical documents is of utmost public importance. We urge that, if further operation and construction of nuclear power plants are to continue, you take action now to insure the adequacy of reactor safety systems to guarantee public safety.

Sincerely,

DAVID BROWER,
President, Friends of the Earth.
CARL POPE,
Zero Population Growth.
PETER HARNIK,
Environmental Action, Inc.
W. LLOYD TUPLING,
Washington Representative, Sierra Club.
SPENCER SMITH,
Secretary Citizens Committee on Natural Resources.
J. G. SPETH,
Natural Resources Defense Council.

LLOYD HARBOR STUDY GROUP, INC.
Huntington, N.Y., June 3, 1971.

Dr. GLENN T. SEABORG,
Chairman, U.S. Atomic Energy Commission,
Washington, D.C.

DEAR DR. SEABORG: The failure of the six emergency core cooling system tests on small scale models at the NRTS in Idaho highlight the lack of engineering which is needed to build nuclear plants without undue risk to the public.

At the Shoreham, New York, Public Hearing an effort was made to mislead the public by claims that General Electric had conducted full scale tests and answered all the questions raised in the Emergency Core Cooling Task Force Report, Nov. 1967, Oak Ridge, Tenn. (p. 905–908). Under cross examination (p. 10,145, SNPS, Docket 50–322) it was admitted that the tests were on simulated rods of stainless steel and calrods rather than zircalloy and irradiated fuel. Long Island Lighting Company admitted that they did not plan to replace all fuel rods found defective at each refueling, as is done at the U.S. Navy operated Shippingport plant, but would return them to the core for further use. Testimony was given (p. 8603–8604) that this leads to waterlogging and hydrogen embrittlement of the zircalloy, which changes the characteristics of the cladding metal. It is imperative that full scale tests of emergency core cooling systems be conducted on irradiated fuel which has been found defective and replaced and reused so that all the problems will be exposed.

Further, it is noted that the former Proposed Design Criteria No. 49, which required the consideration of failure of the emergency core cooling systems has been omitted in the newly proposed design criteria. All emergency core cooling systems on BWRs are active, requiring outside power and no account is taken of the condition when *all* power is lost.

The draft report entitled "An Evaluation of the Applicability of Existing Data to the Analytical Description of a Nuclear Reactor Accident Task 1, Subtask A—Core Meltdown Accident Evaluation," April 28, 1970, Contract No. W–7405–ENT–92, Batelle Memorial Institute, Columbus, Ohio (Columbia Laboratories, 505 King St.), recommends use of passive systems and other additional features to contain the energy of a core meltdown. The report also shows that only 2–9% of a core meltdown is needed to fail the reactor pressure vessel by steam pressure.

The Regulatory Staff has been allowing "credits" for these so-called "engineered" safeguards and allowing reductions in the exclusion radius (thus giving up whatever safety is provided by isolation). How the AEC can claim these features as being engineered when they have not been subjected to integrate functional tests is incomprehensible.

We respectfully request that no more Construction Permits or Operating Licenses be granted until full scale functional tests of emergency core cooling systems with defective irradiated fuel have been successfully completed and documented. Further, we request that Criteria #49 be reinstated and features incorporated in the designs to account for the pressures and temperatures of a meltdown following failure of the emergency core cooling systems as recommended in the Batelle Report. The public is not due the risk posed by partially engineered features and safety systems omitted in nuclear power plants.

We would appreciate a reply to these requests.

Very truly yours,

WILLIAM P. CARL,
President.

Dr. GLENN T. SEABORG,
Chairman, Atomic Energy Commission,
Washington, D.C.

DEAR DR. SEABORG: Failure of emergency core cooling systems for nuclear power plants

recently tested in small scale models at the NTRS in Idaho point up the seriousness of the problem and the extreme hazard to public safety. Failure of the ECC system points up the necessity of carrying out complete tests on Monticello nuclear plant sized scale models.

Recent AEC action delaying licensing and hearings on at least five proposed nuclear power plants in as many states pending complete re-evaluation of emergency core cooling systems is commendable. However, AEC must require the complete testing of emergency core cooling systems on full scale 1000 and 2000 and 3000 megawatt models to insure that in event of loss of coolant accident the ECC system will preserve the integrity of the nuclear plants reactor vessel and thereby guarantee them the public health and safety.

Since emergency core cooling tests on large scale models have never been conducted and since the present ECC system installed in the Monticello nuclear plant is of unknown reliability, it is requested that the Monticello Nuclear Plant be closed down and kept closed down until it has been determined thru AEC conducted testing on Monticello sized models that the ECC system installed at Monticello will function properly in the protection of the public health and safety and the integrity of the Mississippi River water supply.

STEVE J. GADLER, P.E.,
Member of Minnesota Pollution Control Agency.

EMERGENCY CORE COOLING SYSTEMS: PRELIMINARY ANALYSIS OF TESTS 845–850

(By David Dinsmore Comey)

THE FUNCTION OF AN EMERGENCY CORE COOLING SYSTEM

The nuclear fuel core in a commercial pressurized water reactor (PWR) consists of bundles, called fuel assemblies, consisting of thin metal Zircaloy tubes containing uranium dioxide pellets. The fuel assemblies are suspended vertically inside the reactor vessel, a thick steel boiler about 70 feet tall and about 20 feet in diameter. (See Figure 1).

Heat generated by the controlled fission reaction within the fuel assemblies is transferred to the steam turbines that drive the electric generator via water that is circulated through the fuel assemblies and out into the primary piping system that goes to the steam turbines.

If the primary system pipe carrying this heated water should rupture, virtually all the water is blown out of the system, including the water in the reactor fuel core. This process is called "blowdown", and this sort of accident is called a "loss-of-coolant accident" (LOCA). It is the so-called "design basis accident" for a commercial power plant, meaning that the plant is designed to withstand such a loss-of-coolant accident without releasing radioactivity into the environment. It is also the critical accident used in reactor licensing proceedings.

In order to prevent damage to the nuclear reactor fuel core, whose fuel assemblies are normally at a temperature of 700 degrees Fahrenheit at their surface, water must be injected into the reactor vessel immediately after the normally circulating coolant water is ejected by the blowdown in a loss-of-coolant accident. A system called the emergency core cooling system (ECCS) is designed to flood the core with water from accumulator tanks filled with water, pressurized by nitrogen. If the ECCS begins functioning within a few seconds after blowdown, and fully covers the hot fuel core assemblies within 30 seconds, no melting of the fuel core is supposed to occur.

CONSEQUENCES OF A FAILURE OF THE ECCS

According to a report published in 1968 by the Nuclear Safety Information Center of the AEC, if the ECCS fails to function:

"It is generally agreed that following the double-ended failure of the largest [primary] pipe, portions of the core would reach 1850° C, the melting temperature of Zircaloy, in about 50 to 100 seconds . . . The core would eventually melt and fall to the bottom of the pressure vessel, where there would be significant accumulation of core debris in about 10 to 60 minutes after the start of the accident . . . In another 20 to 60 minutes, this debris probably would have melted through the pressure vessel and passed into the containment vessel." (NSIC–23, p. 160)

"The containment vessel could fail by a simple melt-through of the molten core, by shock waves generated by steam explosions, or the hydrogen-air reaction, or by the build-up of hydrogen pressure due to the metal-water reaction taking place over a long period of time." (NSIC–23, p. 120)

According to another report published by the AEC in 1967, from the Advisory Task Force on Power Reactor Emergency Cooling:

"It is not considered possible to assure the integrity of the containment if meltdown of large portions of the core were to occur." (*Emergency Core Cooling*, p. 6)

Once the containment is breached, the residual heat in the molten core mass, plus heat released by decaying fission products in the uranium fuel, plus violent chemical reactions between the zirconium metal and remaining water or groundwater, would eat down into the earth. In the nuclear industry, this core melt-through is known as the "China accident", derived from the assumption that the core would continue to melt into the earth in the general direction of China. (See Figure 2.)

Meanwhile, the fission products in the core would have been released to the environment. The amount of the total fission products in the core that would be released is estimated to range between 10 and 50 per cent. In any case, it would be a substantial amount, with lethal implications for the population within 5 miles under certain conditions and delayed lethal reactions for the population within 45 miles. (WASH–740, p. 62)

As a result of these analytical studies of the problem, the AEC decided to begin actual experiments to determine the effectiveness of ECC systems. At the urging of the Advisory Committee on Reactor Safeguards (ACRS), the AEC body that must pass on each commercial power reactor before it is licensed to operate, a program was implemented to design facilities to test ECC systems of 1971.

In a letter to Glenn Seaborg, dated February 8, 1968, the ACRS referred to the *Emergency Core Cooling* report and said:

"The ACRS agrees with the statement of conclusion 10 that: 'If emergency core cooling systems do not function . . . the current state of knowledge regarding the sequence of events and the consequences of the meltdown is insufficient to conclude with certainty that integrity of containment of present designs, with their cooling systems, will be maintained.' " (ACRS Letter 2–28–68)

THE IMPORTANCE OF THE ECCS TESTS

In view of the tremendous potential damage from a China accident, and the importance of the emergency core cooling system in preventing such an accident, research and experimental testing on emergency core cooling has been the number one safety item in the AEC's water reactor safety program. The experimental testing is being done primarily at the National Reactor Testing Station at Idaho Falls, Idaho, as part of the LOFT (Loss of Fluid Test) Program:

"The original plan for this reactor was to intentionally rupture the primary cooling system and allow the reactor core to melt down. However the LOFT program has been reoriented to first investigate the effectiveness of the emergency core-cooling systems because of their importance to reactor safety." (NSIC–23, p. 121)

The importance of these tests is underscored in the AEC's report on its Water Reactor Safety Program Plan:

"The public safety implications of a loss-of-coolant accident (LOCA) in large water-cooled power reactors give rise to the need for engineered safety systems that will ensure a timely and adequate re-establishment of the cooling of the core, will contain and limit any release of fission products, and will otherwise lessen the potential consequences of the accident. One of the current prime requirements for the licensing of commercial power reactors is, therefore, the installation of reliable and effective emergency core cooling systems (ECCS). . . .

"ECCS evaluation methods that can provide this assurance must be available to regulatory bodies and the nuclear industry, and their timely development is, perhaps, the most urgent need today in reactor safety." (WASH-1146, p. III–23)

The reason why the experimental tests at Idaho Falls are so important is that without them, there is no way to verify the analytical calculations that have been used to design the emergency core cooling systems on reactors that are already in operation. Unless such verification is made experimentally, the calculations and design could be completely inadequate to prevent a China accident:

"At present, insufficient data exist to evaluate analytical codes required for predicting blowdown and ECC behavior in reactor systems . . . An urgent need exists for blowdown test data from a system having simulated core heat, ECC injection, and a geometry representative of power reactors." (IN–1684, p 2)

"The adequate meshing of process and equipment performance is extremely complicated and has been discussed analytically, but it has been largely ignored experimentally. Experimental demonstration is required to show that the blowdown-injection-cooling process reliably achieves recovery from a loss-of-coolant accident before the containment system is damaged." (NSIC–24, p. 10)

"Rapid activation of the emergency cooling system and long-term operation are the most urgent requirements in the event of a large-scale primary cooling system break. Therefore a continuing effort should be made to develop more rapidly acting systems with even better reliability than systems currently being designed. To this end, systems tests that determine the effectiveness of the hardware acting in concert should be performed in environments designed to simulate an accident situation. There is no other certain demonstration of adequacy . . . The revised LOFT programs may satisfy this need." (NSIC–24, pp. 92–93)

The first six tests of the ECC system in the LOFT program showed that none of the emergency cooling water reached the core. Had the test incorporated an actual nuclear fuel core instead of an electric core (which was immediately switched off), the core would have melted down and penetrated the containment.

REACTIONS TO THE ACTUAL TESTS

The nuclear industry and the AEC are clearly trying to play down the importance of the tests. A number of statements have been made, some of which are set forth in the tables on the following two pages. To aid in an analysis of those statements, we have set forth other statements made by AEC personnel prior to the tests, describing the purposes and verisimilitude of the tests made with the semiscale facility at Idaho Falls. It is instructive to make a comparison between the "before" and "after" statements.

TEST OFFICIAL DESCRIPTION (Before tests were run)	COMMENTS (After tests were run)
"The first three tests will be conducted with outlet breaks of 2 and 30% of the pipe flow area and with ECC injection into the operating loop at rates typical of core reflooding rates for large PWR's. . . . In the last two tests . . . the break will be in the reactor inlet piping at an elevation typical of large PWR inlet pipes and ECC injection will be directly into the reactor vessel." (IN–1384, pp. 19–20)	" 'The test vessel is not a fair model of the actual geometry of a reactor,' said an authoritative source. Another source added: 'They dropped some water on a little pot and it got sprayed all over the ceiling.' " (Nucleonics Week, May 6, 1971, p. 1)
"The 30% break size provides a break size to system volume ratio representative of that ratio for a 100% break in a commercial PWR and thus will result in a blowdown time nearly equivalent to that of a PWR. System pressure and core outlet temperature are representative of those of large PWR's. Core power corresponds to a heat rating of about 13 kW/ft of fuel, equivalent to about the average heat rating in large PWR's presently being designed." (IN–1384, p. 18)	"All observers of the experiments by Idaho Nuclear Corp. for AEC agree that the results, from the very small scale, cannot be directly extrapolated to real reactor conditions." (Nucleonics Week, May 6, 1971, p. 1)
"Provisions have been made in the ECC equipment for modeling the accumulator and high pressure injection systems commonly in use in commercial pressurized water reactor plants. The semiscale accumulator system consists of an accumulator to be pressurized with nitrogen to 600 psig and the appropriate connecting piping and valves to simulate the commercial system. Initiation of ECC injection will be controlled by a swing check valve, and the delivery rate and pressure drop through the connecting piping will closely model commercial plant ECC systems." (IN–1384, p. 27)	"The recent small mock-up tests at NRTS were not designed to represent the response of an actual operating nuclear power plant to a loss of coolant accident." (AEC Press Release, May 28, 1971, p. 2)
"Semiscale Blowdown and ECC Project will investigate the environment in which ECC must function, the effect of ECC injection during blowdown, the break location(s) and size(s) which represent the most severe demand for ECC delivery to the core, and the performance margin of current PWR ECCS design at the maximum coolant demand condition." (WASH–1146, p. III–39)	"There were significant differences in the experimental system which was tested as compared to an operating reactor." (AEC press release, May 28, 1971, p. 2)
"Emergency Core Cooling: . . . This is generally considered to be the most urgent problem area in the safety program today." (The Water-Reactor Safety Program Plan," *Nuclear Safety,* (USAEC Nuclear Safety Information Center), vol. 11, No. 5, p. 372)	"A source for a manufacturer indicated . . . that his firm regarded ECCS as 'low on the list of priorities.' " (Nucleonics Week, May 20, 1971, p. 3)

There is a further irony in the AEC's attempts to claim the semiscale facility at Idaho Falls does not accurately model a commercial PWR, simply because Tests 845–850 did not turn out the way the AEC had hoped. Tests 845–850 were tests of blowdown *and* ECC injection. The previous tests in the 800 series were for blowdown only, using exactly the same semiscale facility. The PWR manufacturers and the AEC have used the test results from the 800 series blowdown tests to "verify" and "justify" the analyses made on commercial PWR's that have recently been licensed for construction and operation. In other words, the semiscale blowdown test data were accepted as supporting the license applications for commercial PWR's. If the AEC now takes the position that the semiscale facility is not an accurate model, it must throw out all the Idaho blowdown tests results, leaving dozens of license applications without experimental data to justify their blowdown calculations. The AEC cannot have it both ways by saying (1) the semiscale facility is a close model for blowdown, but (2) suddenly becomes totally different when used as a model for blowdown and ECC. In fact, Test 850 was run without ECC to see whether the addition of ECC had affected the blowdown rate. Here is what the test report said:

"The purpose of Test 850 was to obtain base-line data without ECC injection for comparison with data from a test which included emergency cooling. Test 850 was conducted with a high inlet break configuration from initial conditions very similar to those for the ECC-injection Test 848, reported previously. A preliminary comparison of the result for the two tests indicates that ECC injection causes density, flow, and temperature disturbances near the injection point, but that these localized disturbances have no significant effect on overall system decompression behavior." (Hai–75–71, p. 14)

Since the blowdown remains the same in both cases, and the AEC has already accepted the blowdown as justification for allowing commercial PWR's to go into operation, it seems curious that the Idaho semiscale facility now "is not a fair model of the actual geometry of a reactor."

WHAT HAPPENED WHEN THE ECC TESTS WERE RUN

Put briefly, the tests showed that the emergency core cooling (ECC) water did not reach the reactor core when the emergency core cooling system (ECCS) was turned on. The test reports are laconic but to the point:

"The first semiscale test involving emergency core cooling (ECC), Test 845, was performed in which ECC was injected into the annulus between the flow skirt and vessel wall. Early analysis of test data indicates that essentially no emergency core coolant reached the core . . . On the basis of these data, the conclusion was reached that the ECC fluid entered the inlet annulus and was swept out of the vessel to the inlet nozzle and external downcomer, and out the break." (Hai–436–70, pp. 18, 21)

"Semiscale Tests 846 and 847 involving emergency core cooling (ECC) were performed with the ECC injected directly into the vessel inlet plenum. Preliminary analysis for Test 846 indicates little or no core cooling by the emergency coolant. Test 847 was performed late in December with test conditions similar to those of Test 846." (Hai–7–71, p. 8)

"Semiscale Tests 847 and 848 involving emergency core cooling (ECC) was performed with the ECC injected directly into the vessel inlet plenum. Preliminary analysis of the results of these tests indicates little or no core cooling by the emergency coolant." (Hai–26–71, p. 10)

"Semiscale Test 849 was conducted with a high-inlet break configuration with a nozzle in place of an orifice in the blowdown line. A quick-opening valve was installed in a bypass line around the system low point to determine whether pressure buildup due to a water seal was responsible in previous tests for emergency coolant expulsion through the break. ECC liquid was ejected from the system in Test 849 as in previous tests and at no time did ECC liquid reach the core." (Hai–54–71, p. 6)

WHY THE TEST RESULTS SHOULD HAVE BEEN EXPECTED

The position of the AEC seems to be that since the test results were not what was expected, the tests themselves are at fault.

This is a rather convoluted line of reasoning, contrary to normal scientific method. The fact of the matter is that the test results should have been expected. In fact there were previous warnings of what would happen, two of which are cited below from AEC documents:

"Any flooding system requires the rapid addition of water. This water has to flow through, or along, surfaces at higher temperatures than that of the water. Steam can be generated as the water comes in contact with the hot surfaces, and the steam can delay, hamper, or intermittently interrupt the flow of injected water. Time delays, pressure pulses, and even serious vibrations have been reported. This problem, i.e., ability of injecting water, can arise in pipes and channels internal or external to the reactor vessel. It can also occur as the water tries to penetrate the reactor core itself. The same phenomena prevail here except that they are enhanced because more steam will be produced due to the increased heat storage in the fuel rods and the continued decay heat generation." (*Emergency Core Cooling,* p. 90)

"Relying on quenching makes the emergency core-cooling problem that of delivering a large quantity of water into the reactor vessel rapidly. . . . The water intended for the reactor core may bypass the core if a large break occurs in a pipeline coming from the plenum that accepts the emergency coolant. The back pressure required to accelerate the coolant as it turns to steam might prevent rapid admission of the emergency coolant to the core region and force the fluid out the break in the pipe." (NSIC–24, p. 49)

These two AEC documents were published in 1967 and 1968 respectively. In fact, this phenomenon has been well known since 1756, when the German physicist J. G. Leidenfrost published his *De aguae communis nonnullis qualitatibus tractatus.* The AEC staff may not be capable of reading Latin, but one assumes they are reasonably familiar with their own documents of three years ago.

It is even harder to believe that the test results were unexpected when one looks at the specific AEC document that describes the semiscale test facility and the purposes of the ECC tests there:

"The highest priority issues which are currently unresolved for various break sizes and locations includes the following:

"(2) Effects of ECC delivery to the core including delays such as hot pipe effects and ECC bypassing the core to the break because of the inability to exhaust steam generated

in the core during reflooding." (IN–1384, p. 2)

It is also instructive to read the description of the specific tests to be run on ECC systems at the Idaho facility.

"The specific objectives of this group of tests are to provide information to assist in determining the following:

"(1) Resistance to ECC flow caused by generation of steam on the hot metal surfaces. . . .

"(4) The potential for ECC bypassing the hot core. . . ."

"These tests are expected to show whether ECC tends to bypass the core for this system geometry and whether the analytical methods are capable of predicting this tendency." (IN–1384, pp. 19–20)

This document was published in July 1970. When the tests were run, the emergency core cooling water did bypass the core, without cooling it at all, and passed out of the break in the primary system piping. (See Tests Reports Hai–436–70 and Hai–54–71 quoted above.)

In view of the fact that the engineers running the test got one of the results they were looking for, it is difficult to understand their reaction:

"In the surprising results of the six tests, no significant amount of the emergency coolant reached the core during the blowdown and less than 10% remained in the vessel after the blowdown was completed. 'We haven't got the mechanism pinned down as to why this happened,' said a scientist connected with the tests. 'The continuing flashing of the steam under depressurization built up enough back pressure to keep the water out, but we really don't know why it happened this way,' he added." (Nucleonics Week, May 13, 1971, p. 5)

SUMMARY AND CONCLUSIONS

1. The resolution of the emergency core cooling problem is the number one item to be resolved in the nuclear water-reactor safety program today.

2. Only experimental testing on semiscale models or full-scale models can verify whether present designs and calculations are safe.

3. The possibility that emergency core cooling water would bypass the core and pass out the break in the primary system was predicted several years ago and was one of the specific objectives of the tests run at Idaho Falls this year.

4. The tests showed that emergency core cooling water did not reach the core, and went out the break in the primary system.

5. Therefore it cannot be said that the results of the six tests were "unexpected."

6. Nor can it be said that the test facility is not an accurate model of an actual nuclear reactor. Many reactors have been licensed because data developed at the Idaho test facility were used to support the safety analysis of those reactors. If the Idaho facility is not an accurate model, then all those nuclear reactors' licenses would have to be suspended.

7. The present design of emergency core cooling systems seems to be defective in water-reactors larger than 200 megawatts (electrical). If a loss-of-coolant accident occurred, fuel-core meltdown and melt-through of the containment would occur because the emergency core cooling system would not prevent it. The lethal doses to the population of radiation make this an unacceptable event.

RECOMMENDATIONS

1. The operating licenses of all reactors larger than 200 megawatts (electrical) should be immediately suspended, until Recommendation 3 is carried out.

2. No new reactors should be licensed, until Recommendation 3 is carried out.

3 The LOFT program should be accelerated immediately, and full-scale tests of ECC systems should be carried out as soon as possible. Only such tests will provide an adequate margin of certainty that ECC systems will prevent core meltdown.

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THE NUCLEAR POWER CONTROVERSY: SAFETY

(By Ralph E. Lapp)

During the past two years the atom, largely exempt from controversy since the days of radioactive fallout, has become the focus of public concern. The nuclear hazard involved is associated with the siting of power reactors for the generation of electricity. The radioactive effluents and fallout from the routine operation of these nuclear plants, together with the water-heating effects of the reactors, have formed the primary basis for public fear. While these fears have fueled the controversy, there has been very little attention given to the problem of nuclear accidents. In this three-part series, the issue of nuclear reactor safety is examined first, because there are many unanswered questions about the siting of more and more, higher-power, nuclear plants closer and closer to cities.

At the outset it should be perfectly clear that a nuclear reactor operating for any length of time constitutes a unique hazard to people and property in its vicinity. The accumulation of immense amounts of radioactivity in the reactor core constitutes a potential threat[1] without precedent in urban life.

The US Atomic Energy Commission is directed by law to promote the development of nuclear power for peacetime benefits, and it also acts as the regulatory agency to control the industrial deployment of nuclear power plants. While there is a certain economy involved in this dual promotional-regulatory role, it introduces a potential conflict of interest. The time has come to split off this regulatory function from the AEC and to transfer it to the newly organized Environmental Protection Agency (EPA). This transfer would favor an independent review of reactor safety and siting and might well serve to extricate the utilities from some of their hang-ups in "going nuclear."

Make no mistake about it, the utilities *are* depending on the atom to supply electric power. Nuclear electric energy has been a long time in coming, especially when one recalls the early postwar optimism about it, but it's here now. The following schedule of nuclear orders illustrates the pace at which utilities are proceeding to buy nuclear power plants:

1966: 24 units, 19,500,000 kilowatts.
1967: 30 units, 25,000,000 kilowatts.
1968: 14 units, 13,000,000 kilowatts.
1969: 7 units, 7,200,000 kilowatts.
1970: 15 units, 16,400,000 kilowatts.

The 1968–69 fall-off in orders reflects over-

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[1] One high-power reactor operating for one year burns as much nuclear fuel as is consumed in the detonation of more than 1000 Nagasaki A-bombs.

buying in the previous two years, saturation of the construction capability, and public opposition to nuclear power. It is notable that the 1970 upsurge in orders goes against the tide of environmental opposition and must be due to utility fear of fossil fuel unavailability on terms meeting their cost and pollution restrictions.

Two companies, General Electric and Westinghouse, account for 78 percent of these nuclear orders, and they are probably the only two American firms that have a real grasp of the nuclear safety issue. Both do little safety research with their own funds and the utilities do practically nothing, preferring to spend their money on advertising. For example, Sen. Lee Metcalf (D, Mont.) disclosed last month that in 1969 the utilities spent $323.8 million on sales and advertising against $41 million for research and development.

The AEC had its nuclear safety budget for this year slashed by the Bureau of the Budget and now spends slightly more than $30 million per year in this area. When AEC officials are queried as to why they don't spend more on safety, they admit they should, but claim that industry should pay for it. It's rather late in the day for industry to be safety-researching its nuclear product that is now on order. In the critical area of reactor safety I would prefer to see the work done by the AEC. It has the facilities and the manpower and the real estate for the job. As a constructive suggestion, I propose that the utilities, who will reap the cash rewards of A-power, establish a safety research pool to fund AEC work on reactor safety. An initial annual outlay of $12 million would serve to invigorate AEC activity on projects that have either slowed down or have not seen the light of day.

To understand the present status of reactor safety we have to go back to 1957 and review the sequence of events and change in philosophy attending the evolution of nuclear power risks. Furthermore, we need to know something about reactors themselves.

In March 1957 the AEC published its response to a request from the Joint Committee on Atomic Energy for a study of damage potential from reactor accidents. It took the form of a 105-page document (WASH–740) titled "Theoretical Possibilities and Consequences of Major Accidents in Large Nuclear Power Plants." The AEC's description of these consequences was sufficiently spectacular to catapult the Congress into passing the Price-Anderson Act, providing for financial protection and government indemnity in the event of a reactor accident. The AEC undertook but never issued a revision of WASH–740; what appears in the public domain is a letter from AEC Chairman Glenn T. Seaborg to Rep. Chet Holifield, Chairman of the Joint Committee on Atomic Energy, dated June 18, 1965. This letter deals with the likelihood of major accidents and their consequences, admits that higher power levels in reactors and longer fuel cycles could produce greater damage (although the likelihood of accidents, it said, "is still more remote") and calls for extension of the Price-Anderson Act.

On October 10, 1957 an atomic accident in the form of a uranium fire took place in England at the Windscale Unit 1 production reactor. Some 20,000 curies of iodine-131 escaped to the atmosphere and the British authorities had to stop milk supplies from farms in an area of 200 square miles downwind of the malfunctioning reactor. This particular hazard had received only passing reference in the AEC–WASH–740 analysis. The Windscale accident shook up officials in Britain and made them sensitive to reactor hazards.

On January 3, 1961 an explosion in the SL–1 reactor, near Idaho Falls, Idaho killed three young men with a blast-radiation effect. The 3000-kilowatt experimental boiling-water reactor blew up when a control rod was mismanaged, producing a power surge in the reactor vessel. Sited remotely at the AEC's National Reactor Testing Station, the SL–1 reactor had its consequences confined to the immediate vicinity, but the accident served notice that no man-made design was foolproof.

Nuclear power reactors were emerging from their research phase and on Feb. 10, 1961 the AEC issued its "Notice of Proposed Guides" requiring that applicants for a permit to construct a power reactor submit a reactor safeguards report including details of the siting. All applicants were required to calculate these three distances:

"(A) Exclusion area, which is the area surrounding the reactor. Access to this area is under full control of the reactor owner. Residence within this area would normally be prohibited. . . .

"(B) Low population zone, the area immediately surrounding the exclusion area. In this area the number of residents must be small enough so that they could be evacuated or other protective measures taken in the event of a serious accident.

"(C) Population center distance, which is the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents." The whole concept enunciated in this AEC guide to reactor siting was one of minimizing risk through interposition of distance between the reactor and population. Anyone reading the details of how the AEC suggested these distances should be assessed would be convinced that the AEC was steering utilities away from close-to-large-city sites.

Dr. Clifford K. Beck, Deputy Director of Regulation of the Atomic Energy Commission, admitted the no-near-city prohibition in a speech delivered Sept. 25, 1963: "No reactor of high power level can be placed in or near a populated area if there is any substantial likelihood that significant portions of its accumulated wastes could accidentally be released to the environment." But, he went on to add, "there are virtually no sites acceptable, safetywise, if the worst conceivable accident must be assumed. . . ." Dr. Beck's speech was titled: "Engineering Out the Distance Factor." In it he outlined two alternatives to distance—one, design and construction to prevent a major accident from happening, and, two, building in safeguards to contain the consequences of an accident.

Here then was the turning point in reactor safety, in which engineering came to be substituted for distance. What sort of engineering? The details started to flow out of the AEC in 1967 and—this is what worries me—they have been upwelling ever since. New criteria emerge, more unknowns are identified and more research is indicated, *but* all the while more powerful nuclear reactors are being constructed closer to cities.

For example, the AEC issued its "General Design Criteria for Nuclear Power Plant Construction Permits" on July 10, 1967. A total of 70 individual criteria is listed. That high AEC officials harbor their own doubts about reactor safety engineering comes out piecemeal in their speeches or may be read between the lines. (It comes out directly if you talk to AEC personnel at the operating or bench level. Reactor engineers tend to be somewhat habituated to their machines and most utility men are not very well informed about reactors.) None other than the AEC's Director of Regulation, Harold L. Price, put his finger on the real problem in mid-1967 when he said:

"The basic safety issue presented by metropolitan sites for large power reactors is whether, in lieu of partial dependence on distance from population centers, full reliance can or should be placed on the inherent safety of the reactors and their engineered safety features."

Yet almost at the same time that Mr. Price was identifying the issue, Dr. Seaborg was testifying before the Joint Committee: "While progress has been made in improving the safety of reactors, we need to obtain more experience and data in order to develop criteria for the siting of these units in urban areas." The full extent of the unknowns in reactor safety is revealed in 145 pages of AEC material introduced into congressional testimony in 1967 under the title "Water-Reactor Safety Program: Summary Description." This evidence includes brief descriptions of 100 individual reactor safety studies or projects, some of which were not even under way in 1967. Dr. Seaborg may have had these projects in mind when he testified.

At this point it becomes necessary to define the major physical problem in reactor safety. A nuclear reactor is basically a chain-reacting nuclear core sealed inside a stout pressure vessel which is rigged to permit entry and withdrawal of control rods that determine the power level of the machine. The reactor core consists of about one million pounds of nuclear fuel, control rods, and core structure. Most modern reactors of high power contain their nuclear fuel in the form of about nine million thimble-size pellets distributed in 12 foot long tubes all clustered together in a cylindrical array 11 feet in diameter. The very center of these uranium dioxide pellets is raised to a temperature of 4100°F producing a near-molten condition. The outer surface of the uranium fuel pellet is cooled by the swift passage of water under high pressure—from 1000 to 2250 pounds per square inch. Any interruption of the cooling water imperils the integrity of the fuel element, and it is a prime requirement in reactor engineering that provisions be made for emergency cooling in the event of a loss of coolant.

What is the worst that could happen to cause a reactor to lose its coolant? Experts agree that it would be a double break in the huge pipes that conduct heated water away from the reactor core to a heat exchanger and then return it to the pressure vessel. Should such a pipe rupture occur, the high pressure hot water would gush out and produce what reactor men call a "blowdown." Dr. William K. Ergen of the Oak Ridge National Laboratory headed up a task force that reported out in 1967 with a 226-page analysis "Emergency Core Cooling." Using this as a guide I have sketched the sequence of events in a reactor core following a drastic coolant break on a time schedule as follows:

5 to 10 seconds: Core temperature jumps from 600 to 1500°F in localized sectors.

30 to 50 seconds: Temperature exceeds 2000°F; core structure begins steam reaction and energy release.

50 to 100 seconds: Core attains temperature of 3360°F.

2 minutes: Core collapse begins.

10 minutes: Melt-down debris accumulates in vessel.

1 hour: Probable melt-through of pressure vessel with possible steam explosions.

1 day: Molten mass of reactor material breaks through containment slab.[2]

3 years: Molten material forms 100-foot glob in sand.

11 years: Cool-off of residual material shrinks to 80-foot diameter.

The point to stress here is that emergency core cooling systems which may spray water into or flood the reactor core have to work *within five to 10 seconds.* Otherwise one is no longer dealing with a reactor core but with a glowing mass of molten and melting material for which additional cooling or preventive measures are no longer effective. Yet as one reads through the Ergen report the phrases "a matter of speculation" or "it

[2] Reactor experts use the phrase *Chinese Syndrome* to describe the possibility that a liquid sodium-cooled core might break through a confinement and keep sinking in the earth China-bound.

is not known" keep recurring. I have not been able to find any more recent AEC analysis of core-cooling, nor have I come across any overall evaluation of nuclear safety. I therefore urge that a high-level review of reactor safety be made by some independent group such as the National Academy of Engineering funded by the Environmental Protection Agency.

No more important engineering challenge exists today than making sure that the reactors coming into use conform to a rigid set of codes so that the public safety is assured for the coming decades of nuclear power. The National Academy should establish a permanent Nuclear Power Safety Board whose first mission would be an evaluation of the status of reactor safety. The Academy already has a task force working on reactor siting and the new responsibility would be a natural addition to its present activity, involving however a much higher-powered organization to investigate the safety issue. This recommendation is in line with the example set by the British, who established a Nuclear Safety Advisory Committee with appointments to it being made by responsible Ministers. Incidentally, British siting policy emphasizes controlled population adjacent to reactors and thorough evacuation planning for zones closest to the site.

My basic reason for proposing an independent review of reactor safety is that the question of "How much safety?" is a public not an AEC matter. I would not impose a moratorium on reactor construction, because nuclear safety is a combination of reactor design and siting. Reactor safety is essentially a statistical concept. For example, the Calvert Cliffs nuclear station being built on Chesapeake Bay 46 miles southeast of the White House has fewer than 200 people living within a two-mile radius and the nearest large town is Cambridge, 20 miles across the bay. This contrasts with the two nuclear units New Jersey's Public Service & Electric plans to site at Newbold Island in the Delaware River, five miles south of Trenton and 10 miles north of Philadelphia. A 1985 projection puts the population at risk within a 10-mile radius of Newbold Island as three-quarter of a million people. An AEC construction permit for this plant was applied for last March.

The AEC procedure for granting a construction permit is a democratic one in that it allows for a public hearing. The utility is required to file a detailed Preliminary Safety Analysis Report (PSAR) which is then scrutinized by the AEC's regulatory staff. This safety review often takes a year and involves many conferences with the utility experts, often the vendor's people, but unfortunately these exchanges do not appear on the record. Furthermore, the AEC subjects the PSAR and the regulatory staff study to independent review by its Advisory Committee on Reactor Safeguards (ACRS), a highly competent group of 14 nuclear experts. ACRS has the guillotine power of decision on a construction permit for a reactor. ACRS approval is often contingent upon the utility making changes in plant design and its reports pinpoint weak points in reactor safety, some of which indicate a need for further research and development.

Public hearings prior to the granting of a construction permit involve a three-man AEC tribunal selected from a 23-man Atomic Safety and Licensing Board Panel. Citizens and associations are allowed to appear as intervenors at public hearings and in some cases these interventions have produced lengthy delays in granting a permit. Finally, the AEC allows for public hearings prior to awarding an operations license, and a number of nuclear plants are now hanging fire because of intervention at this stage. Many issues get aired at these hearings, but that of reactor safety is extremely difficult for an intervenor to explore; he must bow to the judgment of the experts—almost all of whom are employed by the AEC, by the reactor manufacturer or by the utility.

When AEC Chairman Seaborg says, as he did before an AP editors' convention on Nov. 19, 1970: "We know that the benefits we gain will far outnumber the risks of the potential hazards," then I submit the "we" is not all of "us."

I do not make the charge that the AEC is imposing an unsafe system of nuclear power on the nation; I submit that the public record is not visible to substantiate public confidence in the AEC's assurance. It's deeply disturbing to read in the Oak Ridge National Laboratory *Review* an article on "Benefits vs. Risks in Nuclear Power—A logical, facts-and-figures comment on the current anti-atom literature," by ORNL Assistant Director Walter Jordan:

"The $64 million question still remains, and that is whether we have succeeded in reducing the risk to a tolerable level—i.e., something less than one chance in ten thousand that a reactor will have a serious accident in any year. Thus when we have 100 nuclear power stations in operation, not too far in the future, an accident once every hundred years might be expected."

But before the year 2000 we will probably have 500 nuclear reactors of one million kilowatt rating, and it would appear a certainty we will have a serious nuclear accident—and by that time population, if uncontrolled, will hem in our reactor sites. To call it a $64 million question is to sadly underestimate the hazard and to make a mockery of the Price-Anderson Act. Dr. Jordan concludes his article:

"We and the public should be prepared to face the possibility of a nuclear accident, just as we live with the possibility of major earthquakes which will exact a large toll in property and lives."

This time the "we" is separated from the public, but this gap between the nuclear community and the public is precisely the reason for worrying about a nuclear accident. Even a mini-accident could roadblock the future course of nuclear power.

The nation needs power, clean power, and I believe it is not beyond our technological capabilities to design, site and operate nuclear power plants and insure the public safety. But as we, meaning all of us, enter into the nuclear decades, it is essential that the record is clear—that we, not just a few experts in a closed community, audit the nuclear books and lay the basis for public confidence in our nuclear future. As a constructive way of proceeding, I propose the following:

Establishment of a permanent Nuclear Power Safety Board to study and report on the status of nuclear reactor safety. This body would recommend a national policy on reactor safeguards and siting.

Imposition of a ceiling on reactor electric power ratings, limiting output to 1,200,000 kilowatts of electric power. This restriction has the effect of limiting the accident consequences of a nuclear plant.

Intensification of reactor safety research and development at AEC sites, aided by funds supplied by the nuclear utilities. This activity would encompass full-scale operational testing of reactor components.

Prohibition of AEC construction permits for nuclear plants with a near-metropolitan siting posture like the Newbold Island units.

Separation of the regulatory function from the AEC with assignment of this responsibility to the Environmental Protection Agency

Site	Plant name	Capacity (net kilowatt)	Utility	Initial design power
Alabama:				
Decatur	Browns Ferry Nuclear Power Plant: Unit 1	1,065,000	Tennessee Valley Authority	1972
Do	Browns Ferry Nuclear Power Plant: Unit 2	1,065,000	do	1972
Do	Browns Ferry Nuclear Power Plant: Unit 3	1,065,000	do	1973
Dothan	Joseph M. Farley Nuclear Plant: Unit 1	829,000	Alabama Power Co	1975
Do	Joseph M. Farley Nuclear Plant: Unit 2	829,000	do	1977
Arkansas:				
London	Arkansas Nuclear One: Unit 1	820,000	Arkansas Power & Light Co	1973
Do	Arkansas Nuclear One: Unit 2	920,000	do	1975
California:				
Humboldt Bay	Humboldt Bay Power Plant: Unit 3	68,500	Pacific Gas & Electric Co	1963
San Clemente	San Onofre Nuclear Generating Station: Unit 1	430,000	Southern California Edison and San Diego Gas & Electric Co	1967
Do	San Onofre Nuclear Generating Station: Unit 2	1,140,000	do	1975
Do	San Onofre Nuclear Generating Station: Unit 3	1,140,000	do	1977
Diablo Canyon	Diablo Canyon Nuclear Power Plant: Unit 1	1,060,000	Pacific Gas & Electric Co	1973
Do	Diablo Canyon Nuclear Power Plant: Unit 2	1,060,000	do	1974
Clay Station	Rancho Seco Nuclear Generation Station	804,000	Sacramento Municipal Utility District	1972
Pt. Arena	Mendocino Power Plant: Unit 1	1,128,000	Pacific Gas & Electric Co	1977
Do	Mendocino Power Plant: Unit 2	1,128,000	do	1979
Colorado: Platteville	Ft. St. Vrain Nuclear Generating Station	330,000	Public Service Co. of Colorado	1972
Connecticut:				
Haddam Neck	Haddam Neck Plant	575,000	Connecticut Yankee Atomic Power Co	1967
Waterford	Millstone Nuclear Power Station: Unit 1	652,100	Northeast Utilities	1971
Do	Millstone Nuclear Power Station: Unit 2	828,000	do	1974
Florida:				
Turkey Point	Turkey Point Station: Unit 3	693,000	Florida Power & Light Co	1971
Do	Turkey Point Station: Unit 4	693,000	do	1972
Red Level	Crystal River Plant: Unit 3	858,000	Florida Power Corp	1972
Ft. Pierce	Hutchinson Island: Unit 1	800,000	Florida Power & Light Co	1974
Do	Hutchinson Island: Unit 2	800,000	do	1976
Georgia:				
Baxley	Edwin I. Hatch Nuclear Plant: Unit 1	786,000	Georgia Power Co	1973
Do	Edwin I. Hatch Nuclear Plant: Unit 2	786,000	do	1976

Site	Plant name	Capacity (net kilowatt)	Utility	Initial design power
Illinois:				
Morris	Dresden Nuclear Power Station: Unit 1	200, 000	Commonwealth Edison Co	1960
Do	Dresden Nuclear Power Station: Unit 2	809, 000	do	1970
Do	Dresden Nuclear Power Station: Unit 3	809, 000	do	1971
Zion	Zion Nuclear Plant: Unit 1	1, 050, 000	do	1972
Do	Zion Nuclear Plant: Unit 2	1, 050, 000	do	1973
Cordova	Quad-Cities Station: Unit 1	809, 000	Commonwealth Edison Co-Louisiana-Illinois Gas and Electric Co	1971
Do	Quad-Cities Station: Unit 2	809, 000	do	1972
Seneca	LaSalle Co. Nuclear Station: Unit 1	1, 078, 000	Commonwealth Edison Co-Louisiana	1957
Do	LaSalle Co. Nuclear Station: Unit 2	1, 078, 000	do	1976
Indiana: Dune Acres	Bailly Generating Station	660, 000	Northern Indiana Public Service Co	1976
Iowa: Cedar Rapids	Duane Arnold Energy Center: Unit 1	529, 700	Iowa Electric Light and Power Co	1973
Louisiana: Taft	Waterford Generating Station: Unit 1	1, 165, 000	Louisiana Power and Light Co	1976
Maine: Wiscasset	Maine Yankee Atomic Power Plant	790, 000	Maine Yankee Atomic Power Co	1972
Maryland:				
Lusby	Calvert Cliffs Nuclear Power Plant: Unit 1	845, 000	Baltimore Gas and Electric Co	1973
Do	Calvert Cliffs Nuclear Power Plant: Unit 2	845, 000	do	1974
Massachusetts:				
Rowe	Yankee Nuclear Power Station	175, 000	Yankee Atomic Electric Co	1961
Plymouth	Pilgrim Station	655, 000	Boston Edison Co	1971
Michigan:				
Big Rock Point	Big Rock Point Nuclear Plant	70, 300	Consumers Power Co	1963
South Haven	Palisades Nuclear Power Station	700, 000	do	1970
Lagoona Beach	Enrico Fermi Atomic Power Plant: Unit 1	60, 900	Detroit Edison Co	1970
Do	Enrico Fermi Atomic Power Plant: Unit 2	1, 123, 000	do	1973
Bridgman	Donald C. Cook Plant: Unit 1	1, 054, 000	Indiana & Michigan Electric Co	1973
Do	Donald C. Cook Plant: Unit 2	1, 060, 000	do	1974
Midland	Midland Nuclear Power Plant: Unit 1	492, 000	Consumers Power Co	1976
Do	Midland Nuclear Power Plant: Unit 2	818, 000	do	1977
Minnesota:				
Monticello	Monticello Nuclear Generating Plant	545, 000	Northern States Power Co	1971
Red Wing	Prairie Island Nuclear Generating Plant: Unit 1	530, 000	do	1972
Do	Prairie Island Nuclear Generating Plant: Unit 2	530, 000	do	1974
(1)		1, 201, 000	Tennessee Valley Authority	1977
(1)		1, 201, 000	do	1978
Nebraska:				
Fort Calhoun	Ft. Calhoun Station: Unit 1	457, 400	Omaha Public Power District	1972
Brownville	Cooper Nuclear Station	778, 000	Nebraska Public Power District and Iowa Power and Light Co	1973
New Jersey:				
Toms River	Oyster Creek Nuclear Power Plant: Unit 1	560, 000	Jersey Central Power and Light Co	1969
Lacey Township	Forked River Generating Station: Unit 1	1, 140, 000	do	1975
Salem	Salem Nuclear Generating Station: Unit 1	1, 050, 000	Public Service Electric and Gas, New Jersey	1973
Do	Salem Nuclear Generating Station: Unit 2	1, 050, 000	do	1974
Newbold Island	Newbold Nuclear Generating Station: Unit 1	1, 088, 000	do	1975
Do	Newbold Nuclear Generating Station: Unit 2	1, 088, 000	do	1977
New York:				
Indian Point	Indian Point Station: Unit 1	265, 000	Consolidated Edison Co	1963
Do	Indian Point Station: Unit 2	873, 000	do	1971
Do	Indian Point Station: Unit 3	965, 000	do	1973
Scriba	Nine Mile Point Nuclear Station	500, 000	Niagara Mohawk Power Co	1970
Rochester	R. E. Ginna Nuclear Power Plant: Unit 1	420, 000	Rochester Gas & Electric Co	1970
Brookhaven	Shoreham Nuclear Power Station	819, 000	Long Island Lighting Co	1975
Lansing	Bell Station	838, 000	New York State Electric & Gas Co	1978
Verplanck	Verplanck: Unit 1	1, 115, 000	Consolidated Edison Co	1977
Scriba	James A. Fitzpatrick Nuclear Power Plant	821, 000	Power Authority of State of New York	1973
North Carolina:				
Southport	Brunswick Steam Electric Plant: Unit 1	821, 000	Carolina Power & Light Co	1976
Do	Brunswick Steam Electric Plant: Unit 2	821, 000	do	1974
(1)		821, 000	do	
Cowans Ford Dam	Wm. B. McGuire Nuclear Station: Unit 1	1, 150, 000	Duke Power Co	1975
Do	Wm. B. McGuire Nuclear Station: Unit 2	1, 150, 000	do	1976
Ohio:				
Oak Harbor	Davis-Besse Nuclear Power Station	872, 000	Toledo Edison-Cleveland Electric Illuminating Co	1974
Moscow	Wm. H. Zimmer Nuclear Power Station: Unit 1	810, 000	Cincinnati Gas & Electric Co	1974
Oregon: Rainier	Trojan Station	1, 130, 000	Portland General Electric Co	1974
Pennsylvania:				
Peach Bottom	Peach Bottom Atomic Power Station: Unit 1	40, 000	Philadelphia Electric Co	1967
Do	Peach Bottom Atomic Power Station: Unit 2	1, 065, 000	do	1972
Do	Peach Bottom Atomic Power Station: Unit 3	1, 065, 000	do	1973
Pottstown	Limerick Generating Station: Unit 1	1, 065, 000	do	1975
Do	Limerick Generating Station: Unit 2	1, 065, 000	do	1977
Shippingport	Shippingport Atomic Power Station: Unit 1	90, 000	Duquesne Light Co	1957
Do	Beaver Valley Power Station: Unit 1	847, 000	Duquesne Light Co.-Ohio Edison Co	1973
Middletown	Three Mile Island Nuclear Station: Unit 1	810, 000	Metropolitan Edison Co	1972
Do	Three Mile Island Nuclear Station: Unit 2	831, 000	Jersey Central Power & Light Co	1974
Berwick	Susquehanna Steam Electric Station: Unit 1	1, 052, 000	Pennsylvania Power and Light	1977
Do	Susquehanna Steam Electric Station: Unit 2	1, 052, 000	do	1979
South Carolina:				
Hartsville	H. B. Robinson S. E. Plant: Unit 2	700, 000	Carolina Power & Light Co	1971
Seneca	Oconee Nuclear Station: Unit 1	841, 000	Duke Power Co	1971
Do	Oconee Nuclear Station: Unit 2	886, 000	do	1972
Do	Oconee Nuclear Station: Unit 3	886, 000	do	1973
Parr		900, 000	South Carolina Electric & Gas Co	1977
Tennessee:				
Daisy	Sequoyah Nuclear Power Plant: Unit 1	1, 124, 000	Tennessee Valley Authority	1974
Do	Sequoyah Nuclear Power Plant: Unit 2	1, 124, 000	do	1974
Spring City	Watts Bar Nuclear Plant: Unit 1	1, 170, 000	do	1967
Do	Watts Bar Nuclear Plant: Unit 2	1, 170, 000	do	1977
Vermont: Vernon	Vermont Yankee Generating Station	513, 900	Vermont Yankee Nuclear Power Corp	1971
Virginia:				
Gravel Neck	Surry Power Station: Unit 1	780, 000	Virginia Electric & Power Co	1971
Do	Surry Power Station: Unit 2	780, 000	do	1972
Mineral	North Anna Power Station: Unit 1	845, 000	do	1974
Do	North Anna Power Station: Unit 2	845, 000	do	1975
Washington:				
Richland	N-Reactor/WPPSS Steam	790, 000	Washington Public Power Supply System	1966
Do	Hanford No. 2	1, 135, 000	do	1977
Wisconsin:				
Genoa	LaCrosse Boiling Water Reactor	50, 000	Dairyland Power Cooperative	1969
Two Creeks	Point Beach Nuclear Plant: Unit 1	497, 000	Wisconsin Michigan Power Co	1970
Do	Point Beach Nuclear Plant: Unit 2	497, 000	do	1971
Carlton	Kewaunee Nuclear Power Plant: Unit 1	540, 000	Wisconsin Public Service Co	1972
Puerto Rico: Puerto De Jobas	Aquirre Nuclear Power Plant	583, 000	Puerto Rico Water Resources Authority	1975

[1] Site not selected.

NUCLEAR REACTOR SAFETY: A NEW DILEMMA FOR THE AEC

(By Robert Gilette)

The Atomic Energy Commission has adopted a curious position lately. While assuring the public that the nuclear reactors it licenses will operate safely, a number of AEC officials have been discretely appealing for more money—preferably much more money—to support research on the safety of conventional, water-cooled nuclear reactors.

For the most part, the money has not been forthcoming. But the appeals themselves have inflamed suspicions among the AEC's numerous critics that the atomic power plants that are blossoming across the nation's landscape may not be as secure from mishap as licensing implies. And thus the AEC finds itself impaled on a new dilemma that may serve to weaken its already shaky public credibility: If reactors are as safe as they are advertised to be, how can a large new safety budget be justified? Or, if new safety research is as urgently required as the AEC indicates, should the construction of atomic power plants (21 are operating, more than 50 are being built) be proceeding as rapidly as it is?

At a time when the AEC's $3 billion program for subsidizing the development of water-cooled reactors is nearly at an end, and when new plants are being licensed in ever-increasing numbers, the commission's appeals to Congress and the Office of Management and Budget for safety funds seem more than a little awkward. Indeed, the AEC's rationale for funds above and beyond its fiscal 1971 safety budget of $36 million rests partly on the premise that significant "uncertainties" in the performance of reactors remain, and that "urgent" work is yet to be done to resolve these uncertainties. For example, Milton Shaw, the AEC's director of reactor development and technology, confides that "At the drop of a hat I can spell out 15 areas where we could do more research in reactor safety. Drop two hats and I'll spell out 30 areas. There's virtually no limit on the work we can do." At the same time, however, commission officials are at pains to deny any untoward implications in such statements. In this context, George M. Kavanagh, the assistant general manager for reactors, told the Joint Committee on Atomic Energy last March that "This does not mean our reactors are unsafe. It means we should be spending more to assure that they are safe. . . ."

One way out of this paradox is to concede the point, raised by those close to reactor development, that safety research is not a finite task. As reactors age and their designs evolve, so the job of ensuring that they are properly designed, built, and operated continues. Moreover, there are, in fact, people of influence within the AEC who are given to what industrial sources regard as excessive zeal for perfection in safety.

Nevertheless, the fact remains that a large volume of nuclear safety work—much of it aimed at refining current understanding of normal and aberrant reactor behavior, and much of it aimed at improving quality control in manufacturing—has been cancelled, delayed, slowed, or simply not begun over the past decade. To all appearances, the result has not been to leave key safety issues untouched. Instead, one effect has been to limit the ability to define precise margins of safety in reactor operations. Another has been to impede the development of stringent standards of quality assurance—a primary ingredient in reactor safety.

Conversations with AEC officials and a reading of recent testimony presented to the Joint Committee suggest a variety of reasons for this R & D backlog. Essential projects, for example, have been delayed by inept management, and by design and construction problems similar to those that afflicted the nuclear industry as a whole during the 1960's. There is also reason to believe that program administrators have shown considerable inertia in acting on research suggestions still being pressed by the AEC's safety watchdog, the Advisory Committee on Reactor Safeguards (ACRS).

But the reason cited most often and most adamantly by AEC officials for their burden of unfinished business is a chronically undernourished safety research budget. For instance, Spencer H. Bush, chairman of the ACRS, told the Joint Committee in hearings on 22 June that the safety program's fiscal problems have worsened in the past 2 years. "While progress has been made," he said, "the accelerated erosion of AEC money for water-cooled reactor safety research has resulted in termination of some programs and substantial delays in others."

A FUROR OVER SAFETY

The AEC's new dilemma was thrust into prominence recently by a much-publicized controversy over the adequacy of a key accident-control system that is used on nearly every nuclear power reactor—the emergency core-cooling system (*Science*, 28 May). Although the commission's initial reaction to the furor over the backup coolers was to minimize its significance, the AEC's subsequent action was in keeping with its claims of ultraconservatism in matters of public safety. But more important, the controversy has helped point up the safety research program's infirmities.

The backup cooling systems in question are, very simply put, complexes of pipes, valves, and pumps, which are meant to flood a reactor's superheated uranium core in the unlikely event that the core's normal bath of cooling water escapes through a ruptured pipe. Thus the systems are analogous to spare hoses, radiator, and water pump on an automobile—but with a big caveat: Although operating reactors have occasionally sprung leaks from faulty pipes and poorly welded joints, none of these leaks has been great enough to call an emergency cooling system into action. Thus, though backup coolers perform well enough in elaborate computer simulations, they have never been tested in an operating reactor.

To rectify that situation, the AEC is preparing an extraordinary series of core-cooling experiments at its National Reactor Testing Station in Idaho. Here, a small reactor enclosed in a huge, dome-shaped shell will be subjected to progressively worse loss-of-coolant "accidents." Each time the reactor will be revived with a spirtz of emergency water, which, in turn, should spare it from destruction. This is the Loss of Fluid Test (LOFT) project—and it was in preparation for LOFT last winter that a series of core-cooling experiments in miniature scale first cast doubt on the adequacy of full-sized backup systems.

The "semi-scale" tests, as the experiments were called, suggested that steam pressure inside a real reactor might prevent emergency water from reaching the core in sufficient time or volume to save the reactor from severe damage or destruction. The tests were aimed at refining a computerized model of the LOFT reactor's behavior and were not meant to simulate events in an atomic power plant. Nonetheless, they did spur the AEC into reviewing the designs of backup cooling systems on power plants now in operation and on several scheduled to "go critical" soon.

After deliberating for 4 months, the AEC issued on 19 June an "interim policy statement" which suggested a slightly diminished confidence in the ability of emergency cooling systems to save a reactor—and perhaps the nearby populace—from the consequences of a broken pipe. Five older reactors, including the San Onofre plant nestled along the California coast not far from the western White House, were ordered to modernize their backup coolers by 1 July 1974. Until then, the policy statement said, the plants were to triple their inspections of pipes, pumps, and valves, in order to reduce the likelihood of an accident that would require the use of an emergency cooling system. In addition, four new atomic power plants were ordered to hold their peak operating temperatures down to 1260°C, although doing so might decrease their power output. The AEC said that these and other "clearly conservative" guidelines would remain in effect, "pending the development of further data," much of which would presumably come from LOFT during the next few years.

A DISMAL HISTORY

As an AEC budget summary described the LOFT project last year, it is the nation's "largest and most vital water (reactor) safety project," and it bears on the "most critical safety problem facing all water reactor plants"—namely, what to do when the core runs dry. But none of this urgency appears to have spared the program from a long and rather dismal history, marked at first by poor management, and more recently by a tight budget that has necessitated "terminations" and "reductions" in preparatory work.

The LOFT project has limped along under these circumstances since its inception in 1963. By the time its consummate experiments get under way in 1974 or 1975, it will have consumed more time from start to finish than the Apollo program took to land two men on the moon. "It went along for years with conflicting changes in intent and direction," one high-ranking AEC official said. "Project management in the early 1960's just wasn't that good. With better management it could have gone faster."

How much faster is suggested by the tables that the Joint Committee published in the record of its authorization hearings for fiscal 1971. Begun officially in September 1964, LOFT construction was supposed to have been finished in late 1967, at a cost of $19.4 million. But having since been expanded and upgrading to become the "focal point" of the water reactor safety program, LOFT equipment is not scheduled to begin debugging operations until mid-1972, at a final construction cost of $35 million.

Nor was this pattern of delay and overrun unusual for major test facilities at Idaho in the 1960's. The Advanced Test Reactor (ATR), billed as the world's most powerful reactor for testing nuclear fuels and core materials, suffered a 3½-year delay and a $17.7 million cost overrun that pushed its price to $57.7 million. The ATR finally achieved full-power operation on Christmas Day 1969, but only after "rather severe" construction flaws had required dismantling and rebuilding it. Still another major test reactor at the Idaho site, the Power Burst Facility (PBF), is expected to begin running this year, 4 years late and $6 million, or 70 percent, over its original cost estimate.

The AEC now blames many of these difficulties on the Phillips Petroleum Company's management of safety program operations during the 1960's. In 1969, the commission shifted responsibility for the program to Idaho Nuclear, a composite of Allied Chemical Corporation and Aerojet-General Corporation. Phillips then joined as a minor partner with no managerial responsibilities. "For one reason or another, we were unable to get the LOFT and PBF projects done," Shaw has said. "Phillips as a parent organization did not have that [necessary] kind of power or test reactor design and construction experience, and they were unable to recruit the kind of talent necessary to get the job done right."

LOFT and other projects are said to be moving along "tolerably well" now, but the

Idaho site's management ills were cured just as the safety research began a slow downward slide. Over a period of several years, expenditures for safety had crept up to a $37 million peak in fiscal 1970, then dipped to $36 million in 1971. As available money declined and inflation rose, a growing new emphasis on breeder reactor safety studies accelerated, thereby putting still more financial pressure on the full range of conventional reactor work, including LOFT and such elements of its supporting research as the semiscale experiments. "My problem," Shaw said recently, "was that I was going to have to phase out some of this work in fiscal 1972 unless we got more money."

The LOFT project won a reprieve of sorts in June, when the Joint Committee approved the the AEC's request for $2 million in supplemental safety funds. The emergency core-cooling flap weighed heavily on that decision, and therefore probably benefited the LOFT project as much as it did the safety of the public. (The committee also gave its blessing to the $4 million that President Nixon requested in his June energy message for breeder reactor safety.) But, as Kavanaugh had told the committee a month earlier, "I think we could use $30 million or $40 million [more]. . . ."

Certainly LOFT's financial problems have not been unique. To accommodate a smaller budget in 1971, the AEC closed down a small test reactor, the Capsule Driver Core, at Idaho and sacrificed a nonnuclear facility, the Containment Systems Experiment (CSE), at its Pacific Northwest Laboratory in Washington. Both were "producing rather important information," Shaw said last year, noting that "These are not facilities we would prefer to have closed down." By mothballing the CSE, for example, the AEC cut short a series of experiments to investigate the behavior of reactors during sudden losses of coolant. It also passed up an opportunity to test the performance of emergency core-cooling systems on a far larger and more realistic scale than it could in the miniature LOFT experiments. "The potential was there, and it could still be done," according to Andrew J. Pressesky, the assistant director for nuclear safety.

QUALITY CONTROL IMPEDED

In addition to these closures in fiscal 1971, the safety program sustained "general reductions, terminations, and delays in the initiation and progress" of a variety of projects, officials have said. Of these stringencies, the one that is hardest to justify, in Pressesky's view, was a reduction in support of a cooperative program between the AEC and industry to develop manufacturing standards for the pumps, pipes, and valves used in nuclear reactors. These standards are regarded as the backbone of quality assurance in reactor manufacturing, and in large part their development is the means by which safety research is translated into engineering practice.

Laxity in quality control was, to a major extent, responsible for costly delays in construction and interruptions in operation experienced by numerous atomic power plants during the 1960's. Faulty plumbing and welding still plague the nuclear industry, although to a lesser degree now. But AEC officials such as commissioner James T. Ramey, are still pressing for improved standards. "Despite the progress that has been made," Ramey told the Joint Committee in June, even higher priorities and more manpower must be applied to standards development." Despite such appeals, money for the standards program has declined by about 40 percent since 1970.

Privately, a number of AEC officials blame the safety program's erosion on an intensive Office of Management and Budget. As one man deeply involved in AEC safety affairs expresses it, "The OMB holds a somewhat simplistic view. Since the AEC has cut back its development work on water reactors, it asks 'why all this talk about more safety research.'" In an apparent campaign to explain why, a variety of safety advisory groups issued a flurry of admonishments in 1969 to the effect that money ought to be going up, not down. In June of that year, an internal AEC study group warned that "The large number of construction permits for . . . power reactors which have been issued in the last several years does not imply there is a decreasing need for water reactor safety research. Rather, because these construction permits were issued on the basis that planned programs would resolve certain safety questions related to these reactors . . . there is an increasing need for safety research." Another internal AEC study in October 1969 urged "a vigorous safety R & D program" and went on to say that "Major efforts are still required to resolve issues currently facing both reactor suppliers and those charged with safety assessment for the surge of light water power reactors announced in the 1965–68 period." In a 12 November 1969 letter to AEC chairman Glenn T. Seaborg, a similar appeal was made by the Advisory Committee on Reactor Safeguards when it complained that "only small or modest efforts" had been initiated in several key areas of safety and that "many safety research activities have not been initiated, have been slowed, or have been terminated." The letter said that the committee "reiterates its belief in the urgent need for additional research and development" in such areas as seismic safety and the safety of ordinary water-cooled reactors.

All these admonitions seem to have had little mitigating effect on the OMB's axe hand. It is true that over the past 2 years the OMB has been no more sanguinary than the commissioners themselves in cutting the requests of safety program administrators. Each sliced about $7 million from the $49 million lower-echelon request for 1972. On the other hand, the budget office allowed the AEC to ask Congress for only 40 percent of the supplemental safety funds the commission wanted last May, thus leaving about $3 million worth of high-priority projects unfunded.

It appears, however, that the OMB's fiscal pressure on the program is motivated less by malice or insensitivity than by a desire to force more of the burden of nuclear safety studies onto the nuclear industry. It also appears that AEC earnestly shares this desire. But it has so far achieved only modest success in buttonholing support from reactor manufacturers, who are said to be convinced that they are already selling a safe product, or from the electric utility industry, which is chiefly interested in buying a safe product and has notoriously little inclination toward research in the first place. As things stand, the nuclear industry continues to enjoy a kind of technological welfare that must seem lavish to aerospace corporations.

But from all of this, can one conclude that the safety of atomic power plants has been compromised? Senator Mike Gravel (D–Alaska), who has become a vocal foe of nuclear power, seems to think so. In a speech to the Oregon State Legislature not long ago he urged that every state "stop all construction of nuclear power plants until the safety problems are resolved and until we achieve the safety-first policies to which we are entitled." Last May, voters in Eugene, Oregon, approved a 4-year moratorium on a nuclear power facility planned for their area. Similar movements are afoot in the Oregon legislature, in Minnesota, in New York City, and in California where a citizen's group has succeeded in placing on the June 1972 ballot a proposal to ban power reactor construction for 5 years.

AEC officials understandably find such activities unjustified. And so, it seems, do the most influential conservation organizations, which say they prefer to weigh the merits of atomic power plants on a site-by-site basis rather than putting up blanket opposition to nuclear power.

For their part, AEC officials say that conservatism in plant design and operation should compensate for any uncertainties that remain in the behavior of reactors.

One AEC authority in reactor safety, and a man who is less reserved in his criticism of the agency than most, sums it up this way:

"I believe that nothing in the water reactor safety program is of low priority. It should all be done. And until these tasks are completed we are going to have to use rather more conservative bases for design judgments on plants, and we are going to have to make decisions with a certain lesser degree of cheerfulness, or confidence, than if we had the results of this research.

"We think we can set boundary conditions, so no matter how a reactor goes we are quite sure it's safe. But I find having to work this way intellectually less satisfying. . . . I prefer to *know*, in a quantifiable way, what the limits of safety are.

"However, I think we're in good shape, and that in the long pull, when we look back, we may see we spent money unnecessarily. At least that's what I trust we'll see."

Mr. GRAVEL. I also ask unanimous consent that the name of the Senator from Idaho (Mr. CHURCH) be added as a cosponsor of amendment No. 256. Even though that amendment has been disposed of, he wanted his name of record.

The PRESIDING OFFICER. Without objection, it is so ordered.

AMENDMENT NO. 255 AS MODIFIED

Mr. GRAVEL. Mr. President, the Senator from Rhode Island (Mr. PASTORE) and I have worked out an agreement. I envision no further rollcall votes on my amendments. I call up amendment No. 255, which deals with fusion, and ask unanimous consent that it be modified with respect to certain figures. I send to the desk the modification.

The PRESIDING OFFICER. Without objection, the clerk will state the modified amendment.

The legislative clerk read as follows:

On page 1, strike out lines 7 through 9, and insert in lieu thereof the following:

(a) For "Operating expenses", $2,029,571,000, of which not less than $31,000,000 shall be available for controlled thermonuclear fusion research and development, and of which not more than $116,400,000 shall be available for operating costs for the high energy physics program category.

The PRESIDING OFFICER. The Chair inquires of the Senator from Alaska whether this is one of the amendments on which a limitation of 1 hour has been agreed upon.

Mr. GRAVEL. Yes.

Mr. PASTORE. Mr. President, will the Senator yield?

Mr. GRAVEL. I yield.

Mr. PASTORE. Mr. President, I have discussed this matter with the Senator. We are perfectly willing to take a vote, and I would hope the Senate would agree to this amount. It is a reasonable request.

I want the RECORD to show that we have spent $440 million on thermonuclear research, and the best information we get from the scientists is that we are approximately 30 years away from something that might be considered really potential. But it is a field that has to be

explored, and I am perfectly willing to accept this amendment.

Mr. GRAVEL. I thank the chairman very much. This is not as much as I desire, but I am happy to take this amount because any gain is a gain.

Mr. President, I ask unanimous consent to have a fact sheet printed at this point in the RECORD.

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

INCREASING THE FUSION BUDGET

WHY FUSION?

Fusion has been called "the ultimate source of energy here on spaceship earth" by the late AEC Commissioner Theos Thompson (Nov. 5, 1970). "Assume, if you will, a world population by the year 2000 of 7 billion . . . and assume also a per capita consumption of electrical energy equal to twice that of today's U.S. consumption . . . Then, 1% of the deuterium in the world's water, even if we burn it with only 10% efficiency, would provide the world with enough energy for over 3 million years. One can thus recognize the truly dramatic promise which fusion power holds."

The potential pay-off from successful fusion research and development is unlimited electrical energy, safe and virtually pollution-free, plus a fusion "torch" which would convert garbage and other solid waste back into its constituent atoms for re-use. Fusion would produce little or no radioactivity, and neither use nor produce fissionable material which could be diverted into proliferation of atomic bombs around the world.

WHEN FUSION?

The consensus of experts is that the feasibility of fusion will be proven within 5 to 10 years, and that we could have commercial fusion plants producing electricity by 1990–2000. AEC Chairman Seaborg testified May 13, 1971 that we ought to increase fusion funding "on the possibility that we might be able to bring it in faster than some have testified."

PROGRESS TIED TO DOLLARS

Almost everyone in energy politics and fusion research agrees that the main factor limiting the rate of progress toward fusion power is financial. Fusion scientists know exactly what they need to do next, but they do not have the funds.

Unless Congress amends the AEC Authorization, the effort in fusion will suffer a net 1% reduction this year, due to inflation, while breeder research (not counting the demonstration plant) will enjoy a 53% increase.

While money will not guarantee successful fusion research, lack of money will guarantee failure. How does it happen that a poorer nation—Russia—is devoting about 3 times more manpower to fusion than we are? We fool ourselves if we think we are going as fast as we can in fusion. We are spending about 14¢ per person on it. Last June, the House Appropriations Committee said, "The Committee has long been concerned at the slow pace of the development of this (fusion) program which, if successful, could be the answer to the energy problems facing the nation and the world . . . The Committee hopes that future budget submissions will make more adequate provision for acceleration of this research and development effort."

ATTACHMENTS

1. Comparison of fission and fusion.
2. Statement about our future energy choices (solar, fusion, fission) by Dr. Hannes Alfven, 1970 Nobel Laureate for Physics (in the *Congressional Record*, May 26, 1971)

FUSION AND FISSION CHARACTERISTICS

Fusion

1. Cheap, safe fuel such as seawater (deuterium), lithium, helium.
2. Little or no radioactivity.
3. Inherently safe anywhere.
4. Potentially 90% efficient; no thermal pollution.
5. Potential for fusion torch solving the solid waste recycling problem.
6. No fissionable material which could be diverted for proliferation of atomic bombs around the world.

Fission, breeder or conventional[1]

1. Breeders fueled by plutonium, the most dangerous substance known to man; both breeders and conventional nuclear plants creating immense quantities of plutonium.
2. Immense radioactive legacy for the next 50 generations.
3. Inherently dangerous anywhere.
4. Only 33–40% efficient; tremendous thermal pollution.
5. Potential for permanently poisoning the planet with radioactive pollutants, and massive increases in cancer, genetic mutations, mental retardation, deformities, and all kinds of diseases.
6. Probability of atomic-bomb proliferation, and growth of a plutonium black-market.
7. Massive increase in security checks to prevent plutonium thefts and sabotage.
8. Vulnerability of power plants to sabotage, attack, earthquakes, and accidents whose consequences could practically bring this country to its knees, and impair its national security.

We must be careful that fusion is not delayed in order to make the breeder look like an attractive investment.

Some of the main fusion research centers are located as follows:

New York: Columbia University.
New Jersey: Princeton University.
Tennessee: Oak Ridge.
Michigan: University of Michigan.
Wisconsin: University of Wisconsin.
New Mexico: Los Alamos.
California: Lawrence Radiation Lab.

Mr. PASTORE. How much is the Senator adding to the amount?

Mr. GRAVEL. The total addition is $1.2 million. It makes a total of $31 million. In my amendment where I have $43,770,000, the figure is now $31 million. So it is a $1.2 million increase above the $29.8 million in the committee recommendation.

Mr. PASTORE. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. GRAVEL. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. GRAVEL. Mr. President, so that the modification of my amendment is clearly understood at the desk, the figure on line 1 is changed from $2,039,541,000 to $2,029,571,000. On line 2, the figure is changed from $43,770,000 to $31 million. That is the modification.

Mr. PASTORE. Mr. President, we have straightened out the figures now. I would hope that the Senate would approve the amendment.

I yield back the remainder of my time.

Mr. GRAVEL. Mr. President, I thank the chairman very much for working out this accommodation.

I ask unanimous consent to have my statement in connection with this matter printed at this point in the RECORD.

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

THE MERITS OF FUSION

The potential pay-off from successful fusion research and development is unlimited electrical energy, safe and virtually pollution-free, plus a fusion "torch" which could convert garbage or any other substance back into its constituent atoms—for example, pure carbon, iron, silicon, and so forth. (For torch details, see *Fortune* reprint and *Science News* article).

In other words, the achievement of practical fusion power could have a profoundly beneficial impact on this endangered planet.

Fusion research is officially called the controlled thermonuclear research (CTR) program. The word controlled is important. The sun and other stars demonstrate the controlled fusion of atomic nuclei. *Un*controlled fusion is manifest in the explosion of a thermonuclear bomb. *Controlled* thermonuclear fusion would release the energy of fusion reactions for electrical generation or other beneficial uses, instead of for destruction.

One of the principal fuels for fusion power plants could be deuterium, which is a form of hydrogen easily separated from ocean water. A little deuterium would go a very long way. For instance, the deuterium required to fuel the entire world at projected power demands, would result in a lowering of ocean level by less than one/one thousandth of an inch after a million years. (Source: Letter to O'Connor from Dr. Richard Post, October 5, 1970).

Deuterium is also found in fresh water. A kitchen faucet turned on full could yield enough deuterium to supply the whole present United States electrical power demand. (Source: same letter above.)

A home using 12,000 kilowatt-hours of electricity per year, which is a common amount, would require the consumption of fusion fuel weighing only about as much as one-third of an aspirin pill. That is about ten million times less than the weight of fossil-fuels now burned to service a home at that electrical consumption-level.

If we insist on going for the most ideal kind of fusion reaction instead of the easiest, we could eliminate radioactive and thermal pollution completely. We could build power plants safely right in the middle of cities. And not least of all, fusion plants would eliminate the danger of black-market atomic bombs, which are an unavoidable possibility as nuclear power plants proliferate. (See, for instance, *Science* magazine article, April 9, 1971, "Plutonium: Reactor Proliferation Threatens a Nuclear Black Market").

Today's nuclear power plants are fission reactors in which atomic nuclei are split into intensely radioactive and often long-lived fission products—a radioactive legacy for at least 50 generations in return for some electricity today.

In contrast, fusion plants require a nuclear reactor in which atomic nuclei fuse, or combine, instead of splitting. An ideal fusion reaction (e.g. fusing lithium-6 and a proton) could produce virtually zero radioactivity; even the easiest fusion reactions (e.g. fusing deuterium and tritium or deuterium and helium-3) could produce a radioactive hazard approximately a million times less than the fission-reactions in nuclear power plants. (Sources: *Scientific American*, Feb. 1971, "The Prospects of Fusion Power" by Drs. Gough and Eastlund; also *Fortune*, June 1970, "The Hot New Promise of Fusion"—Record reprint Aug. 5, 1970).

Put another way, the radioactive hazard from fusion would be zero to minimal, whereas a single 1000-negawatt nuclear power

[1] For a documented discussion of fission, please see the *Congressional Record*, July 8, 1971, pages 24010–24023.

plant (fission) produces enough radioactive plutonium every year to give 500 billion people the maximum permissible amount, plus as much long-lived radioactive fission waste as is produced by exploding about 1,000 Hiroshima bombs. One plant, for one year. One plant for 20 years produces more long-lived radioactivity than all the American, British, and Russian atmospheric bomb-tests combined. That is a fact of physics, and better engineering will never change it. As representative Chet Holifield, senior member of the Joint Committe on Atomic Energy, recently acknowledged, nuclear power plants are "inherently highly dangerous". (speech, May 21, 1970).

Fusion, by contrast, could be inherently safe. The safety advantages of fusion over fission are acknowledged to be so great that fusion plants will start replacing nuclear power plants just as soon as fusion is available; and according to AEC Chairman Glenn Seaborg, this will start happening no matter how great the investment has been in nuclear fission plants (Source: Seaborg's testimony May 13, 1971 to JCAE). The late AEC Commissioner Theos Thompson pointed out the same thing in a speech Nov. 5, 1970: "I believe it is likely that the fusion process will provide sufficient advantages so that it will naturally replace fission reactors whenever it becomes available and economic." Dr. Hannes Olof Alfven, who won the 1970 Nobel Prize for physics, has written that when fusion is achieved, "the fission reactor, especially the breeder, will be of interest only as a danger which must be eliminated as soon as possible" (Alfven statement, April 2, 1971).

The safety of fusion plants will not be their only advantage. Through direct conversion of charged particles in the fusion fuel into electricity, efficiencies might reach 90% or higher, compared with about 33% for today's fission-reactors and perhaps 40% for the breeders. Fusion efficiency may reduce direct cost, and even more important, will certainly reduce indirect costs like thermal pollution.

The safety of locating fusion plants inside cities is obviously another economic advantage which fission plants can not offer.

Fuel availability for fusion is another advantage.

Furthermore, fusion presents no security problem; whereas a fission-based nuclear energy economy will require security clearances of a potentially totalitarian character. There is no fissionable weapon-material involved in fusion.

And not least, there is the potential payoff of a fusion torch to apply to our gross national garbage.

No wonder the editorial in *Business Week*, Sept. 12, 1970, said, "Fusion power is worth the effort" and called upon the administration and Congress to "inject a sense of urgency" and some big money into the program.

It may shock some of my colleagues to learn that, instead of increasing American effort in fusion, we will actually be reducing our fusion program unless we amend the AEC budget which is now before us. But I will postpone funding details for a moment.

PROSPECTS FOR ACHIEVING FUSION

I believe that about the only argument which opponents of this amendment can make is hollow, and it goes something like this:

Perhaps controlled fusion can never be achieved. Do you know for sure that it does not defy some law of nature?

The same question was raised just before the Wright brothers took off from Kitty Hawk.

The same question is the only imaginable argument against this amendment. Therefore it is important to discuss the prospects for achieving fusion.

No one knows "for sure" that controlled fusion can be achieved. Uncertainty, however, has seldom prevented us from investing untold billions in unproven weapon-systems, many of which never work out. Today I am urging the Senate to place a bet on something *constructive* for the human race.

Physicists do not promise to pay off on this bet, but they come about as close to making a promise now as anyone can.

Harnessing fusion "is probably the most difficult technical task that has even been attempted, bar none," said Dr. Melvin Gottlieb, director of the Plasma Physics Lab at Princeton, "but we are beginning to find we have it by the tail". (Quoted in *Business Week*, Sept. 12, 1970, p80).

Controlled fusion and plasma physics are intimately related. At the temperatures required for fusion reactions, all fuels have not only vaporized, but they have also broken up into a mixture of negatively charged electrons and positively charged nuclei. The mixture is called a plasma. Since plasmas behave in some unique ways foreign to solids, liquids, and gases, they are often considered a fourth state of matter.

There was a period in the fifties and early sixties when plasma physicists began to fear that they might be up against some unknown law of nature in their effort to control fusion. But in early 1969, the Russians made a significant fusion breakthrough which was rapidly confirmed by the British.

By 1970, the AEC's Dr. Robert Hirsch expressed the new confidence: "Nature is not against us in this work. It appears that all we have to do is be careful and do the right things." (Source: *Fortune* article, June 1970—Record reprint Aug. 5, 1970).

On March 8, 1971, the first successful demonstration of an American fusion device called Scyllac prompted Dr. Fred Ribe at Los Alamos Scientific Laboratory to say, "We got a beautiful rosy pink glow everytime we ionized the gas . . . we're on the right road to fusion." Six hours after Scyllac was first turned on, Ribe reported, "We're still firing off plasmas. We've fired off hundreds so far, and not once have we seen anything but a completely successful containment of the gas. We feel we've hurdled one of our toughest hurdles . . . We feel we're on our way."

There are three requirements for successful fusion—confinement time, temperature, and plasma density. These requirements are now being met, or are about to be met, separately in various fusion devices. When all three requirements are achieved in a single machine, the feasibility of controlled fusion will have been proven. We will know "for sure". We will have made a gamble *for* humanity this time, and won. It will be a day of profound excitement and rejoicing.

The general feeling among experts is that feasibility of fusion will be demonstrated in 5 to 10 years. (For sources, see separate list called "Time Estimates".) If so, a large prototype fusion plant producing electricity could be in operation between 1980 and 1990. Commercial fusion electricity could course through our power grids by 1990 or 2000.

Money is the key.

THE RELATION OF PROGRESS TO DOLLARS

AEC Chairman Glenn Seaborg testified on June 15, 1971, to the Senate Interior Committee that, "the potential advantages of fusion power in terms of fuel reserves, compatability with environmental quality, and technological applications are so impressive that the CTR program should proceed as rapidly as technological progress permits."

Almost everyone in energy politics and fusion research agrees that the rate of progress in fusion has become directly tied to available funds. (For sources, see separate list called "Dollar Needs"). This was not always the case; it is the result of recent breakthroughs.

We should listen carefully to the opinion of Dr. Hannes Olof Alfven on this matter. Dr. Alfven's pioneer work on plasma physics was cited when he was awarded the 1970 Nobel prize for physics. He has this to say:

"There is general agreement that no fundamental obstacle is likely to prevent the construction of a fusion reactor, but there are a number of difficult scientific and technical problems which must be solved. There is much speculation about how much time is needed to solve these problems, but it is just as much a question of how much effort has to be spent.

"In my opinion, a solution of the fusion problem is less distant today than the moon was when the Apollo project started. This means that if a national effort of the same kind as the Apollo programme were made, the fusion energy would be available in a comparable time." (Source: Alfven's April 2, 1971 statement). See also Myers.

A year earlier, Dr. Robert Hirsch, then acting director of the AEC's fusion program, said: "We're now at the point where a lot of money could do a lot of good—something we could not have said a year ago." (Source: *Fortune* article, June 1970).

In March, 1971, Dr. Donald Grove of the Princeton Plasma Physics Lab stated: "There is no doubt that controlled fusion, if successful, will supply essentially forever the power needs of mankind in a safe, non-polluting form. We must expand our research efforts and fortunately we are, at the moment, in a scientific position where we know precisely how to extend our present knowledge through new machines already on the drawing boards—but for which funds are not available." (Source: Letter to Gravel, March 22, 1971).

A fusion physicist at the University of Michigan, Dr. Richard Osborn, wrote in February of this year: "In my opinion, it is not premature for people in policymaking positions in the Federal Government to take a serious look at the possibility of drastically increasing the level of our national effort with regard to this matter"—Fusion. (Source: Letter to Gravel, Feb. 23, 1971.)

As I said earlier, this country's fusion effort in fiscal 1972 will actually *decrease* unless we amend the authorization now before us.

EDITORS URGING SUBSTANTIAL FUSION INCREASE

My colleagues may have missed some editorial opinion of interest on the fusion funding.

The editors of *Business Week*, for instance, emphatically support greater investment in fusion: "The time has come for Congress and the administration to start planning a major program to take advantage of what would be one of the greatest opportunities opened by modern science: the development of nuclear fusion as a source of electric power . . . the Government must inject a sense of urgency into the project. Fusion power is no longer a pipedream. It could become a reality if the U.S. will put forth the effort to bring it into being." (Source: *Business Week* editorial, Sept. 12, 1970, p. 134.)

The editors of the *New York Times* seem to agree: "The case for a substantial increase in the present miniscule expenditure on this research (fusion) seems compelling . . ." (Source: NYT editorial July 31, 1970).

After President Nixon's energy message, which gave lipservice to fusion and solar energies but which gave all the dollars to nuclear fission, *The Washington Post* editors wrote: "We wish the President had put the same emphasis on the development of a fusion reactor that he did on the breeders . . . we hope that Congress will examine this project with an eye toward increasing (fusion) funding if more money can be spent usefully at this time." (Source: *W. Post* editorial, June 9, 1971.) Just 3 months earlier, *Washington Post* editors had written that fusion "would be such a boon to mankind that the United States could make no greater contribution than to commit whatever

resources are needed to bring it into existence." (Source: *W. Post* editorial, Mar. 11, 1971.)

THE FUSION BUDGET PICTURE

I repeat: unless we amend the AEC authorization now before us, there will be a 1% reduction in the fusion effort in the coming year.

To his everlasting credit, AEC chairman Glenn Seaborg fought this year to prevent even deeper cuts in our fusion program. On May 13th, he personally asked some clearly unsympathetic committee members to raise the fiscal 1972 operating budget for fusion from $28 million, which was the initial administration request in February, to $29.8 million. I would like to quote some remarks from that May 13th hearing:

Representative HOSMER. "This is a rather opportunistic stab at getting some money when the subject is popular."

Senator PASTORE. "That is the point. The environmentalists have been saying 'stop your reactor program and get into thermonuclear control' (fusion). I am wondering if there are any politics in this (request for additional money) or if there is scientific judgment."

Dr. SEABORG. "I think that we should increase our effort in fusion . . . on the possibility that we might be able to bring it in faster than some have testified."

Representative HOLIFIELD. "I personally do not believe fusion should be escalated to the point where it in any way detracts from the urgent work that we need to do on the fast (fission) breeder."

Dr. MCDANIEL (AEC Director of Research). "The total manpower in the (fusion) program will be less even with this amendment than it is during the current fiscal year."

Let me put any figures we will discuss today about fusion into perspective:

Table: Recent history of fusion funding

Fiscal 1969: Operating expenses	$26, 775,000
Fiscal 1970:	
Admin. request, operating expenses	27, 800, 000
JCAE recommendation	27, 800, 000
Fiscal 1971:	
Admin. request, operating expenses	29, 610, 000
Equipment and building	1, 940, 000
JCAE recommendation, operating expenses	[1] 28, 610, 000
Equipment and building	1, 940, 000
Appropriation, operating expenses	[2] 28, 610, 000
Equipment and building	1, 940, 000
Fiscal 1972: Administrative request, Feb. 1971:	
Operating expenses	28, 000, 000
Equipment and building	2, 240, 000
Augmented Admin. request, May 13, 1971 and reiterated in Nixon's energy message June 4, 1971: additional $1.8 million for operating exp.	
Operating expenses, new total	[3] 29, 800, 000
Equipment and building(?)	2, 400, 000
JCAE recommendation:	
Operating expenses(?)	
Equipment and building(?)	

[1] The JCAE explained its cut in requested fusion funds for Fiscal 1971 this way: "The Committee is well aware of the importance of CTR research (controlled thermonuclear research-fusion) and the tremendous impact a successful fusion reactor will have for the benefit of all mankind . . . However, the Committee is of the opinion that, with more discipline in allocating funds . . . substantial progress can be effected at a funding level of $28,610,000 which is $1 million below the amount requested." (Source: JCAE Report 91-852, May 11, 1970).

In fact, the amount recommended by the JCAE, which represented a 3% increase over Fiscal 1970 dollars, meant a net *reduction* in the fusion program, due to inflation.

[2] In June 1970, the House Appropriations Committee expressed its disapproval of the cut: "The Committee has long been concerned at the slow pace of the development of this (fusion) program which, if successful, could be the answer to the energy problems facing the nation and the world . . . The Committee hopes that future budget submissions will make more adequate provision for acceleration of this research and development effort." (Source: House Appropriations Committee Report for Public Works, No. 91-1219.).

[3] This augmented Administration request for Fiscal 1972 represents a dollar increase of less than 1% over its request for Fiscal 1971:

Fiscal 1971 *request*—$29,610,000.

Fiscal 1972 *request*—$29,800,000.

With a 5% inflation factor, the net result is a *reduction* of 4% in the request, compared with the Fiscal 1971 *request* (NOT compared with the Fiscal 1971 appropriation).

The augmented Administration request for Fiscal 1972 ($29,800,000) represents a dollar increase of 4% compared with what Congress/JCAE actually gave fusion last year ($28,610,000). But with a 5% inflation factor, the net result is still a *reduction* of 1% in the fusion program. This fact is reflected in Dr. McDaniel's statement about cutting manpower (see page 19 of this paper).

(NOTE.—The May 13th request to the JCAE is the one referred to in Nixon's energy message June 4th. The Administration has requested only one increase since January 1971, not two.)

Table: Comparison fusion and fission funding—Tax dollars

Total fusion funding: Since inception (1952), official figure	$450, 000, 000
Total funding civilian nuclear power plants: (light water reactors) since inception (about 1952 in earnest), official figure	2, 000, 000, 000
Plus a $17 billion investment by private industry. Breeders not included.	
Total funding plutonium breeder to 1970: Estimate in in the press	1, 000, 000, 000
Additional government breeder funding: Between 1970-84, official figure	2, 000, 000, 000

Estimated fiscal 1972 budget consumed by civilian nuclear power—fission

	Million
Civilian reactor development	[1] $377
Regulation	13
Biology and medicine	[2] 75
Training, educ, info	[3] 6
Total	471

[1] This figure includes the additional $77 million asked by President Nixon (June 4, 1971) for the breeder this year above his original $139 million request (January).

The breeder spending for Fiscal 1972 will be: Research and development, $130,000,000; demonstration plant, 86,000,000—of which $36 million may have already been authorized in previous years and therefore not to be found in the Fiscal 1972 authorization legislation.

[2] The full biology and medicine budget Fiscal 1972 is $94,530,000. The program would be unnecessary if there were no threat of nuclear pollution! Furthermore, NIH—not AEC—would be doing the research under normal circumstances.

[3] The full information/public relations/scholarship budget is $13,316,000; allow half for military activities.

With the exciting new breakthroughs in fusion, it passes all understanding that the effort in fusion will be actually *reduced* this year unless we amend the AEC authorization now before us.

Would we dream of reducing our effort in cancer research in the face of some fabulous progress? Let us not commit such a folly with regard to fusion, which has such a momentous contribution to make to the welfare and safety of this nation and of all mankind.

How does it happen that a poorer nation—Russia—is devoting about three times more manpower to fusion research than we are? (Sources: *W. Post*, 5 July 1970; *W. Post*, 27 April 1971; *Evening Star*, March 11, 1971).

EFFECT OF THIS AMENDMENT

How can the fusion program expand quickly?

I'll suggest a way:

After existing AEC fusion projects take the funds they need so badly, the remainder of the new funds should be spent inducing physics students, and a few thousand unemployed scientists and engineers, to apply their brainpower freshly and without preconceptions to the problem of creating practical fusion power.

For instance, a major effort is needed just on direct-conversion systems which can produce electricity right from electrically charged plasmas without the inefficient and thermally polluting steam cycles—to say nothing of engineering required on the fuel-injection systems which will be a vital determinant of fusion efficiency. Mammoth magnets need to be engineered. These efforts, and many many more which are already known to be needed, could begin now if money were available.

When we notice that some of the best and most original ideas in solar electricity are coming from scientists in disciplines almost unrelated to solar energy, such as optics and organic chemistry, it is easy to see how a massive influx of fresh ideas into the fusion program could produce exciting progress. Presently, there are only about 300 scientists in the country working in the fusion program. We fool ourselves if we believe we are moving the fusion program forward with anything approaching maximum speed.

I cannot help doubting the sincerity of people who wail and lament about the so-called energy problem, but who hesitate to support fusion with, let's say, three thousand brains out of our labor force of 80 million Americans. We are surely not short of brainpower looking for useful employment. An increase of $57 million in the fusion program might just result in a decrease in welfare rolls somewhere.

Furthermore, I believe the reverberations from tripling the fusion effort would favorably affect the research climate in many other fields. A vote of confidence from the Congress in a peaceful, humanitarian, unclassified effort like fusion would be a significant sign to people on the verge of dropping out, or being forced out, of scientific work.

Presently we are spending about 14¢ per person per year on fusion research and development.

When—in the race between population growth and ecological ruin of the plant—the benefits of fusion could be so enormous for this country and for all mankind, I believe all our constituents would want us to bet a few cents more to win, place, or show on the fusion entry.

One of the world's leading fusion experts, Dr. Richard Post, at the Lawrence Radiation Laboratory in California, attending a meeting at the National Academy of Sciences on April 26, 1971, stated his opinion that United States' spending on fusion should be increased to $50,000,0000 or $60,000,000 per year now, and climb to $100,000,000 per year within the next five years. (Source: *W. Post*, April 27, 1971, p2).

An increase to $50,000,000 a year is also requested by Dr. Robert G. Mills of the Princeton Plasma Physics Laboratory:

"It is certainly true that the rate at which progress is being made is now limited by

budgetary constraints. As the principal stumbling block on the road to a successful (fusion) reactor, namely the lack of adequate plasma confinement, seems to be in the process of being surmounted, the experimental program tends to move toward larger devices. With the static budget that is available for the (fusion) program, it is impossible for the various laboratories to undertake simultaneously large projects, and the decisions on which ones to fund first require careful consideration of all points of view to make sure that the funds are being distributed in the most beneficial manner for the program as a whole. As a result of these very careful considerations, the review and approval time becomes quite long, so that not only are fewer than the optimum large projects funded, but there are excessive delays in getting the project underway. This double problem would be much improved by an increase in the budget between 50 and 100 percent." (Source: Letter to Sinclair, April 2, 1971).

What this amendment does: 53% increase like the breeder; total $43.77 million.

The administration has asked for a 53% increase over last year in the plutonium breeder research—from $85 million in fiscal 1971 to $130 million in fiscal 1972.

This amendment would give equal treatment to fusion by increasing fusion research 53% over last year—from $28,610,000 to $43,770,000.

It is incomprehensible to acknowledge the obvious advantages of fusion over fission, while giving all the dollars to fission.

LIST COMPARING FUSION AND FISSION CHARACTERISTICS

Fusion

1. Cheap, safe fuel such as seawater (deuterium), lithium, helium.
2. Little or no radioactivity.
3. Inherently safe anywhere.
4. Potentially 90% efficient; no thermal pollution.
5. Potential for fusion torch solving the solid waste recycling problem.
6. No fissionable material which could be diverted for proliferation of atomic-bombs.

Fission, breeder or conventional

1. Fueled by plutonium, the most dangerous substance known to man.
2. Immense radioactive legacy for our descendants.
3. Inherently dangerous anywhere.
4. Only 33–40% efficient; tremendous thermal pollution.
5. Potential for permanently poisoning the planet, and massive increases in cancer, genetic mutations, mental retardation, deformities, and all kinds of diseases.
6. Probability of atomic-bomb proliferation, and growth of plutonium black-market.
7. Vulnerability to sabotage, attack, earthquakes, accidents, whose consequences could practically bring this country to its knees, and impair its national security.
8. Massive increase in security checks to prevent plutonium thefts and sabotage.

If we take a 5% inflation factor into account, the administration is increasing the breeder effort 48% in fiscal 1972 *while decreasing the fusion effort by 1%.*

It is clear from testimony in the Joint Committee on Atomic Energy and speeches elsewhere, that breeder reactors look like a poor investment—both for tax-payers and for private investors—if fusion reactors are going to come along only 5, 10, or 15 years later and make breeders obsolete. (Discussed on page 6 of this paper).

We must all face a political fact of life: *If fusion could be delayed,* the breeders would look like a more attractive investment.

We must take extreme care, starting today, that fusion is not delayed in order to help justify the breeder program. (See Holifield's remark, quoted here on page 19).

The advantages of fusion over the breeder are acknowledged by everyone. Let's pay fusion more than lip-service. Common sense and a decent regard for our descendants argue for an *acceleration* of the fusion effort.

I would like to quote the opinion of Dr. Herman Postma, Director of the Oak Ridge Fusion Program. With great honesty, and probably inadvertent poignancy, he says that while augmented funding for fusion would not *guarantee* its success, the lack of augmented funding "would be a guarantee of failure." (Source: Letter to Sinclair, April 20, 1971).

Let us not guarantee failure. The idea is revolting. Let us support success. Let us vote for this increase in the fusion budget.

Dr. Robert A. Gross, who is chairman of the department of mechanical engineering at Columbia University, wrote to one of my Senate colleagues as follows on March 15, 1971:

"The American people should have a choice of power forms in the future . . . I know of no other scientific achievement that would have greater and more beneficial effect upon the United States, and particularly the cities, than the successful attainment of controlled thermonuclear fusion power production. The breeders produce radioactive ashes which, once made, are inherited by future generations and there is no way in which these ashes can be destroyed: They must be stored in the ground. Fusion has essentially no such problem. But it is not yet possible to control fusion. Many of us believe that this research area is pregnant, that success is near, and the next few years are particularly important . . . an additional appropriation of about ten million dollars for the controlled fusion program would have a very substantial healthy effect . . ." (Source: Letter March 15, 1971, to Sen. Jacob Javits.)

What does the amount $10 million represent?

It represents only a nickel per person in the United States, but to the determined and tenacious men in fusion research, it could mean the difference between frustration and success. To all human beings, it could means abundant energy and liberation from the legacy of undisposable radioactive garbage produced by nuclear fission plants.

This Government gives away $10 million for far less lofty reasons than energy research. For instance, the Government gives away $10 million per year in lost revenue by tax deferrals to shipping companies. And another $10 million in revenue lost by not taxing income earned by individuals in U.S. Possessions. (Source: Joint Economic Committee, June 4, 1971, from U.S. Treasury figures.)

I would like to compare the fusion budget with the fission budget this year.

Unless we amend the AEC authorization, nuclear power plants—fission—will require about $450 million AEC dollars. (Figures are on page 22 of this paper.)

Fission requires more than additional research and development, for which about $377 million is budgeted. Fission also requires improvement of our uranium enrichment facilities, regulation, safeguards, medical research on radiation damage, and public relations.

The fission total for fiscal 1972 alone comes to at least $450 million—which is equal to the AEC's entire investment in fusion over the last 20 years.

When we compare the advantages of fusion and the dangers of fission, it is very difficult to justify a continuation of this imbalance . . .

Everyone agrees that lack of money today is delaying fusion.

Either we believe in fusion and in the importance of ecologically sound energy for the future—or we do not. If we do, then $15 million increase for fusion, in the light of the recent progress in fusion research, is modest indeed.

I urge my colleagues to pass this amendment.

TIME ESTIMATES FOR FUSION

Alfven: Less than a decade to prove feasibility; depends on budget.

Furth (Princeton): feasibility before 1980; practical fusion plants by the end of the century.

Drummond (Univ. of Texas): Feasibility in the "Texas Tokamk" this year or next.

van Atta (LRL): feasibility by 1977 if we get the budget now.

R. Post (LRL): political realities have kept fusion funding static since 1961.

Feasibility proven in 5 years, if we get the budget NOW.

Gough-Sastlund (AEC): Large prototype fusion plant in as little as 10 years, depending on the budget. Large part of the program now spent in trying to reduce the cost of proving feasibility!

Grove and Dawson (Princeton): Feasibility by 1975; if so, prototype fusion plant by 1990.

Gottlieb (Princeton): Feasibility in the 1970's; then full-sized fusion plant 15 years later.

The first fusion electricity in 1980's.

Washington Post report: Concensus is feasibility by 1978.

Hirsch (AEC): Points out why the engineering won't take as long to develop for fusion as it did for fission. Predicts feasibility between 1976–1978, and first commercial fusion plants ready between 1990–2000 "depending on funding and technical developments."

Dr. Teller (Lawrence Rad Lab): Commercial fusion by 1990 or sooner, if we start doubling or tripling the budget now.

Evening Star report: Russians expect prototype fusion plants producing electricity within 10–20 years.

Ribe (Los Alamos): "We're on our way."

Postma (Oak Ridge): After feasibility, 30 years for engineering.

Pease (Culham): feasibility by 1980.

Myers (LRL): Economic fusion power on the grids in 1980's or 1990's, depending on the budget.

Siegel (KMS): "Fusion can certainly be solved in a much shorter time than government experts say."

Seaborg (AEC): "I've been saying the year 2000 . . . for a large, economic, commercial fusion reactor."

JCAE Report (41); Commercial fusion by 1995–2005 (25 or 35 years away).

Chet Holifield: (JCAE): Fusion is 30–40 years away (May 13, 1971).

Pastore (JCAE May 13 hearing): Fusion is 40–50 years away.

DOLLAR NEEDS FOR FUSION

Gough and Eastlund (AEC): "At present, the main factor limiting the rate of progress toward fusion power is financial."

Aleven (Univ Calif): A real commitment would bring us fusion faster than Apollo brought us to the Moon.

Myers (LRL): "If fusion power is to come in the 1980's, it would require the National Goal type support which took us to the moon in the 1960's. It would also require significant modification of the fast breeder reactor plan upon which the U.S. has embarked. . . . We are proposing a preliminary (fusion) engineering program to the AEC. There are many tasks which need to be done. Most of them could start right now with appropriation of the necessary funds."

Hirsch (AEC): A lot of money would do a lot of good. We could triple the budget and not waste anything.

Teller: Strongly advocates somewhat gradually doubling or tripling of budget.

Grove (Princeton): We know exactly what needs doing, but funds are not available to do it.

van Atta (LRL): The effort required to prove feasibility is far greater than we shall be able to provide within the limits of the proposed budget (June 1970).

Osborn (Univ. Michigan): Fusion needs a "massive" and "drastic" budget increase.

Richard Post (LRL): We should increase the fusion budget to $50 or $60-million per year NOW.

Mills (Princeton): We should increase fusion funding by 50%–100% NOW.

Gross (Columbia Univ): $10 million more for fusion would have a substantial, healthy effect on progress.

Postma (Oak Ridge): Lack of augmented funding "would be a guarantee of failure".

Seaborg (AEC): We should increase our effort in fusion on the possibility that we might be able to bring it in faster.

Editorials in Business Week, N.Y. Times, Washington Post, Wall Street Journal.

Mr. GRAVEL. Mr. President, I yield back the remainder of my time.

The PRESIDING OFFICER. All time on the amednment has been yielded back.

The question is on agreeing to the amendment of the Senator from Alaska.

The amendment was agreed to.

AMENDMENT NO. 258

Mr. GRAVEL. Mr. President, I have an amendment with respect to solar electricity, asking for a small sum of money, and the chairman has assured me that, since this is plowing new ground, he will hold hearings on it, and I will have an opportunity to testify. I am satisfied with that assurance, and I expect to encourage scientists to come before the committee and make a new case for the encouragement of solar energy. So my amendment No. 258 will not be called up.

I ask unanimous consent to have printed in the RECORD my fact sheet and a letter from Dr. Hannes Alfvén, 1970 Nobel Laureate in Physics.

There being no objection, the fact sheet and letter were ordered to be printed in the RECORD, as follows:

FUNDING FOR SOLAR ELECTRICITY

WHAT THE AMENDMENT PROPOSES

Title II of H.R. 9388 amends the Atomic Energy Act to permit the AEC to undertake work in non-nuclear sources of clean energy. This amendment, which makes use of Title II, directs the AEC to spend $3,000,000 during Fiscal 1972 on solar energy. The amendment would fund about 75 people (out of an American work force of 80 million people) to reduce the cost of making electricity on earth from sunlight.

WHY SOLAR ELECTRICITY?

The sun is an inexhaustible source of safe, free, and pollution-free "fuel", and furthermore, man already knows to turn sunlight into electricity. We have been doing it reliably in the space program for 10 years. We could do it on earth, too. (For a documented discussion of solar energy, please see the *Congressional Record*, July 8, pp. 24010–24023.)

We know how to store the sun's energy for nights and dark days, and how to deliver it over long distances.

Enormous land areas in the arid parts of the United States are low productive regions. Many thousands of square miles could be made highly productive by "harvesting" a crop of electricty power for sale. In fact, sunshine harvested from just 1% of the land area of the continental United States could generate enough electricity to meet the nation's entire electrical power demand in 1990 (estimated at 6.6 trillion kwh/year); that statement is based on the present 7% conversion efficiency of solar cells, although we already achieve 14% efficiency in the lab, and expect 20% soon. Another proposition, using solar collectors instead of solar cells, would require only 8% of the nation's deserts to meet the projected electrical demands in 1990.

These are not "pie-in-the-sky" dreams. The techniques are known. What is required to produce operating system is money.

THE ECONOMICS

People who say that solar electricity is not "economic" or "not competitive" fail to note that it took over $2 billion in government development subsidy, government-fixed fuel prices, and removal of liability for public injury, to make nuclear fission look "economic" and "competitive." Now the government is asking for about $2½ billion *additional* tax-dollars to make the breeder reactor commercially attractive.

It could be argued that the crucial gap (besides safety) between nuclear electricity and solar electricity is the multi-billion dollar government subsidy for nuclear electricity.

The government has spent *zero* dollars toward the development of large-scale solar electrical generating plants. The only government support for solar electricity has been in NASA, and that was for small-scale, specialized applications; Dr. Warren Donnelly of the Legislative Reference Service estimates the total NASA investment in solar energy during Fiscal 1971 was $2.8 million.

It makes no sense to lament an alleged conflict between energy and the environment when we have ignored our most obvious source of natural energy.

FISSION AND FUSION REACTORS

In the long run fossil fuels cannot satisfy the rising energy demand in the world. There are only three sources of energy known which are sufficiently powerful.

(a) Solar energy
(b) Fusion energy
(c) Fission energy

The first one is completely pollusion-free, the second one almost pollution-free. The third one is necessarily combined with production of large quantities of radioactive poisonous elements.

In my opinion, the dangers associated with the fission energy have not received necessary attention. Whether the pollution caused by fission reactors in normal operation is below a safe level or not is a controversial matter. If a reactor goes out of control, the consequences may be terrible. Even if extreme safety precautions are taken, the large quantities of radioactive material in them constitute a permanent danger. For example, in periods of political or social unrest, sabotage against reactors may cause catastrophes. Furthermore, in a full scale fission programme, the radioactive waste will soon become so enormous that a total poisoning of our planet is possible. Under such conditions safety margins which are acceptable in other fields, are inadequate. It is not evident whether the waste problem can be solved in a satisfactory way.

If solar energy or fusion energy were available now at comparable cost no one would use fission energy (for peaceful purposes). Unfortunately this is not the case. Solar energy is available but at prohibitive cost. However, there are new interesting solar energy projects which should be examined carefully.

Concerning the fusion energy, there is a general agreement that no *fundamental* obstacle is likely to prevent the construction of a fusion reactor but there are a number of difficult scientific and technical problems which must be solved. There is much speculation about how much *time* is needed to solve these problems, but it is just as much a question of how much *effort* has to be spent.

In my opinion a solution of the fusion problem is less distant today than the Moon was when the Apollo project started. This means that if a national effort of the same kind as the Apollo programme were made, the fusion energy would be available in a comparable time. If this is achieved, the fission reactor, especially the breeder, will be of interest only as a danger which must be eliminated as soon as possible.

The views expressed here are shared by many competent physicists. They are basically different from those on which the present policy is based. An important decision about the future energy policy of the USA—and the whole world—should not be made until a thorough discussion has taken place involving advocates for all the three different alternatives for solving the energy problem.

Mr. GRAVEL. Relative to the next amendment I had, which was amendment No. 257, to change the Price-Anderson Act, I can appreciate—and am the first to appreciate—that the amendment I am offering goes to the core of the course that the Nation has adopted in peaceful uses of the atom and that it is a complex issue. Again, the chairman has assured me that the Joint Committee will hold hearings on the subject at an early date. I will testify and will secure adequate testimony to come before the committee. So here again I will not call up the amendment, on the assurance from the chairman that we will have hearings at an early date on the subject.

Mr. PASTORE. Well, when the Senator says "at an early date," that is consonant, of course, with all our other responsibilities. The Senator knows how busy we are.

Mr. GRAVEL. The word of the distinguished Senator from Rhode Island is good enough for me. If he says that we will have a hearing, I will rest with that.

Mr. PASTORE. As soon as it is convenient.

Mr. GRAVEL. Whatever qualifications the distinguished Senator from Rhode Island wishes to place on it, I accept them.

Mr. PASTORE. I make that assurance to the Senator.

Mr. GRAVEL. Very good.

Mr. President, I shall not call up amendment No. 257, or amendment No. 259, which is on another fundamental dilemma this Nation has, amendment No. 259 would establish new and different methods to unravel scientific disagreement on matters involving public policy.

Here again, the distinguished chairman has indicated that we can have a hearing on it, and he has done so very graciously. I would not be averse to coupling the two hearings together that have been mentioned to bring forth testimony before the Joint Committee, and bring forth scientists who can testify as to the efficacy of this course of action in undertaking our technological activities, I think a net plus would accrue not only to the Senate but also to the Nation.

With the assurance of the distinguished chairman that we will have an early hearing, whatever qualifications he chooses to make, I shall be satisfied and for that reason do not call up this amendment; but ask unanimous consent that both the fact sheets I have prepared

on the Price-Anderson Act, and also on funding for a nuclear safety inquiry, be printed in the RECORD, with the understanding that we will have early hearings.

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

H.R. 9388, AMENDMENT NO. 257, JULY 1971:
CHANGING THE PRICE-ANDERSON ACT

This amendment would amend the Atomic Energy Act of 1954 by making significant changes in the Price-Anderson Act, as proposed by S. 1855 which was introduced into the Senate on May 13th.

REASONS FOR CHANGES

The Price-Anderson Act, which was passed in 1957 for ten years explicitly "To encourage the development of the Atomic Energy industry", is obsolete in 1971.

When Price-Anderson was first passed and then renewed (1965), utility representatives testified that they would build no nuclear power plants if they had to stand fully liable for accidents.

The Price-Anderson Act set the limit for public liability at $560 million per nuclear accident, regardless of the size of the real damage, which could exceed $7 billion per accident according to the Atomic Energy Commission—July 1970. In addition, the Price-Anderson Act stipulates that about 80% of that $560 million is paid to the injured parties by the tax-payers, not by the AEC license-holder.

In 1956, H. W. Yount, vice president of Liberty Mutual Insurance, testified before the JCAE: "It is a reasonable question of public policy as to whether a hazard of this magnitude should be permitted, if it actually exists . . . there is a serious question whether the amount of damage to persons and property would be worth the possible benefit accruing from atomic development."

As millions of magazine readers know from nationwide utility advertisements, the electric utilities now vigorously deny the basic premise of the Price-Anderson Act—that giant nuclear accidents can happen.

If it is no longer conceivable for nuclear power plants to have the disastrous radioactive releases which prompted the Act in the first place, then the utilities won't miss the protection of that Act. If it *is* possible for catastrophic nuclear accidents to happen, then it is surely time for Congress to re-evaluate the wisdom and morality of "encouraging" such machinery at all, especially in view of the safe alternatives like fusion and solar energies.

WHAT THIS AMENDMENT DOES

This amendment would not completely repeal the Price-Anderson Act, lest complete repeal leave no one at all liable. Instead, this amendment would remove the arbitrary $560 million limit on the amount of liability, and it would place the liability on license-holders instead of on the tax-payers. With regard to government contractors such as those involved in weapon-testing, the amendment puts the unlimited liability on the government, not on the contractors.

The principle of this amendment is that anyone who causes a nuclear activity to occur should accept the financial liability for damage which that nuclear activity may cause to the public. In our economic system, public liability is the principal restraint on reckless activity.

Chet Holifield, now senior member of the Joint Committee on Atomic Energy, opposed the Price-Anderson Act in 1957. Arguing against the Act on the House floor, he said: "Are you going to cover up with $500 million worth of government money a catastrophe that would decimate the city of Detroit, that might wipe out a hundred thousand people, and injure other thousands genetically for all time, as well as contaminate the land for an undetermined length of time? . . .

"I am making the point that you cannot put these reactors . . . near the cities and take the human-life risk and try to cover it up with $500 million of government liability . . . I say that until they can tell you there is not going to be a blowup, you Members of Congress are taking upon your . . . hearts and upon your minds and upon your souls the responsibility in case there is a blowup in this field."

H.R. 9388, AMENDMENT NO. 259, JULY 1971:
FUNDING FOR NUCLEAR SAFETY INQUIRY

WHAT THIS AMENDMENT PROPOSES

This amendment would authorize $1,500,000 to the AEC for conducting a one-year Inquiry and a series of public scientific discussions about nuclear safety during 1972.

WHY ANOTHER INQUIRY?

There is a controversy raging in this country about the present and future hazard to life from nuclear power plants and their radioactive wastes. It is bewildering to hear from some experts that the radiation risk from nuclear electricity is less than from a luminous wrist watch or from leaning against a granite wall, while other experts warn that nuclear power could become man's ultimate nightmare.

Why do equally qualified experts reach different conclusions? When experts disagree, which ones shall we believe?

The questions arise not only with nuclear safety, but with pesticides, cigarette smoking, the SST, the ABM, and many other questions on which public policies have to be made and the economic stakes of which are enormous.

Congressional hearings usually fail to cope successfully with such controversies because the hearing format does not require the experts to confront each other or to clarify the reasons for their disagreement, and members of Congress do not have the scientific training to ask all the important questions.

Expert committees are also often handicapped by deficiencies. They operate behind closed doors which exclude the public as well as the rest of the scientific community. Where conflicts of interest may be present, their findings lose credibility.

PROPOSED SOLUTION

Under this amendment, a new kind of public forum for scientific testimony will be provided in which leading nuclear proponents and critics will meet to discuss three questions:

(1) What kind of accidents can happen in the containment of radioactive fuels and fission-products?

(2) How likely are these accidents, assuming 1,000 nuclear power plants in operation, as projected for the year 2000?

(3) What are the possible biological consequences of these accidents and the concomitant nuclear pollution?

When scientists reach contradictory conclusions, there are reasons for the disagreement. These reasons need to be identified, and that usually requires:

(a) Identification of the prime data which each is considering and not considering.

(b) Identification of the statistical and experimental methods used by each.

(c) Identification of the unspoken scientific premises, public health principles, and personal values underlying each expert opinion.

A panel of qualified scientists could determine this information as it relates to nuclear safety by questioning the scientists who disagree, and by listening as the disagreeing scientists question each other. That kind of discussion would unravel the confusion generated by solo addresses, accusations, and testimonies which have not been subject before to critical scrutiny or even to comparison.

Therefore, this amendment directs the AEC to arrange that kind of public, scientific discussion and to establish a Committee for Adversary Inquiry within the AEC during the calendar year 1972.

Amendment No. 259, which was withdrawn, would have been as follows:

Amendment intended to be proposed by Mr. GRAVEL to H.R. 9388, an Act to authorize appropriations to the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and for other purposes

TITLE III—NUCLEAR POWER INQUIRY

FINDINGS

SEC. 301. (a) The Congress finds and declares that—

(1) there is substantial disagreement about the present and future hazard to life from nuclear powerplants and their radioactive wastes;

(2) experts disagree about the biological and engineering premises which are incorporated in safety claims and hazard estimates put forth by nuclear power proponents and critics; and

(3) experts also disagree in their non-technical, philosophical premises with regard to the risks which are acceptable in return for nuclear electricity.

(b) The Congress affirms that—

(1) it is in the public interest to provide funds to encourage an independent examination of all potentially controversial programs;

(2) it is especially unwise to find only one point of view when the health and safety of the people of the United States are involved;

(3) it falls within human ability to find a way by which the scientific community, in full public view, can calmly examine together the evidence, the assumptions, and the conclusions which comprise the risk-estimates relating to nuclear power development, and the United States has a duty to provide a public forum to facilitate such an examination; and

(4) a one-year inquiry, culminating in public technical discussions between nuclear critics and nuclear proponents, will reveal the reasons for disagreement about the likelihood and consequences of nuclear pollution due to the operation of such powerplants during the next fifty years.

ESTABLISHMENT

SEC. 302. There is established in the Atomic Energy Commission a Committee for Adversary Inquiry (hereinafter referred to as the "Committee"). The Committee shall be independent of the Chairman and the other officers and offices of the Atomic Eenergy Commission in the exercise of its functions, and no transfer of those functions shall be made within the Commission.

ADMINISTRATION

SEC. 303. (a) The Committee shall be headed by an Executive Director who shall be appointed by the Chairman of the Atomic Energy Commission.

(b) Section 5315 of title 5, United States Code, is amended by adding at the end thereof the following new clause:

"(95) Executive Director, Committee for Adversary Inquiry".

DUTIES

SEC. 304. (a) It shall be the duty of the Committee to determine, in accordance with the provisions of section 305, the types, magnitudes, and probabilities of radiation dangers in connection with the development and operation over the next fifty years of the one thousand nuclear electric powerplants projected by the Atomic Energy Commission.

(b) In making the determination under

subsection (a), the Committee shall examine—

(1) all factual data relating to the possible types and magnitudes of nuclear mishaps in the context of nuclear electric power generation;

(2) all theories and assumptions relating to the biological effects of any such nuclear mishap; and

(3) the reasons for the existing differences of opinion among experts with respect to those data, theories, and assumptions.

PROCEDURES

SEC. 305. (a) The Committee, in conjunction with the Atomic Energy Commission, shall hold a series of public technical discussions to take place in the months of August, October, and November 1972.

(b) At each such discussion, the Committee and the Commission shall provide a team of not more than five experts to present their respective positions in the matters under inquiry. Each such discussion shall be heard by a panel of not more than seven scientists selected by agreement of the teams. The scientists may participate in the discussion, evaluate the presentations, question any member of either team, and render such decisions as may be necessary to resolve the matter under inquiry. At the conclusion of each discussion, the scientists will summarize the opposing positions, state their conclusions with respect to all matters under inquiry, and specify degrees of uncertainty and areas of ignorance.

(c) (1) The purpose of the August discussion shall be to examine and select from the factual data referred to in section 304 (b) (1) of this title, data which the teams agree to evaluate.

(2) The purpose of the October discussion shall be to examine and select from the theories and assumptions referred to in section 304(b) (2) of this title, theories and assumptions which they agree to apply to those data.

(3) The purpose of the November discussion shall be to examine the matter referred to in section 304(b) (3) of this title, and to make the determination referred to in section 304(a) of this title in the form of risk estimates based on the application of those theories and assumptions to those data.

POWERS

SEC. 306. For the purposes of this title, the Committee shall—

(1) obtain the services of experts and consultants in accordance with section 3109 of title 5, United States Code, from among persons who are qualified to represent opinions which do not reflect the doctrines, theories, or assumptions upon which the United States civilian nuclear energy program is based;

(2) publish such interim reports and other papers as may be appropriate; and publish a final report not later than December 31, 1972; and

(3) receive and respond to questions submitted to it by the Congress, any agency of the United States, or any member of the public.

AUTHORIZATION OF APPROPRIATIONS

SEC. 307. There are authorized to be appropriated $1,500,000 for the purpose of this title.

TERMINATION

SEC. 308. The authority under this title shall terminate on January 31, 1973.

Mr. PASTORE. I repeat, when it is mutually convenient.

Mr. GRAVEL. I am very glad that the chairman, by his gracious understanding of the problem, has given me the remainder of the afternoon off. I can assure him very personally that I take it as a personal favor.

I appreciate very much the work that the committee has done. I also appreciate very deeply that the committee chairman would want me to serve on the committee. I reflected on that when the vacancies occurred, but I can only say that because of Alaska's immediate problems with respect to native land claims, and in certain other areas, I chose not to make a move in that direction.

I thank the Senator from Rhode Island once more, and appreciate the fact that I can render some service as a Senator at large and not as a critic of atomic energy or of the Joint Committee on Atomic Energy, but as one who feels deeply that the very great problems we face in this country are akin to what we have in Alaska. I would hope, as the Senator from Rhode Island has permitted me to do today, that I could make a contribution—a humble one—to the activities of his committee.

Once more I thank the Senator from Rhode Island personally.

Mr. PASTORE. The Senator from Alaska has been cooperative and I thank him.

Mr. MAGNUSON. Mr. President, the bill now before the Senate to authorize fiscal year 1972 appropriations for the Atomic Energy Commission, S. 2150 and H.R. 9388, contains a total of $209.1 million for activities at the AEC's Hanford, Wash., facility. While all of these funds are essential to the Hanford operation, I would like to comment specifically here today upon three of the Hanford authorizations which are uniquely important to my State at this time. These are: First, the authorization of $27.6 million to pay operating costs of the dual-purpose New Production Reactor—N-Reactor—at Hanford, Second, the authorization of $20 million to be spent at Hanford for research on the liquid metal fast breeder reactor. And, third, a much smaller—but very important—authorization of $660,000 to assist the nearby city of Richland, Wash., where most of Hanford's employees live, its public schools and its only hospital meet expenses which they have incurred primarily as a result of the administration's decision earlier this year to close another reactor at Hanford.

In January the administration closed the K-Reactor at Hanford, thus exacerbating an unemployment problem which had already grown to crisis proportions. Prior to the shutdown, unemployment in the Hanford-Richland area stood at 10 percent. With the closure of the K-Reactor unemployment has now climbed to more than 12 percent. Coming at the same time as my State was experiencing a widespread economic decline which has now pushed unemployment throughout the State to 12.5 percent—more than double the national average for June—the K-Reactor closure was a major economic blow. In addition to the increased unemployment which it created, the K-Reactor shutdown also hampered efforts to diversify the area's economy and significantly reduced the Nation's plutonium production capacity.

At the same time it was closing the K-Reactor, the administration also announced its intention to close the N-Reactor, the Nation's only nuclear reactor capable of producing electric power as well as plutonium. Closure of the N-Reactor would not only have further devastated the Hanford-Richland area's economy and further reduced our national plutonium production, but would also have halted the 800,000 kilowatts of electricity annually generated by the reactor. Loss of this important power source would have been severely detrimental to my State and the entire Pacific Northwest since it would most likely have forced the Bonneville Power Administration to deny electricity to some industrial customers such as aluminum plants. For these many reasons, then, I joined with Senator JACKSON, who is a member of the Joint Committee on Atomic Energy, Congressman MCCORMACK, who represents the Hanford-Richland area, and other members of the Washington congressional delegation to protest the administration's announced decision to close the N-Reactor. Our specific reasons for protesting were perhaps best detailed in a joint letter to the chairman of the House Appropriations Committee. So that the Members of the Senate might have the full explanation for our concerns in this matter, I ask unanimous consent that our letter to Chairman MAHON be printed in the RECORD.

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

JANUARY 28, 1971.

Hon. GEORGE H. MAHON,
Chairman, House Committee on Appropriations, Washington, D.C.

DEAR CONGRESSMAN MAHON: We have been informed that the President's proposed budget for fiscal 1972 calls for the immediate deactivation of the two operating nuclear reactors at Hanford, Washington—"K" Reactor and "N" Reactor. It is our understanding that there are no budgeted funds for operation or close-down of these reactors in the 1972 budget; that the Atomic Energy Commission will be directed to initiate deactivation procedures at once with present operating funds so that operation of both reactors will be terminated by the end of the current fiscal year.

This plan, if carried out, will have a catastrophic effect on the thousands of scientists, technologists and craftsmen and their families in the Hanford area; on the brainpower pool which will be so desperately needed for research in advanced power reactor technology during the next decade; and on the availability of electric ower presently being supplied to the residents and industries of the Northwest through the Northwest Power Pool. There obviously will be a loss of plutonium production for the defense establishment.

We cannot really believe that the President understood the implications of his budget recomendation with respect to Hanford.

This letter is to request that you, as Chairman of the Appropriations Committee, contact the President's office and request a delay in the carrying out of the President's budget recommendation until Congress has had an opportunity to evaluate its consequence.

The loss of plutonium produced by these two reactors for the Defense Department may be significant. This information is, of course, classified, and we can only raise the question.

The impact on an already depressed community where unemployment is now near 11 percent (it is much higher in much of the rest of Washington State) cannot be overestimated. The thousands of scientists, tech-

nologists and skilled craftsmen who have partially-paid mortgages on their homes and children in school in the Hanford area will be forced onto unemployment rolls and will be forced to seek new jobs in communities hundreds or thousands of miles away.

It is estimated that approximately 5,000 jobs will be lost in the Hanford area and that unemployment may reach 30 percent.

Aside from the personal tragedy involved in this sort of abrupt loss of income, the damage to the nation will be even greater. These men and women constitute one of the finest brainpower pools for nuclear research and operation on earth. They will be desperately needed during the coming decade for research in advanced power reactor technology, which is almost certain to be carried out at Hanford. It seems to us that one must weigh the cost of continuing this program against the consequences of terminating it at this time in terms of the national interest, as well as the interest of these scientists and their families.

Deactivating the dual-purpose "N" Reactor would, in addition to causing a loss of plutonium production, remove 800,000 kilowatts of electric power from the Northwest Power Pool. The Congress has had no opportunity to evaluate the impact of this power loss on the economy of the West. It is obvious that certain basic industries, such as aluminum production, would lose power now available to them. The loss of employment and production in these industries scattered throughout the West has not been determined. Both unemployment and production loss would be serious in certain areas. The loss of 800,000 kilowatts of power will affect the amount of power available to California and the Southwest during their peak load periods this summer. The impact of this situation has not been appraised by Congress.

It has been projected that without the power currently being produced by "N" Reactor, there will be a 300,000 kilowatt deficit of electricity in the Northwest Power Pool during the winter of 1971–72 if all other factors are ideal and if the winter is warm. In the event of a severe cold winter and/or reduced river flow, the deficit could reach 2,300,000 kilowatts. John Nassikas, Chairman of the Federal Power Commission, speaking in Richland, Washington in 1970, was critical of the low reserve of power in the Northwest at that time, assuming the production of "N" Reactor would be continuing.

The unilateral and deliberate withdrawal of 800,000 kilowatts from the Northwest Power Pool at this time, and without consulting the Congress is, to us, utterly unthinkable.

In view of the reasons stated above, we are convinced that it is in the interests of the nation and the Northwest that the President's budget recommendation with respect to deactivating the Hanford reactors not be implemented until the Congress has had an opportunity to evaluate its consequences.

We would deeply appreciate your assistance on this matter at this time. We would like to emphasize that time is of the essence. Unless the order is rescinded or delayed, the Atomic Energy Commission must initiate closedown procedures immediately.

Sincerely,

Warren G. Magnuson, U.S.S., Henry M. Jackson, U.S.S., Thomas M. Pelly, M.C., 1st District—Washington, Lloyd Meeds, M.C., 2nd District—Washington, Julia Butler Hansen, M.C., 3rd District—Washington, Mike McCormack, M.C., 4th District—Washington, Thomas S. Foley, M.C., 5th District—Washington, Floyd V. Hicks, M.C., 6th District—Washington, Brock Adams, M.C., 7th District—Washington.

Mr. MAGNUSON. Mr. President, fortunately, after he had listened to our protests and those raised by others, the President rescinded his original decision to close the N-Reactor. On May 6, the President amended his original fiscal year 1972 budget request for the AEC to include the $27.6 million for operating costs of the reactor—costs which will, of course, be offset by the $17.5 million in revenue which will be created by the N-reactor's operation.

Mr. President, the administration's decision to continue operation of the N-Reactor, the Joint Committee's strong support for this continuation and the House's affirmative action on the authorization last week are all to be commended. I urge the Senate to take equally affirmative action today by approving the full N-Reactor authorization so that my State may be spared further unemployment, the Northwest a critical power shortage, and the Nation a loss in its nuclear defense capability.

The second item of special importance to my State is the authorization of $20 million for research at Hanford on liquid metal fast breeder reactors which promise to provide the Nation with a major new source of clean and inexpensive power. At a time when power shortages are causing "brownouts" with increasing frequency and pollution emitted from conventional power plants continues to create atmospheric "blackouts" we cannot afford to ignore the potential offered by the fast breeder reactor. The President is to be commended, then, for his commitment, expressed in his message on energy and clean air, to "complete the successful demonstration of the liquid metal fast breeder reactor by 1980."

Mr. President, I am particularly pleased that under the bill before us, the Hanford facility's role in research on this new energy source will be such a major one. Over the years, the Hanford facility has played a leading role in the development of nuclear energy. Consequently, it is entirely fitting that the proven expertise of the Hanford staff be utilized to transform the potential of the fast breeder reactor into the reality of clean and inexpensive power for the benefit of all Americans.

The third item of special importance to my State is the authorization contained in the bill for $660,000 to assist the city of Richland, its public schools and its only hospital. This authorization is in keeping with the Atomic Energy Community Act of 1955 under which the AEC is required to provide just and reasonable support for communities such as Richland which are heavily affected by AEC operations. The authorization is required because of the severe unemployment brought on in the area by the K-Reactor closure as well as the generally depressed posture of the entire State's economy. This high unemployment has caused sharp reductions in local funding for the Richland public schools and for its hospital. Of the $660,000, $350,000 would go to the schools, $200,000 to the hospital and $110,000 to the city for municipal operations. Although this $660,000 authorization is minute in comparison with other items in the bill, it is of extreme importance to Richland and fully deserving of Senate approval.

Mr. NELSON. Mr. President, I have introduced an amendment to S. 2150, a bill to authorize appropriations to the Atomic Energy Commission—AEC.

The amendment would increase the funds for controlled thermonuclear physical research from $29.8 million to $34.3 million for fiscal year 1972.

The reason for the $34.3 million figure is that the controlled thermonuclear reactor research staff has said formally that that amount could be spent in a resourceful way to further the effort to demonstrate the scientific feasibility of the fusion reactor as soon as possible.

But I must interject here that I believe that the fusion research program could be increased even more for fiscal year 1972. A number of eminent scientists, including several within the AEC itself, have said that if the scientific feasibility of fusion energy production is to be realized during the 1970's, we are going to have to at least double the research effort. Later in my statement I will quote those scientists.

My staff attempted to assemble a list of projects in the fusion research program that could be advanced if the appropriations were at least doubled. And although a general list of projects could be assembled, a detailed breakdown proved to be next to impossible.

The reason was not that such a list is necessarily not available. Rather, the AEC simply refused to provide the information as requested by my office.

For example, the budget requests submitted by the several fusion research laboratories throughout the country—something that would provide the Congress with an appraisal of the minimum needs of the researchers—were not supplied by the AEC to my staff. And because of the unwillingness of the AEC, the individual labs have to decline requests for the budget requests that they supplied to the AEC.

The only thing that was provided was the information published in part one of the Joint Committee on Atomic Energy's authorization hearings in February. The table, on page 260, shows that the AEC originally had requested $34.2 million for the fusion research program for fiscal year 1972. This essentially was cut to $28 million, but another $1.8 million was restored by the administration. This leaves us with $29.8 million for fusion development that is included in the authorization bill, S. 2150, that is before the Senate today.

I believe that the development of fusion is important enough to this country, and to the world, to enjoy the same emergency priority status as the effort to control cancer, the pledge by President Kennedy to land on the moon within 10 years or the crash program to develop the H-bomb.

In the fusion program, distinguished scientists have expressed optimism that researchers can bring the fusion reactor to successful commercial development even sooner than 1990 or 2000, a timetable most often suggested. The critical issue here is the level of financial support that the Congress affords this important program.

This issue was discussed in testimony before the Joint Committee on Atomic

Energy—part three of authorization hearings, page 1235—by Dr. Roy W. Gould, assistant director of the AEC's division of research for the controlled thermonuclear program. Dr. Gould said:

> There is a high probability of (demonstrating) scientific feasibility by the end of this decade, with a level of funding *substantially higher than the present level. Continued funding at the present* level could delay the demonstration of scientific feasibility by more than a decade. (emphasis added)

At another point in the hearing record—same reference—Dr. Gould said:

> So far this work is exploratory and a greater effort should be made now to develop the information needed for later decisions affecting prototype fusion reactor developments. Investments in this area now could pay handsome dividends later, both in time and cost, but this is not possible with present funding levels.

I consider it critical that the Congress adopt this amendment to increase the fusion research effort by $4.5 million for fiscal year 1972. If a high priority is given to fusion development now and in succeeding years, qualified scientists in this field believe we will achieve the goal of an adequate supply of essentially pollution-free energy.

Production of clean energy was an objective that was stressed by President Nixon in his energy measure of June 4. Certainly, this objective is one that all of us share.

However, it is difficult to reconcile the administration's rhetoric for clean energy. On the one hand, the President made a commitment to greatly accelerate development of the fast breeder fission reactor, and on the other recommended that the fusion research program be increased only by $2 million.

The bill before the Senate, S. 2150, seeks authorization for $250 million for fiscal year 1972 to develop the fast breeder reactor. Yet, only $29.8 million is sought for fusion research.

In the fast breeder process, ordinary uranium-238 is converted into plutonium through fission. The result is that the plant "breeds" more fuel than it consumes. And with the known reserves of the rare uranium-235—the fuel for present-day commercial light water reactors—being severely low, the liquid metal fast breeder reactor can enhance the fuel supply situation. That is the principal outstanding feature of the fast breeder.

But there are critical problems associated with the fast breeder, according to a number of eminent scientists. Overheating of the critical mass of fuel in the breeder could greatly accelerate the fission process, and a severe explosion could result with enormous quantities of the highly toxic plutonium scattered throughout the environment. Even in the absence of an accident, according to the Scientists Institute for Public Information—SIPI—plutonium contamination may result.

In addition, the fast breeder—like the commercial light water reactor—is inherently inefficient. The result is that vast amounts of waste heat will be discharged into the environment, and thermal pollution already is recognized as a serious potential detriment to the environment.

The SIPI has seen the need to seek a court order to compel the Atomic Energy Commission to file an environmental impact statement in accordance with section 102(2)(e) of the NEPA in the overall fast breeder reactor program. Because of the very serious potential threat that the fast breeder imposes to the quality of our environment, I have petitioned to intervene into that court suit. My hope was that the Congress would have the overall environmental impact statement so that it could analyze in detail the fast breeder prior to voting on the $250 million for its further development.

The development of fusion offers an attractive alternative to the fast breeder and to any fission reactor. The advantages of this type of energy production are so overwhelming, that it is difficult to understand why the administration doesn't seek more money for the development.

Dr. Paul W. McDaniel, director of AEC's division of research, said in testimony before the Joint Committee on Atomic Energy—part three of authorization hearings, page 1232:

> We could use more money in the program. We could go faster. I personally would like to see it go faster, but within the budgetary constraints that are placed on me, I don't know how it can.

Simply put, fusion is a process where atoms of hydrogen—most probably deuterium and tritium—fuse together under extremely high temperatures and release energy.

Dr. Glenn Seaborg, Chairman of the Atomic Energy Commission, in a statement June 15 of this year, before the Senate Interior Committee, said the potential advantages of fusion reactors are:

> 1. The fuel is inexpensive and very plentiful;
> 2. Such reactors are inherently safe;
> 3. Effects on the environment could be minimal; and
> 4. High thermal efficiencies are possible, and direct conversion of nuclear energy to electrical energy also may be achieved.

As to the first, the deuterium for fusion fuel is an element occurring in sea water. Extraction of the element already is possible at a low cost. Moreover, it is so abundant that a fuel supply can be measured in terms of hundreds of centuries. And most important, obtaining the fuel will not harm the environment in the way that strip mines are ravaging the landscape today.

As to the second, the International Atomic Energy Agency said a year ago that:

> Fusion reactors are envisaged to contain only small quantities of fuel in the reaction zone so that there is *no prospect* of a dangerous nuclear excursion or runaway. (emphasis added).

Drs. William C. Gough and Bernard J. Eastlund, writing in Scientific American in February 4 this year:

> Fusion reactors are inherently incapable of a 'runaway' accident. There is no 'critical mass' required for fusion. In fact, the fusioning plasma is so tenuous (even in the 'high density' machines) that there never is enough fuel present at any one time to support a nuclear excursion. This situation also is in contrast to nuclear fission reactors, which must contain a critical mass of fissionable material and hence an extremely large amount of potential nuclear energy.

As to the third advantage of fusion listed by Dr. Seaborg, that of environmental superiority, again Gough and Eastlund in Scientific American:

> Another advantage of fusion power is that no radioactive wastes are produced as the result of the fuel cycles contemplated. The principal reaction products would be neutrons, nonradioactive helium and hydrogen nuclei, and radioactive tritium nuclei. It is true that tritium emits low-energy ionizing radiation in the form of beta particles (electrons), but since tritium is also a fusion fuel, it could be returned to the system to be burned. This situation is strongly contrasted with that in nuclear fission, which by its very nature must produce a multitude of highly radioactive waste elements.

The Atomic Energy Commission's Division of Research, in a document on controlled thermonuclear research last December, said that, in addition to the lack of radioactive waste products, fusion reactors would be more efficient than present-day generating stations. This means that the amount of waste heat would be reduced. This supports the fourth advantage of fusion cited by Dr. Seaborg.

All of the experts in fusion reactor development, including Dr. Seaborg, stress that the scientific feasibility of fusion can be demonstrated before the end of this decade. Dr. Seaborg pointed out in this statement before the Interior Committee that the critical elements of demonstrating feasibility already have been successful in experiments. There is a need for more research to successfully wed all the elements so that the plasma containing the fuel is contained long enough at thermonuclear temperatures to allow fusion to take place.

But all the scientists have been telling us it is vitally important to commit more resources to the research effort.

Dr. Roy W. Gould, of the Atomic Energy Commission, has said that the amount of money devoted to fusion research must be doubled if the goal of demonstrating feasibility by the end of the 1970's is to be realized.

The International Atomic Energy Agency said the timetable of fusion development will be determined, in part, by "the technical, financial and manpower resources which can be devoted to the research and development program."

Dr. R. F. Post, of the Lawrence Radiation Laboratory of the University of California at Livermore, came to this conclusion based upon work carried out under auspices of the AEC:

> At the very least the effort devoted to fusion research over the next 5 years should be doubled. At that level, when coupled with the concentration of attention that proof of scientific feasibility should permit, the pace toward a reactor should quicken. I believe that in less than 5 years after the demonstration of scientific feasibility a pilot plant reactor could be running. Given the advanced technological base we can logically expect 10 years from now, I see no reason why fusion plants could not begin to make a substantial contribution to the power industry *before* 1990. As I said before, whether this goal will be achieved, given proof of

scientific feasibility, will depend more on national priorities and on the will to accomplish it than on any other factor. I am in complete disagreement with those who say What's the rush?—I believe fusion power should be avidly sought for, not waited for. Does a permanent solution to mankind's energy needs deserve any less?

Adoption of this amendment would be a critical step in enabling this country—and the world—realize the goal of producing clean energy.

NEW PLUTONIUM RECOVERY FACILITY ROCKY FLATS, COLORADO

Mr. DOMINICK. Mr. President, in the Plant and Capital Equipment section of the report, the Joint Committee recommended authorization of $20.2 million for construction project 71–9 which is called "Fire, safety, and adequacy of operating conditions projects, various locations." The Atomic Energy Commission had requested fiscal 1972 authorization of $33 million for this line item, $12.8 million more than the amount recommended by the committee.

Ten modification and improvement projects have been started under project 71–9 to provide maximum assurance that another accident will not occur like the May 1969 fire which caused extensive damage at the Commission's Rocky Flats plant near Golden, Colo. One of these 10 projects is a new plutonium recovery facility to be built at the Rocky Flats site. The total estimated cost of the recovery facility could range as high as $63 million. The $12.8 million reduction is to be applied to the 1972 funds for that facility but constitutes only a deferral until 1973.

The reasons for this deferral can be set forth highly.

For fiscal year 1971 the Congress authorized and appropriated, under project 71–9, $9,900,000 for the new plutonium recovery facility. For fiscal year 1972, the AEC requested an additional $15 million for that facility.

The Joint Committee fully supports the prompt completion of this facility. The committee has been advised, however, that the preliminary design work is several months behind schedule and that title I design will not be completed until June 1972. The total cost of title I and II design, and renovation of the existing plutonium recovery facilities is estimated by the AEC at $12.1 million, including the amount authorized for fiscal year 1971. The additional $12.8 million included in the fiscal year 1972 request would have provided funds to begin construction of the project.

In view of the delay in the design of the project, the committee has recommended the deferral of the construction funds until fiscal year 1973. The committee has strongly urged the AEC to request the full amount needed for the construction of the plutonium recovery facility in its fiscal year 1973 budget submission.

Mr. President, the Joint Committee obtained assurance from the AEC in December 1970, when the supplemental authorization to begin the 10 projects funded under 71–9 was reported by the committee, that no existing AEC plant—including the Rocky Flats plant—is operating in an unsafe manner. I have been personally assured that the delay in funding will not interfere with the timely construction of the new plutonium recovery facility nor constitute any material hazard. Interim improvements to the existing recovery facility are underway. Under these circumstances it appears to me that the joint committee's $12.8 million deferral of construction funds was fiscally sound and appropriate.

THE NUCLEAR POWERED CARDIAC PACEMAKER

Mr. WILLIAMS. Mr. President, 3 years ago, the National Heart Institute began development of a nuclear-powered pacemaker in conjunction with the Atomic Energy Commission. Experimentation has shown that a pacemaker powered by a nuclear battery rather than a mercury powered battery is entirely feasible. It has also been estimated that by late 1972 or early 1973, scientists will have reached the point where the nuclear pacemaker will be available for human implantation. This new pacemaker will have a 10-year lifespan rather than the average 2-year lifespan of present power sources. I need not spell out the tremendous savings in human life, physical suffering and medical costs that will be realized in terms of reducing the frequency of operations needed to replace such a power source.

There are perhaps 60,000 or more pacemaker patients in the United States presently wearing implanted pacemakers, and each year more than 15,000 to 20,000 new patients require this lifesaving device. It would be a grave disservice to these individuals if this program, so near to completion, were to be curtailed at this time.

I am, therefore, joining with Senator SCOTT in the introduction of this amendment to restore the full AEC request for operating costs for this program in fiscal year 1972.

While this program is of great national importance, it is of particular interest in New Jersey. One of our hospitals, Beth Israel Hospital, of Newark, is one of the leading institutions in the Nation in work in this area. Doctors there, with extremely extensive experience in this field, look forward with great hope and expectation to the development of the nuclear-powered pacemaker.

This legislation will help bring that expectation to fruition.

NERVA

Mr. MONTOYA. Mr. President, I would like to express my continuing support for the activities of the AEC and NASA in the development of the NERVA nuclear rocket propulsion program.

There can be no question that the continued development of the nuclear propulsion system is essential to continuation of the space program. Penetration of outer space and a variety of other activities are directly tied to the development of the NERVA rocket engine. It represents this Nation's commitment to advancement in space propulsion capability in the years to come.

The funding level authorized in the AEC bill which we consider today represents a realistic endorsement of the projects which has so expeditiously pursued its ultimate goal. It is very clear that the nearly $1 billion expended thus far has been well spent. I am impressed at this point with the progress of the NERVA technology and committed to its continued development. The $52 million authorized in this bill will insure orderly and continuous development of this extremely important project. I am further hopeful that the figure included in the NASA appropriation which the Senate passed will be maintained in conference.

I was disappointed at the cutbacks proposed by the administration. It was my feeling that the $15 million requested for NERVA in AEC and NASA budgets would have so inadequately met the needs of the project as to effectively cripple its progress.

If we intend in the future to enable ourselves to make extended trips into space, or to provide power for large-scale long duration operations, it is absolutely essential that we complete the technology necessary to provide for nuclear powered rocket engines. The chemical propulsion systems currently in use lack the flexibility and efficiency necessary for extended space penetration or long term operation. A nuclear engine will eliminate one of the principal limiting factors of chemical rocket engines.

The only method for dramatically increasing the performance of a chemical engine is to significantly increase its exit-gas temperature. Although the exit-gas temperature attainable by nuclear engines is lower than that of a chemical rocket, the molecular weight of the hydrogen exit-gas is much lower than the mixture of chemicals in the exhaust of the chemical rocket. The exit-gas velocity of nuclear engines, therefore, is much higher.

The measure of the performance of a rocket engine is the "specific impulse"—the thrust obtained from the engine divided by the propulsion obtained per pound of propellant. The specific impulse for a nuclear rocket is roughly double that of a chemical engine. The payload capacity of a nuclear engine becomes at least double that of the chemical propellants. For advanced missions such as planetary probes, the advantage becomes even greater. It is very clear, therefore, that the NERVA project is an essential and integral part of our future space program.

I have been proud of the role played in the NERVA program by the Los Alamos Scientific Laboratory in New Mexico. Twenty percent of LASL's efforts in rocket propulsion is directed toward advanced propulsion concepts. Expected advances in NERVA's performance due to research at LASL will further increase the usefulness of a nuclear shuttle. The design and materials technology, which is the basis for the NERVA reactor, was developed at LASL.

Supported by a strong analytical and laboratory effort, the reactor design and materials have been tested and proven by a series of 18 reactors which have been hot-tested at the Nevada Reactor Development. In 1968, LASL began testing a different type of fuel element.

The Los Alamos laboratory has played a significant role in the development of the NERVA project. I am pleased that the level of funding will be adequate to

allow the continuation of this important work.

Mr. PASTORE. Mr. President, I yield back the remainder of my time.

Mr. AIKEN. Mr. President, I yield back the remainder of my time.

The PRESIDING OFFICER (Mr. FANNIN). If there be no further amendments to be proposed, the question is on the engrossment of the amendments and the third reading of the bill.

The amendments were ordered to be engrossed and the bill to be read a third time.

The bill was read the third time.

Mr. PASTORE. Mr. President, I ask for the yeas and nays, on final passage.

The yeas and nays were ordered.

The PRESIDING OFFICER. The question is on final passage of the bill, H.R. 9413.

On this question the yeas and nays have been ordered, and the clerk will call the roll.

The assistant legislative clerk called the roll.

Mr. BYRD of West Virginia. I announce that the Senator from Indiana (Mr. BAYH), the Senator from Oklahoma (Mr. HARRIS), the Senator from South Carolina (Mr. HOLLINGS), the Senator from Washington (Mr. JACKSON), the Senator from South Dakota (Mr. MCGOVERN), and the Senator from Montana (Mr. METCALF) are necessarily absent.

I further announce that, if present and voting, the Senator from Washington (Mr. JACKSON) and the Senator from Indiana (Mr. BAYH) would each vote "yea".

Mr. GRIFFIN. I announce that the Senator from South Dakota (Mr. MUNDT) is absent because of illness.

The result was announced—yeas 90, nays 3, as follows:

[No. 158 Leg.]

YEAS—90

Aiken	Ellender	Moss
Allen	Ervin	Muskie
Allott	Fannin	Nelson
Anderson	Fong	Packwood
Baker	Fulbright	Pastore
Beall	Gambrell	Pearson
Bellmon	Goldwater	Pell
Bennett	Griffin	Percy
Bentsen	Gurney	Prouty
Bible	Hansen	Proxmire
Boggs	Hart	Randolph
Brock	Hartke	Ribicoff
Brooke	Hatfield	Roth
Buckley	Hruska	Saxbe
Burdick	Hughes	Schweiker
Byrd, Va.	Humphrey	Scott
Byrd, W. Va.	Javits	Smith
Cannon	Jordan, N.C.	Sparkman
Case	Jordan, Idaho	Spong
Chiles	Kennedy	Stennis
Church	Long	Stevenson
Cook	Magnuson	Symington
Cooper	Mansfield	Taft
Cotton	Mathias	Talmadge
Cranston	McClellan	Thurmond
Curtis	McGee	Tower
Dole	McIntyre	Tunney
Dominick	Miller	Weicker
Eagleton	Mondale	Williams
Eastland	Montoya	Young

NAYS—3

Gravel	Inouye	Stevens

NOT VOTING—7

Bayh	Jackson	Mundt
Harris	McGovern	
Hollings	Metcalf	

So the bill (H.R. 9388) was passed.

Mr. PASTORE. Mr. President, I ask unanimous consent that further consideration of S. 2150 be postponed indefinitely.

The PRESIDING OFFICER. Is there objection? The Chair hears no objection, and it is so ordered.

Mr. MANSFIELD. Mr. President, earlier today I remarked on the efficient manner in which Senator PASTORE moved legislation. I would like to amplify a few points concerning today's productive work. The senior Senator from Rhode Island has the admirable quality of being able to answer in short, yet accurate statements, almost any question concerning the bills he is managing. The HUD and AEC appropriations bills passed today represent many months of hard labor and Senator PASTORE's knowledge of them seems encyclopedic. The Senate is most appreciative of his work.

The ranking minority member on the committee, the distinguished and able Senator from Colorado (Mr. ALLOTT), certainly helped speed along this legislation. His knowledge of the various phases of the HUD appropriations helped clarify many questions. The Senate owes him a great deal for his worthy assistance today. Also contributing to the general discussion today with their well-thought-out individual views and amendments were the Senator from Alabama (Mr. SPARKMAN), the Senator from Washington (Mr. MAGNUSON), the Senator from California (Mr. CRANSTON), the Senator from New York (Mr. JAVITS), and the Senator from Indiana (Mr. HARTKE). An informative debate as we witnessed here today will certainly testify to the diligence with which this Chamber pursues its responsibility. The contributions of those Members I have already mentioned are most appreciated.

The Senator from Rhode Island's heavy work load was made much more manageable through the able assistance of the Senator from Vermont (Mr. AIKEN). Senator AIKEN is one of the first Senators to arrive on Capitol Hill every morning and his resourceful knowledge of the AEC appropriations bill certainly reflected this dedicated work. I wish to extend to him a sincere and warm thanks for his help today.

The able Senators from the far West, that is from Alaska and Hawaii (Mr. GRAVEL and Mr. INOUYE), were most articulate in expressing their concerns about the pending legislation. Their contributions were most timely and I wish to express my gratitude to them for their effort today.

Also contributing to the discussion on the AEC appropriations today were the distinguished and able Senator from Maine (Mr. MUSKIE), the dedicated Senator from Wyoming (Mr. HANSEN), and the distinguished Senator from Tennessee (Mr. BAKER). Their contributions are always welcome.

The added discussion by the distinguished minority leader (Mr. SCOTT), the Senator from Hawaii (Mr. FONG), and the junior Senator from Illinois (Mr. STEVENSON) contributed to making this a very productive day. My thanks to them.

The Senate has once again exhibited that it can move with alacrity, but with all due consideration, on an important measure such as this. I wish to commend Senator PASTORE for his outstanding contributions today, especially since he is under an extremely heavy workload. The helpful assistance of the Senator from Colorado (Mr. ALLOTT) again should be thankfully noted by the Senate. And the wisdom of the Senator from Vermont (Mr. AIKEN) on the AEC appropriations bill is much appreciated. Today was particularly productive and I wish to thank all of the Senators participating.

MESSAGE FROM THE HOUSE

A message from the House of Representatives, by Mr. Berry, one of its reading clerks, announced that the House had passed, without amendment, the following bills of the Senate:

S. 108. An act for the relief of Kyung Jo Min and Kyung Sook Min;

S. 145. An act for the relief of Esther Catherine Milner;

S. 161. An act for the relief of the West Fargo Pioneer and Dale C. Nesemeier;

S. 566. An act for the relief of Maria Grazia Iaccarino; and

S. 672. An act for the relief of Nicholaos Demitrios Apostolakis.

The message also announced that the House had disagreed to the amendments of the Senate to the bill—H.R. 9270—making appropriations for Agriculture, Environmental, and Consumer Protection programs for the fiscal year ending June 30, 1972, and for other purposes; agreed to the conference asked by the Senate on the disagreeing votes of the two Houses thereon, and that Mr. WHITTEN, Mr. NATCHER, Mr. HULL, Mr. SHIPLEY, Mr. EVANS of Colorado, Mr. MAHON, Mr. ANDREWS of North Dakota, Mr. MICHEL, Mr. SCHERLE, and Mr. BOW were appointed managers on the part of the House at the conference.

REPORTS OF COMMITTEES

The following reports of committees were submitted:

By Mr. BYRD of West Virginia, from the Committee on Appropriations, with amendments:

H.R. 9667. An act making appropriations for the Department of Transportation and related agencies for the fiscal year ending June 30, 1972, and for other purposes (Rept. No. 92–271).

By Mr. HRUSKA, from the Committee on the Judiciary, without amendment:

H.J. Res. 714. A joint resolution designating the week of August 1, 1971, as "American Trial Lawyers Week" (Rept. No. 92–272).

By Mr. RANDOLPH, from the Committee on Public Works, without amendment:

S. 2317. An original bill to extend the Public Works and Economic Development Act of 1965 and the Appalachian Regional Development Act of 1965 (Rept. No. 92–273).

EXECUTIVE REPORTS OF A COMMITTEE

Mr. MAGNUSON. Mr. President, from the Committee on Commerce and as in executive session, I report favorably sundry nominations in the National

Oceanic and Atmospheric Administration which have previously appeared in the CONGRESSIONAL RECORD and I ask unanimous consent to save the expense of printing them on the Executive Calendar, that they may lie on the Secretary's desk for the information of Senators.

The PRESIDING OFFICER (Mr. TUNNEY). Without objection, it is so ordered.

The nominations, ordered to lie on the desk, are as follows:

Clinton D. Upham, and sundry other persons for permanent appointment in the National Oceanic and Atmospheric Administration.

INTRODUCTION OF BILLS AND JOINT RESOLUTIONS

The following bills and joint resolutions were introduced, read the first time and, by unanimous consent, the second time, and referred as indicated:

By Mr. BAKER:

S. 2310. A bill to amend section 112 of the Internal Revenue Code of 1954 to extend the tax benefits provided thereunder for members of the Armed Forces who are prisoners of war or in a missing status in Vietnam, and to exclude from income tax the compensation of other members of the uniformed services while they are in a missing status. Referred to the Committee on Finance.

By Mr. FONG:

S. 2311. A bill for the relief of Jesus Navarro Bedico. Referred to the Committee on the Judiciary.

By Mrs. SMITH:

S. 2312. A bill to authorize the conveyance of certain property to the city of Biddeford, Maine. Referred to the Committee on Government Operations.

By Mr. HATFIELD:

S. 2313. A bill to amend the Foreign Assistance Act of 1961 to provide for a contribution by the United States to a United Nations peacekeeping force;

S. 2314. A bill to provide for grants to friendly foreign countries to train members or units of their military forces designated to be part of a United Nations peacekeeping force;

S. 2315. A bill to authorize the President to designate logistical, supply, and support units of the U.S. Armed Forces to provide support for any United Nations peacekeeping force; and

S. 2316. A bill to authorize the President to designate combat units, and members of such units, of the U.S. Armed Forces to be part of a United Nations peacekeeping force. Referred to the Committee on Foreign Relations.

By Mr. RANDOLPH (for himself, Mr. MONTOYA, Mr. BAYH, Mr. BENTSEN, Mr. EAGLETON, Mr. GRAVEL, Mr. JORDAN of North Carolina, Mr. MUSKIE, and Mr. TUNNEY) from the Committee on Public Works:

S. 2317. A bill to extend the Public Works and Economic Development Act of 1965 and the Appalachian Regional Development Act of 1965. Ordered to be placed on the calendar.

By Mr. WILLIAMS (for himself, Mr. KENNEDY, Mr. MONDALE, Mr. EAGLETON, Mr. CRANSTON, and Mr. INOUYE):

S. 2318. A bill to amend the Longshoremen's and Harbor Workers' Compensation Act, and for other purposes. Referred to the Committee on Labor and Public Welfare.

By Mr. JAVITS:

S.J. Res. 134. A joint resolution to authorize and direct the President to proclaim September 12 through 19, 1971, to be "American Field Service Week." Referred to the Committee on the Judiciary.

By Mr. TOWER:

S.J. Res. 135. A joint resolution to authorize and request the President to issue annually a proclamation designating one day of each year as "National Law Officers Appreciation Day". Referred to the Committee on the Judiciary.

STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

By Mr. BAKER:

S. 2310. A bill to amend section 112 of the Internal Revenue Code of 1954 to extend the tax benefits provided thereunder for members of the Armed Forces who are prisoners of war or in a missing status in Vietnam, and to exclude from income tax the compensation of other members of the uniformed services while they are in a missing status. Referred to the Committee on Finance.

Mr. BAKER. Mr. President, today I introduce a bill to benefit the most deserving of all Americans—the 465 known prisoners of war and the over 1,600 missing-in-action servicemen in Southeast Asia. Along with the distinguished chairman of the Senate Veterans' Affairs Committee, the senior Senator from Indiana (Mr. HARTKE) and two most knowledgeable members of the Veterans' Committee—the senior Senator from South Carolina (Mr. THURMOND) and the senior Senator from Alaska (Mr. STEVENS), I have cosponsored a bill to provide $10,000 Government life insurance to these imprisoned Americans. This bill would provide a much needed form of financial security to these men and their families.

Another area which appears to be overlooked by most of us in the governing process is the tax burden carried by these individuals. No soldier who has met the responsibility of military service in Southeast Asia and remains captive of a hostile foreign nation should be forced to pay Federal personal income tax on his military pay.

This bill will exempt from income tax the military pay of all prisoners of war and those presumed prisoners as a result of their nonvoluntary missing status. Most of these men fall within the combat zone exemptions already amending the 1954 Internal Revenue Code.

Present law exempts the entire amount of taxable income derived from military service for enlisted personnel and warrant officers, and the first $500 of taxable income for commissioned officers serving in a combat zone. With respect to members who become imprisoned or who are missing in action or detained while serving in a combat zone, this bill extends the existing exclusion from gross income for commissioned officers to include all of their income resulting from service in the Armed Forces. The principal goal of this bill is to express deep-felt national concern for the well-being of imprisoned or missing servicemen. It would give special recognition by a grateful Nation of the sacrifices that have been made and that are continuing to be made by these men. This bill will, of course, bring about a financial advantage to the families of officer personnel who are detained or otherwise in a missing status. However, such financial advantage cannot in any measure compensate the servicemen involved or their families for the hardships and mental anguish that they are suffering. From the family's point of view, the hardship comes in not knowing the condition of their loved one, whether he is dead or alive, and if alive, how he is being treated.

The uncertainty of a long detention, particularly when very little information is available about prisoners of war, leaves the dependents unable to plan for the future. These hardships are psychological in nature and simply cannot be measured in financial terms.

With respect to the servicemen involved, there is simply no way that they can be financially compensated for the deprivation of human dignity and the mental and physical torture to which we know they are being subjected. Viewed in this light, it seems grossly unfair for the Government to insist on taxing their income while they are enduring unlimited hardship. It is unfeeling and parsimonious for the United States to insist on the payment of income tax on a portion of the military pay of any service member in captivity. The forgiveness of the residual income tax is in part a token gesture to these men and their families in recognition of the very great sacrifices which they are making on behalf of this Nation. Enactment of this bill will provide tangible evidence of this Nation's concern for a group of Americans who are undergoing ghastly experiences as a result of having faithfully served our country.

By Mr. WILLIAMS (for himself, Mr. KENNEDY, Mr. MONDALE, Mr. EAGLETON, Mr. CRANSTON, and Mr. INOUYE):

S. 2318. A bill to amend the Longshoremen's and Harbor Workers' Compensation Act, and for other purposes. Referred to the Committee on Labor and Public Welfare.

THE LONGSHOREMEN'S AND HARBOR WORKERS' COMPENSATION ACT AMENDMENTS OF 1971

Mr. WILLIAMS. Mr. President, on behalf of myself and other Senators, I introduce, for appropriate reference, a bill to amend the Longshoremen's and Harbor Workers' Compensation Act. This act provides workmen's compensation benefits for 836,000 privately employed workers subject to Federal jurisdiction—almost 270,000 are longshoremen and ship repairmen working on navigable waters of the United States. Its provisions have been extended to other private employment, including employees in the District of Columbia, and employment by contractors at U.S. bases overseas.

While the workmen's compensation statutes of many other jurisdictions have been updated to reflect increase in the cost of living in recent years, and to provide more adequate protection, the Longshoremen's and Harbor Workers' Compensation Act has not been amended since 1961. Improvements are consequently long overdue.

One of the chief features of this bill relates to the weekly benefits paid to totally disabled workers. Under the law, such a worker receives two-thirds of his wage as weekly compensation while totally disabled; however, this is subject

to a maximum of $70 a week. This bill would eliminate that maximum and would increase the minimum benefit from $18 to $54. The bill would also provide for annual benefit adjustments for those receiving compensation due to injuries received after the enactment of the legislation.

Other features of the bill include payment of compensation without a 3-day waiting period when the disability exceeds 14 days rather than 28 days presently required compensation on behalf of dependents would be extended to those in a student status from 18 to 23 years of age, the time for giving notice of injury and filing claim with respect to latent injury would be extended; the liability of employers with respect to subsequent injuries suffered by employees with preexisting physical impairments would be limited, thereby encouraging the employment of handicapped persons; benefits would be extended to cases of disfigurement of the neck and other normally exposed parts of the body; and, provision would be made for further financing of special funds by increased payments from $1,000 to $5,000 from employers in fatal injury cases where there are no survivors, and, in addition, by assessments upon insurance carriers and upon self-insurers.

Mr. President, in 1966 the Congress amended the Federal Employees Compensation Act to provide improvements which we recognized were necessary. It is the purpose of this bill to deal with the other major area of Federal workmen's compensation responsibility, by making the benefits of the Longshoremen's and Harbor Workers' Compensation Act more realistic in light of today's living costs and to modernize its provisions in other respects. Many of the workers covered by this act are engaged in extremely hazardous work, for longshoring is one of the most dangerous of any occupations. Indeed, marine cargo handling ranks the highest of all industries in terms of injuries per manhours of work.

It is, therefore, especially appropriate that we now enact legislation which will insure more adequate compensation protection for these workers and their families.

Mr. President, I ask unanimous consent that the provisions of the bill and section-by-section explanation be printed at this point in the RECORD.

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

S. 2318

A bill to amend the Longshoremen's and Harbor Workers' Compensation Act, and for other purposes

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 "Longshoremen's and Harbor Workers' Compensation Act Amendments of 1971".

STUDENT BENEFITS

SEC. 2. (a) Section 2 of such Act is amended by redesignating paragraph (19) as paragraph (20) and adding a new paragraph (19) as follows:

"(19) The term 'student' means a person regularly pursuing a full-time course of study or training at an institution which is—

"(A) a school or university operated or directly supported by the United States, or by any State or local government or political subdivision thereof,

"(B) a school or college or university which has been accredited by a State or by a State recognized or nationally recognized accrediting agency or body,

"(C) a school or college or university not so accredited but whose credits are accepted, on transfer, by not less than three institutions which are so accredited, for credit on the same basis as if transferred from an institution so accredited, or

"(D) an additional type of educational or training institution as defined by the Secretary,

but not after he reaches the age of twenty-three or has completed four years of education beyond the high school level, except that, where his twenty-third birthday occurs during a semester or other enrollment period, he shall continue to be considered a student until the end of such semester or other enrollment period. A child shall not be deemed to have ceased to be a student during any interim between school years if the interim does not exceed five months and if he shows to the satisfaction of the deputy commissioner that he has a bona fide intention of continuing to pursue a full-time course of education or training during the semester or other enrollment period immediately following the interim or during periods of reasonable duration during which, in the judgment of the deputy commissioner, he is prevented by factors beyond his control from pursuing his education. A child shall not be deemed to be a student under this Act during a period of service in the Armed Forces of the United States or while receiving educational or training benefits under any other program authorized by the Congress of the United States."

(b) The last sentence of section 2(14) of such Act is amended to read as follows: "'child,' 'grandchild,' 'brother,' and 'sister' include only persons who are under eighteen years of age, and also persons who, though eighteen years of age or over, are (1) wholly dependent upon the employee and incapable of self-support by reason of mental or physical disability, or (2) are students as defined in paragraph (19) of this section."

(c) Section 8(d) of such Act is amended by striking out the words "under the age of eighteen years" wherever they appear therein.

TIME FOR COMMENCEMENT OF COMPENSATION

SEC. 3. Section 6(a) of the Longshoremen's and Harbor Workers' Compensation Act (44 Stat. 1426, 33 U.S. 906) is amended by striking out "more than twenty-eight days" and inserting in lieu thereof "more than fourteen days".

MAXIMUM AND MINIMUM LIMITS OF DISABILITY COMPENSATION AND ALLOWANCE

SEC. 4. (a) Section 6(b) of such Act is amended to read as follows: "(b) Compensation for total disability shall not be less than $54 per week: *Provided, however,* That, if the employee's average weekly wages as computed under section 10, are less than $54 per week, he shall receive as compensation for total disability his average weekly wages."

(b) Section 14 of such Act is amended by striking out subsection (m).

COST OF REEXAMINATION

SEC. 5. The last sentence of section 7(e) of such Act is amended to read as follows: "The deputy commissioner may charge the cost of such examination to the carrier or self-insurer."

DISFIGUREMENTS

SEC. 6. Section 8(c)(20) of such Act is amended to read as follows:

"(20) Disfigurement: Proper and equitable compensation not to exceed $3,500, shall be awarded for serious disfigurement: (A) of the face, head, or neck; or (B) of other normally exposed areas likely to handicap the employee in securing or maintaining employment."

COMPENSATION AT END OF SCHEDULED AWARD

SEC. 7. Section 8(c) of such Act is further amended by adding the following new paragraph:

"(23) With respect to any period after payments under paragraph (c)(1) through (c)(20) have terminated, compensation shall be paid as provided in subsections (a) and (b) of this section if the disability is total, or, if the disability is partial, 66⅔ per centum of the difference between the injured employee's average weekly wages before the injury and his wage-earning capacity after the injury in the same or other employment."

SPECIAL FUND

SEC. 8. (a) Section 8(d) of such Act is amended by adding the following new paragraph (6):

"(6) If there be no surviving wife, dependent husband, or child, then to the special fund established under section 44(a) of this Act."

(b) Section 44(c) of such Act is amended to read as follows:

"(c) Payments into such fund shall be made as follows:

"(1) Each employer shall pay $5,000 as compensation for the death of an employee of such employer resulting from injury where the deputy commissioner determines that there is no person entitled under this Act to compensation for such death.

"(2) When the amount in the fund at the beginning of the calendar year is less than $300,000, each carrier or self-insurer shall be obligated to make prorated payments into the fund based on the gross premiums collected by the carrier for risks during the preceding fiscal year or the amount of premiums a self-insurer would have had to pay during the preceding fiscal year for compensation insurance.

"(3) All amounts collected as fines and penalties under the provisions of this Act shall be paid into such fund."

(c) Section 44 is further amended by adding the following new subsection (h):

"(h) The proceeds of this fund shall be available for payments under section 8 (f) and (g), under section 18(b), and under section 39(c): *Provided,* That payments authorized by section 8(f) shall have priority over other payments authorized from the fund: *Provided further,* That at the close of each fiscal year the Secretary of Labor shall submit to the Congress a complete audit of the fund."

INJURY FOLLOWING PREVIOUS IMPAIRMENT

SEC. 9. (a) Section 8(f)(1) of such Act is amended to read as follows: "In any case in which an employee having an existing permanent physical impairment suffers injury, the employer shall provide compensation for such disability as is found to be attributable to that injury based upon the average weekly wages of the employee at the time of the injury. If following an injury falling within the provisions of section 8(c)(1)(20), the employee is totally and permanently disabled, and the disability is found not to be due solely to that injury, the employer shall provide compensation for the applicable prescribed period of weeks provided for in that section, or for one hundred and four weeks, whichever is the greater. In all other cases of total permanent disability or of death, found not to be due solely to that injury, of an employee having an existing permanent physical impairment, the employer shall provide, in addition to compensation under paragraphs (b) and (e) of this section, com-

pensation payments or death benefits for one hundred and four weeks only. After cessation of the payments for the period of weeks provided for herein, the employee or his survivor entitled to benefits shall be paid the remainder of the compensation that would be due for permanent total disability or for death out of the special fund established in section 44."

(b) Section 8(f) of such Act is further amended by striking out paragraph (2).

DEATH BENEFITS

SEC. 10. (a) Section 9(a) of such Act is amended by striking out "$400" and inserting in lieu thereof "$800".

(b) Section 9(e) of such Act is amended to read as follows: "In computing death benefits the average weekly wages of the deceased shall be considered to have been not less than $80 but the total weekly compensation shall not exceed the weekly wages of the deceased."

DETERMINATION OF PAY

SEC. 11. Section 10 of such Act is amended by adding the following new subsections:

"(f) Each June 30 the Secretary shall determine the per centum change in the weekly wage level in the longshore industry during the preceding year. Effective the first day of the third month following this determination, compensation payable on account of disability or death which occurred more than one year before that first day, and which occurred after enactment of this subsection, shall be increased by the per centum rise in the wage level.

"(g) The weekly compensation after adjustment under subsection (f) shall be fixed at the nearest dollar. However, the weekly compensation after adjustment shall reflect an increase of at least $1."

TIME FOR NOTICE AND CLAIMS

SEC. 12. (a) Section 12(a) of such Act is amended to read as follows:

"NOTICE OF INJURY OR DEATH

"SEC. 12. (a) Notice of an injury or death in respect of which compensation is payable under this Act shall be given within thirty days after the date of such injury or death, or thirty days after the employee or beneficiary is aware or in the exercise of reasonable diligence should have been aware of a relationship between the injury or death and the employment. Such notice shall be given (1) to the deputy commissioner in the compensation district in which the injury occurred, and (2) to the employer."

(b) Section 13(a) of such Act is amended to read as follows:

"(a) Except as otherwise provided in this section, the right to compensation for disability or death under this Act shall be barred unless a claim therefor is filed within one year after the injury or death. If payment of compensation has been made without an award on account of such injury or death, a claim may be filed within one year after the date of the last payment. Such claim shall be filed with the deputy commissioner in the compensation district in which such injury or death occurred. The time for filing a claim shall not begin to run until the employee or beneficiary is aware, or by the exercise of reasonable diligence should have been aware, of the relationship between the injury or death and the employment."

FEES FOR SERVICES

SEC. 13. Section 28(a) of such Act is amended by adding the following new sentence: "In cases where an award is made or increased after payment under the Act is resisted, a claim for legal services approved by the deputy commissioner or a court shall be added to the compensation award and become a lien upon such award in the amounts so fixed."

TECHNICAL AMENDMENT

SEC. 14. Section 3(a)(1) of such Act is amended by striking out the word "nor" and inserting in lieu thereof the word "or".

EFFECTIVE DATE

SEC. 15. The amendments made by this Act shall become effective thirty days after the date of enactment of this Act.

SECTION-BY-SECTION EXPLANATION OF S. 2318, LONGSHOREMEN'S AND HARBOR WORKERS' COMPENSATION ACT AMENDMENTS

Section 1: Title.

Section 2: Benefits for a surviving dependent child, which now terminate at age 18, would be continued until age 23 if he is pursuing a full-time course of study at an approved educational institution.

Section 3: The Act presently provides that no compensation shall be allowed for the first three days of disability, unless the disability continues for 28 days. This amendment would reduce that 28 day period to 14 days.

Section 4: The Act currently provides that an injured worker shall receive a weekly disability benefit equaling two-thirds of his average weekly wage, with a maximum of $70 per week. This amendment would eliminate that maximum and would increase the minimum benefit for total disability from the present $18 to $54. The amendment would also eliminate the present provisions relating to maximum payments for injury.

Section 5: This amendment would allow the deputy commissioner to charge the cost of medical reexamination to the employer or insurance carrier whenever in his opinion a reexamination is necessary. At present he can charge the employer or carrier only if the reexamination shows prior medical reports were not impartial.

Section 6: The Act presently limits compensation for disfigurement to the face or head. The amendment would add disfigurement of other normally exposed areas of the body which might handicap the worker in securing or maintaining employment.

Section 7: The Act contains a schedule specifying the number of weeks compensation is payable for permanent loss of the use of certain parts or functions of the body. However, even though a worker's earning capacity may be significantly reduced by the permanent effects of such an injury, such wage loss beyond the scheduled period is not now provided for. This amendment would provide that an injured worker be paid at the end of his scheduled award for the degree of wage loss he may thereafter suffer.

Section 8: The monies required for paying compensation in second injury cases (see Section 9 below) would be provided by increasing from $1,000 to $5,000 the compensation payment to be made by the employer or insurance carrier to the Special Fund in death cases where the deputy commissioner determines that there is no surviving dependent entitled to compensation for such death. A provision is made for assessments for the Special Fund upon each insurance carrier and self-insurer prorated on the basis of the premiums collected by insurance carriers, or if self-insured on the basis of premiums that would have been paid.

Section 9: The Act presently provides that an employer in second injury cases (those in which a worker with an existing impairment is injured one or more additional times) shall provide compensation only for the disability caused by the second injury. This amendment is intended to provide greater certainty as to an employer's liability in these cases and to encourage the employment of handicapped workers by limiting the employer's liability to the payment of compensation for 104 weeks or for the number of weeks under the schedule for permanent partial disability, whichever is greater. When second injury results in total disability or death, the amendment provides that continuing benefits will be paid from the Special Fund after the expiration of compensation paid by the employer.

Section 10: The amendment would eliminate the maximum wage level used for computing surviving dependent death benefits and would increase the minimum wage level from $27 to $80. It would also increase the funeral benefit from $400 to $800.

Section 11: This provides for annual benefit adjustments based on industry wage changes. This benefit adjustment is intended to apply only to injuries incurred after enactment of this legislation.

Section 12. The Act presently requires that notice shall be given within 30 days after the date of an injury or death. This amendment would permit the employee or beneficiary to give notice within 30 days after becoming aware of the relationship between the injury or death and the employment.

Section 13. This amendment would shift to the employer or insurance carrier the injured worker's attorneys fees incurred in establishing his claim, if an award is made or increased after being resisted.

Section 14: A technical amendment to correct an apparent miswording in the original Act.

Section 15: Makes the amendments effective 30 days after enactment.

By Mr. JAVITS:

S.J. Res. 134. A joint resolution to authorize and direct the President to proclaim September 12 through 19, 1971, to be "American Field Service Week." Referred to the Committee on the Judiciary.

AMERICAN FIELD SERVICE WEEK

Mr. JAVITS. Mr. President, I introduce a joint resolution to authorize and request the President to proclaim September 15 through 19 as American Field Service Week. An identical resolution, House Joint Resolution 527 has been introduced by Congressman HAMILTON FISH, JR.

This period will coincide with the AFS Convention 1971 as it celebrates the 25th anniversary of its international scholarship programs with an international convention in Atlantic City, N.J.

Over the past five decades the AFS, originally conceived during World War I as a volunteer ambulance corps serving with the French armies, has augmented its purpose of strengthening the bonds between countries by developing international scholarship programs toward the end of fostering understanding and reconciling differences which exist among peoples. During 1970, this international voluntary service organization was responsible for the participation of over 4,300 young persons, ages 16 through 18, in exchange programs which offered them the opportunity through experiencing life in another country to gain awareness and sensitivity of the bonds—and the differences—among approximately 80 countries.

I think it appropriate, therefore, that as the AFS Convention 1971 meets to consider its future direction, we pay tribute to the great success of this organization in the past and recognize its commitment to the future in working toward peace through international cooperation and understanding.

Mr. President, I ask unanimous consent that the joint resolution may be made part of my remarks.

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

S.J. RES. 134

Joint resolution to authorize and direct the President to proclaim September 12 through 19, 1971, to be "American Field-Service Week"

Whereas the American Field Service, originally founded as a volunteer ambulance corps to the French armies in 1914, performed with great sacrifice and distinction its task of transporting supplies and carrying the wounded in World War I and later in World War II and in 1946, created an international education program for high school students;

Whereas the aim of the American Field Service international scholarship programs is to promote understanding, friendship, and knowledge between the peoples of the world by arranging an interchange of secondary school students between the United States and other countries;

Whereas this is the twenty-fifth anniversary of the American Field Service international scholarship programs which have given over fifty-nine thousand students from every continent the opportunity to broaden their knowledge of other cultures and gain new insights into their own to the end that the peoples of all nations will benefit from their enriched understanding;

Whereas thousands of voluntary workers in communities throughout the United States and in over sixty countries of the world work together to implement this privately sponsored, non-political activity which serves as an extraordinary model of international cooperation; and

Whereas high tribute should be paid to the American Field Service for fostering a service of such worldwide importance, in the hope that thereby the goal of permanent peace so prevalent in all our minds today, can eventually be achieved: Now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is authorized and directed to proclaim the period beginning September 12, 1971, and ending September 19, 1971, as "American Field Service Week," and to call upon the citizens of the United States, especially schools and other educational institutions and organizations, to observe such period with appropriate ceremonies and activities.

By Mr. TOWER:

S.J. Res. 135. A joint resolution to authorize and request the President to issue annually a proclamation designating 1 day of each year as "National Law Officers Appreciation Day." Referred to the Committee on the Judiciary.

LAW OFFICERS APPRECIATION DAY

Mr. TOWER. Mr. President, I introduce for appropriate reference a joint resolution which would establish 1 day each year as "National Law Officers Appreciation Day." I believe that it is altogether fitting and proper that we have 1 day set aside in which we can pay proper respect and appreciation to those persons in our country who daily risk their lives in the fight against crime so that we may live securely in our homes. These men bear the brunt of the criticism of society and the violence, both organized and unorganized, that is all too prevalent in our Nation today.

At no other time in our history has the law enforcement officer been under greater stress than that under which he must operate today. To the old crimes with which he has long had to live, there have been added new ones such as violent protest with the resultant riots and general disrespect of all forms of property and rights of the law-abiding citizens. It is definitely time that we honor the patrolman who day after day and night after night is on the beat protecting our society from its domestic enemies. At times recently, this man must have wondered if anyone really knew that he was around or if anyone really cared that he was risking his life and well-being in order that the rest of us might continue to enjoy our ordered liberty. The time has come to give this lone man our full support and tell him that we are with him; that the struggle against crime is the struggle of all of us; that we fully appreciate the sacrifices that he is making.

Mr. President, I hope that many of my colleagues will join with me in cosponsoring this joint resolution. I intend to solicit these cosponsors at the earliest possible date. For the information of the Senate, I ask unanimous consent that my joint resolution be printed at this point in the RECORD.

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

S.J. RES. 135

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is authorized and requested to issue annually a proclamation designating one day of each year, to be determined by the President, as "National Law Officers Appreciation Day", and calling upon the people of the United States and interested groups and organizations to observe such day with appropriate ceremonies and activities.

ADDITIONAL COSPONSORS OF BILLS AND JOINT RESOLUTIONS

S. 1017

At the request of Mr. MONDALE, the Senator from Wyoming (Mr. MCGEE) was added as a cosponsor of S. 1017, the Clean Lakes Act of 1971.

S. 1311

At the request of Mr. PEARSON, the Senator from Missouri (Mr. EAGLETON) was added as a cosponsor of S. 1311, the Newsmen's Privilege Act.

S. 1603

At the request of Mr. EAGLETON, the Senator from Indiana (Mr. BAYH) was added as a cosponsor of S. 1603, a bill to provide an elected Mayor and City Council for the District of Columbia, and for other purposes.

S. 1899

At the request of Mr. FONG, the Senator from Massachusetts (Mr. KENNEDY), the Senator from Rhode Island (Mr. PELL), the Senator from Nevada (Mr. CANNON), the Senator from Alaska (Mr. STEVENS), the Senator from New Jersey (Mr. CASE), the Senator from Oregon (Mr. HATFIELD), the Senator from Utah (Mr. BENNETT), the Senator from Montana (Mr. METCALF), the Senator from Nebraska (Mr. HRUSKA), the Senator from Nevada (Mr. BIBLE), the Senator from Alaska (Mr. GRAVEL), and the Senator from New York (Mr. JAVITS) were added as cosponsors of S. 1899, a bill to permit visitors from designated countries to enter the United States for a period of up to 90 days without obtaining a visitor's visa.

S. 2071

At the request of Mr. MOSS, the Senator from Illinois (Mr. STEVENSON), The Senator from Indiana (Mr. HARTKE), the Senator from Connecticut (Mr. RIBICOFF), the Senator from California (Mr. CRANSTON), the Senator from New Jersey (Mr. CASE), the Senator from Idaho (Mr. CHURCH), the Senator from Minnesota (Mr. MONDALE), the Senator from Maine (Mr. MUSKIE), the Senator from Minnesota (Mr. HUMPHREY), the Senator from Washington (Mr. MAGNUSON), and the Senator from New York (Mr. JAVITS), were added as cosponsors of S. 2071, a bill to provide for the care, housing, education, training, and adoption of certain orphaned children in Vietnam.

S. 2231

At the request of Mr. MCGOVERN, the Senator from Indiana (Mr. BAYH), was added as a cosponsor of S. 2231, a bill to require the appropriations be made specifically to the Central Intelligence Agency.

S. 2258

At the request of Mr. GRIFFIN, the Senator from South Dakota (Mr. MCGOVERN) was added as a cosponsor of S. 2258, the Motor Vehicle Air Pollution Control Acceleration Act.

S. 2285

At the request of Mr. GRIFFIN, the Senator from Ohio (Mr. TAFT) was added as a cosponsor of S. 2285, the bill to repeal excise taxes on passenger automobiles.

S.J. RES. 79

At the request of Mr. HARTKE, the Senator from Iowa (Mr. HUGHES) and the Senator from Illinois (Mr. STEVENSON) were added as cosponsors of Senate Joint Resolution 79, the Equal Rights Amendment.

S.J. RES. 126

At the request of Mr. EAGLETON, the Senator from New Jersey (Mr. WILLIAMS) was added as a cosponsor of Senate Joint Resolution 126, the National Volunteer Blood Donor Month resolution.

ADDITIONAL COSPONSOR OF A CONCURRENT RESOLUTION

S. CON. RES. 21

At the request of Mr. MONDALE, the Senator from Michigan (Mr. HART) was added as a cosponsor of Senate Concurrent Resolution 21, to suspend military aid to Pakistan.

FEDERAL ELECTION CAMPAIGN ACT OF 1971—AMENDMENTS

AMENDMENT NO. 263

(Ordered to be printed and to lie on the table.)

Mr. SPONG. Mr. President, I send to the desk an amendment to the Federal Elections Campaign Act of 1971 and ask that it be printed and held at the desk.

The purpose of this amendment is to require political committees which support more than one candidate for election to itemize in their reports the expenditures made in behalf of each individual candidate.

As presently worded, the bill requires committees to disclose only the amount, date and purpose of expenditures in excess of $100 and the names of the persons to whom payments were made. But it does not hold political committees to the same requirement which is imposed on all other groups; namely, to report "the name of the candidate for the benefit of whose campaign the goods or services were purchased."

I believe this is essential information which, if not provided, could vitiate the whole reporting requirement. Candidates could evade the purpose of the act by simply channeling a large share of their campaign spending through party committees. This has been done in the past.

Under this bill, the committees would not be required to disclose how much of what they spent went for the benefit of candidate X or candidate Y. Nor would the candidates themselves have to report that information since they are responsible only for what they personally spend, not what is spent in their behalf.

The net result then is that the public would never have a full accounting of how much a candidate spent to be elected.

One of the purposes of this bill is to enlist public pressure as a means of holding campaign spending within reasonable bounds. That can only work where the public has all the facts and that is what my amendment seeks to provide.

In requiring political committees to itemize expenditures for each candidate, it is recognized that some spending will be for the entire slate of candidates as a slate. I assume the Comptroller General or the Federal Elections Commission, as the case may be, will provide for such situations in its reporting regulations.

When I proposed this amendment at the Rules Committee hearing, I was assured that it was the intent of the committee to require such itemized committee reports. I am hopeful, therefore, that the manager of the bill will support this amendment which will remove any question about the meaning of this section.

AMENDMENT NO. 264

(Ordered to be printed and to lie on the table.)

Mr. PROUTY. Mr. President, I am sure that all of us look forward to the forthcoming consideration of S. 382, The Federal Elections Campaign Act of 1971.

As a ranking member of both the Senate Commerce Committee, and the Committee on Rules and Administration I have become deeply involved in the development of what I believe to be a most significant piece of legislation. I sincerely hope that all Members of this body will give careful consideration to all the provisions contained in S. 382.

Today, Mr. President, I send to the desk a technical amendment to S. 382, and ask that it be printed immediately following my remarks.

In the Committee on Rules and Administration I had an amendment adopted by a vote 6 to 3, which would require all organizations soliciting political contributions to affix the following notification on their requests for contributions.

In compliance with Federal law a report has been (or will be) filed with the Comptroller General of the United States showing a detailed account of our receipts and expenditures. A copy of that report is available at a charge from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

Subsequent to the adoption of my amendment by the committee, I was informed by legislative council that in order to clarify the authority for the Public Printer to make a charge for such documents language should be included in the bill to that effect. My amendment simply clarifies that point.

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

AMENDMENT NO. 264

On page 30, line 23, before "Any" insert "(1)".

On page 31, between lines 7 and 8, insert the following:

"(2)(A) The Comptroller General shall compile and furnish to the Public Printer, not later than the last day of March of each year, an annual report for each political committee which has filed a report with him under this title during the period from March 10 of the preceding calendar year through January 31 of the year in which such annual report is made available to the Public Printer. Each such annual report shall contain—

"(i) a copy of the statement of organization of the political committee required under section 303, together with any amendments thereto; and

"(ii) a copy of each report filed by such committee under section 304 from March 10 of the preceding year through January 31 of the year in which the annual report is so furnished to the Public Printer.

"(B) The Public Printer shall make copies of such annual reports available for sale to the public by the Superintendent of Documents as soon as practicable after they are received from the Comptroller General."

AMENDMENT NO. 266

(Ordered to be printed and to lie on the table.)

Mr. HUMPHREY. Mr. President, in the next few days the Senate will be considering S. 382, the Federal Elections Campaign Act of 1971.

I am now announcing my intention to amend this important legislation, and I now offer the amendment for printing. At the appropriate time, I will call up the Federal voter registration amendment to S. 382 which will enable all citizens of the United States to register to vote in Federal elections at the time they complete their Federal income tax returns.

The Internal Revenue Service reaches 95 percent of the American people each year. It is an organization which has a reputation for responsibility, efficiency, and confidentiality which are necessary for the proper functioning of a national voter registration program.

Those persons who do not file a Federal tax return would be able to obtain a voter registration form from their local post office. All persons who register under this optional program—with their tax return or with the form obtained at the post office—would receive a Federal certificate of registration.

My amendment to S. 382 does not eliminate State registration laws. Persons can register through the Internal Revenue Service only if they are also eligible to register under applicable State laws. I do not view the Federal voter registration amendment as abridging the rights of any State. The amendment is designed to make Federal registration a convenience rather than a hindrance.

In the election of 1968, 40 percent of the American electorate did not vote. I believe the Federal voter registration amendment is an important first step in the direction of true universal suffrage in the United States.

Mr. President, I ask unanimous consent that my amendment to S. 382 be printed in the RECORD.

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

AMENDMENT NO. 266

"On page 52, after line 17, add the following:

TITLE V—REGISTRATION OF FEDERAL VOTERS

REGISTRATION FORMS

SEC. 501. (a) The Secretary shall prepare, in consultation with the Attorney General and the election officials of the various States, a standard form which may be used to register to vote in Federal elections by any citizen who is qualified to register for voting in such elections. Two copies of such form shall be included with each income tax return mailed to a taxpayer by the Internal Revenue Service and additional copies of such form shall be available at any Internal Revenue Service office. The Secretary shall enter into arrangements with the Postmaster General under which additional copies of such form shall be available in each Post Office. The Secretary shall undertake to notify persons who do not receive such forms by mail of their right to register to vote by using such forms. Such notification shall be by public advertisement or such other means as may be effective. Where appropriate, such notification and such forms shall be in English and in the predominant non-English language used in an area.

(b) Any person who elects to register for voting in Federal elections using the form provided under subsection (a) shall complete such form and sign it. The completed form shall be returned to the Internal Revenue Service and such person shall be registered to vote in Federal elections in the State in which he resides, in accordance with such procedures as may be prescribed by the Secretary, if such person is otherwise qualified to vote in such Federal election.

(c) The Secretary shall issue to any person registered to vote in Federal elections under this section a certificate of registration which shall be held and considered to be prima facie evidence of such registration.

NOTICE TO STATE ELECTION OFFICIALS

SEC. 502. (a) Under such regulations as the Secretary may prescribe, there shall be furnished to the appropriate election officials of any State all necessary and appropriate information regarding persons registered under section 501 to vote in Federal elections held in such State. On and after the time such information has been so furnished to the appropriate election officials of any State in the case of any person, such person shall be deemed to have met all the requirements for registration for voting in Federal elections held in such State. Any such registration for voting shall continue in effect for the

same period of time it would have been in effect had such person registered under the applicable State law.

(b) Registration under this section of any person for voting in Federal elections held in any State shall constitute valid registration for voting in elections held in such State other than Federal elections whenever the laws of such State so provide.

PROHIBITION OF NATIONAL REGISTRY

SEC. 503. No national registry of persons shall be compiled or maintained from information derived under this title.

REPORT BY THE SECRETARY

SEC. 504. The Secretary shall report to the Congress one year from the date of enactment of this Act with respect to registration of voters under this title together with any recommendations he may have, including recommendations for additional legislation, for the more effective administration of voter registration under this title.

SEC. 505. (a) The provisions of section (11) (C) of the Voting Rights Act of 1965 shall apply to false registration under this title and other fraudulent acts and conspiracies in connection with this title.

(b) Whenever the Attorney General has reason to believe that a State or political subdivision is denying or attempting to deny to any person the right to vote in any election in violation of this title, he may institute for the United States, or in the name of the United States, an action in a district court of the United States, in accordance with section 1391 through 1393 of title 28, United States Code, for a restraining order, a preliminary or permanent injunction, or such other order as he deems appropriate. An action under this section shall be heard and determined by a court of three judges in accordance with the provisions of section 228^ of title 28 of the United States Code and any appeal shall be to the Supreme Court.

(c) Any person who deprives, or attempts to deprive, any other person of any right secured by the first section of this title shall be fined not more than $5,000, or imprisoned not more than five years, or both.

REGULATIONS

SEC. 506. The Secretary shall prescribe such regulations as may be necessary to carry out the provisions of this title.

DEFINITIONS

SEC. 507. As used in this title, the term—

(1) "State" means each of the United States, the District of Columbia, and the Commonwealth of Puerto Rico;

(2) "Federal election" means any general, special, or primary election held for the purpose of nominating any candidate for election, or electing any candidate, as President, Vice President, presidential elector, Senator, Representative, or Delegate or Resident Commissioner to the Congress; and

(3) "Secretary" means the Secretary of the Treasury or his delegate.

AMENDMENTS NOS. 267 THROUGH 293

(Ordered to be printed and to lie on the table.)

COMMENTS ON S. 382—CAMPAIGN REFORM

Mr. MATHIAS. Mr. President, the matter of campaign reform will soon confront us all. S. 382 has been reported out of the Rules Committee and awaits consideration by the Senate. I have thoroughly reviewed and studied the bill; I think the bill has the laudable objective of restoring to the American people confidence and credibility in the electoral process. The committees dealing with the legislation have done a commendable job in view of the constitutional hurdles and the complexity of the problem.

I do not wish to speak generally about the need for campaign reform, for I made my feelings clear in the introductory remarks to S. 956, the Scott-Mathias bill. However, to demonstrate now my sincere desire to have tough and comprehensive reform legislation, I have gone over S. 382 with a most careful eye. I would like to tell the Members of the Senate of the difficulties which I encountered in S. 382; and, I plan to introduce amendments where I feel it is appropriate to do so.

S. 382 is divided into four distinct and independent titles; title I deals with broadcast media and nonbroadcast media; title II covers the criminal code amendments; title III handles the reporting and disclosure sections of the bill; and title IV covers amendments to the Internal Revenue Code of 1954. I will proceed to talk about each title separately, excluding any comments on title IV.

TITLE I. MEDIA

CONCEPT OF FAIRNESS

Section 315(a), the section in the Communications Act which puts a legislative mandate on licensees to treat all candidates similarly and equally in the allocation of free time has become burdensome to both the broadcast station and the candidate. The major candidates cannot get on the air to publicly expose their views unless the broadcast station decides to treat equally all other candidates—minor, fringe, and even casual candidates would take part in the gratuity. This spirit of fairness and equality is in keeping with the legislative intentions of 315(a) as well as with court decisions interpreting this section.

This legislative objection of nondiscrimination among the candidates was built into 315(a)'s promulgated rules and regulations. For instance, regulations clearly prohibit discrimination among candidates with regard to charges and access. Section 315(a) speaks of affording "equal opportunities" to all candidates.

The broadcast station often avoided the above problem by not granting free time to any candidate. This, as we know, though a decision based perhaps on good business judgment, was not in the best interests of the electorate nor was it fulfilling the licensee's obligation within the political process. Everyone—including the broadcast industry—has recognized the need for change. The industry and the Congress have both agreed on legislation which would give the broadcast industry the opportunity—and the discretion—to give only "major" candidates free access.

S. 382 attempts to solve the dilemma by taking Federal elections out of the purview of 135(a). I question this legislative approach.

If you take Federal elections out of 315(a), the question arises as to whether those rules, regulations, court decisions and ancillary laws would still apply to those now exempt Federal elections in order to guarantee the concept of equality and fairness among the "major" candidates. The FCC was unwilling to conjecture whether these guidelines would in fact apply. It would seem to me that a more direct route and one which would give the station less discretion and opportunity would be to simply exempt minor Federal candidates from this application of section 315(a).

There would be difficulty, I admit, in defining such a group as "major" or "minor" candidate. However, S. 956 contained such a definition in the franking privilege section of the bill. And the FCC would have to make certain anyhow what it meant by "major" if it wanted to give guidance to its licensees under the presently drafted bill as to the extent of permissible exclusions of candidates.

If these guidelines under the present 315(a) as applied to Federal elections would not now apply to S. 382, a licensee could discriminate as to charges under the bill.

A candidate for Federal office running under the purview of S. 382 could have three possible charges given to him by a licensee within the stated 105-day period prior to election. The station can give the candidate free time, charge lower than lowest unit cost, or the lowest unit cost. Section 101(b) page 3, line 9, speaks of the licensee being prohibited during this period from exceeding the lowest unit cost. Strictly construed, this does not prohibit giving charges lower than the lowest unit cost.

I have been told by the committee that if one is granted a charge which is lower than the lowest unit cost, that the new charge would then become the new lowest unit cost and all candidates charged higher than this rate would get a prorated refund in the excess amount. This interpretation cannot be derived by reading the bill or the appropriate hearings. Such an interpretation is quite unreasonable and indeed stretched. The matter of the refund is not mentioned at all in the bill and on the merits, it could cause innumerable problems for a candidate in his spending plans within the bill's ceiling.

There would be, it seems to me, only two prohibitions or guidelines for stations in their charges and treatment of candidates. First, the station would be prohibited under threat of revocation of its license—section 101(b), page 3, line 22, and the following of the drafted bill—from "willful or repeated failures to allow reasonable access or to permit reasonable amounts of time." Note that this section mentions any access; thus, if a candidate is ready, willing, and able to go on the media, the licensee could not then prevent his entry within the normal rules and customs of the broadcast industry. However, this would not prevent him from discirminating as to charges. Second, the fairness doctrine—section 315 (a) would still apply, guaranteeing that the station would treat all issues equally and fairly. Notwithstanding these two recognized prohibitions, unless this latter doctrine is stretched to apply to charges and the matter of free time, the licensees could still discriminate in both these areas.

Even if the committee would clear up through amendments the matter of the meaning of lowest unit cost, this would only take care of the problem of discrimination as to charges lower than the lowest unit cost and not cover discrimination in the area of free time.

At this time, I am planning to offer amendments which will prohibit under the threat of revocation of license the discrimination as to free time by a licensee by amending subsection (7) on page 3 of

the bill to this effect. This would also remedy in part what I consider to be a most unwise delegation of power to the FCC. Congress should begin to use its pen rather than its power to delegate its authority to achieve recognized public policy.

I understand there might be some attempt to delete this entire subsection (7). If such an objective is accomplished, a move which I will aggressively oppose, I will offer an amendment annexed to the previous subsection, hoping to accomplish the same objective.

S. 956, in its title III, attempts to codify the fairness doctrine in order to assure its application to campaign reform legislation. Perhaps a similar move might be considered by the committee.

COVERAGE—FEDERAL ELECTIVE OFFICE

Section 102 deals with the spending limitation of candidates for Federal office. It should be noted that unlike the reporting and disclosure title, the first two titles exclude coverage of the party conventions, caucus and so forth. It is omission is understandable, however, we should make it clear—a caveat should be made—that Congress will fill the void if the omission is abused.

COVERAGE—THE CANDIDATE

Subsection (c) of section 102, page 4, line 12 and the following, as well as section 103(a)(3), page 9, line 21, and the following defines "legally qualified candidate." Unless a candidate comes within this legislative definition, he is free to spend as much as he wants and is excluded from the spending limitations of the bill.

The definition, as presently drafted, has two parts: First, that the candidate qualify under Federal law—in the case of the office of Senator, this merely means that he be 30 years of age and a naturalized citizen; and second, he qualify under applicable State law. This is patently not enough. As drafted, both provisions omit any affirmative actions by the candidate, and only contemplate the passive, more formal acts of qualifying oneself for candidacy.

There might be situations in which a candidate could not as yet qualify under State law, though clearly a candidate in the eye of both the public and himself. Take the State law which requires for instance a period of days to follow from time of registration to the time in which he formally qualifies as a candidate under applicable State law. Does that mean that during those preceding days, the candidate can have a "Roman carnival" with regard to campaign expenditures? Obviously, if all States allowed write-in candidates, this would not be a serious problem for then every inchoate candidate would qualify under "applicable State law." However, we cannot control nor predict changes in State elections laws; thus, it would be wise to close this omission.

The FCC has in its regulations a definition of candidate which is broader than the one contained in S. 382 and one which might cover the above example. However, it could be argued quite persuasively, I think, that this congressionally declared definition supercedes the regulatory one.

I recommend that we add a third provision—a section (C) or (3) as the case may be, which would include in the alternative the candidate who spends or accepts contributions, or acquiesces the spending or contributing in behalf of his candidacy.

I agree that a candidate should be a candidate for the purposes of the spending ceiling only when he performs "the last act" of noncandidacy, as distinguished from the reporting and disclosure section which should cover "his first act," so to speak. However, as presently drafted, the loophole is much too big.

THE MECHANICS OF THE SPENDING CEILING

I said in my introductory remarks to S. 956, as well as before the Commerce Committee hearings on S. 956, that spending ceilings are basically unenforceable, arbitrary, and unconstitutional. S. 382 confirms that view. As drafted, I feel strongly that S. 382 will most likely be dragged through the courts to the disadvantage of campaign reform, and create a prosecutorial nightmare for the Federal Government.

As we know, S. 382 sets forth spending ceilings for all candidates to Federal office. As drafted those ceilings are 0.05 cent times the number of resident population in that political subdivision for the nonbroadcast media and a similar 0.05 cent spending limitation for the broadcast media. The Rules Committee added an amendment which would make these figures interchangeable; thus making the spending ceiling 10 cents for both broadcast media and nonbroadcast media, allowing the candidate to choose how he wants to divide his money among the two. I imagine this will become a major amendment for debate on the Senate floor. I only hope that the amounts derived will be based more on the public's interest and recognized data on campaign costs, rather than on political considerations.

However, my concern is with the mechanics of the spending ceiling—how broadcast media and nonbroadcast media charges are attributed to each candidate.

The two sections in both the broadcast media and nonbroadcast media sections which are of concern to me are the definitions of "use of broadcast stations by or on behalf of any candidate" and the appropriate certification sections. The former forms the perimeter and basis for the latter. In other words, if an advertisement or media presentation comes within this definition, according to the interpretation by the committee, it cannot be viewed unless it receives certification by some candidate and thus the costs of that presentation are attributed to that candidate's spending ceiling.

In addition the definition becomes the basis for eligibility for lowest unit cost charges by a licensee.

Again, I feel the bill is unclear as to the process of certification. A close reading of the bill with regard to the certification process could raise other meanings than those derived by the committee. I hope the committee, through appropriate amendments, will make clear its intentions.

Thus, this definition's intent and meaning is of immense signficance. Let us take a look at this definition as it appears in section 102, page 4, line 17, and the following, and section 103(a)(4), page 10, line 3, and the following.

"The use of broadcast stations by or on behalf of any candidate," the definition states, includes—giving the FCC discretion to add criteria—First, amounts spent advocating a candidate's election, second, amounts spent urging defeat of one's opponent, or third, amounts spent derogating his opponent's stand on campaign issues. Note that the definition contemplates advertisements both by candidate and on behalf of the candidate.

The latter requirement dealing with campaign issues is most objectionable. Let me cite a hypothetical example on how this becomes a real problem. Suppose a group wants to put on the air an advertisement urging support for air pollution legislation. The group goes to the broadcast station and first shows the ad to the licensee who in turn determines whether the advertisement comes within one of the three criteria mentioned above. The ad, for sake of example, makes no mention of any candidate's name in an effort to elect or defeat a particular candidate. The question then becomes is it derogation of a candidate's stand on some campaign issue? Ecology will presumably be an inherent issue in the elections to come.

The licensee would then make a determination—under the spirit of reasonableness as pronounced by the Commerce Committee hearings—as to whether the ad is in derogation of some candidate's stand. If he decides it is, he would then call the candidate who would presumably benefit from such a viewing and ask for certification. The candidate would then have to view the advertisement to see whether it would be worth attributing the costs of the ad to his spending ceiling. If it is not worth the candidate's certification, the pollution fighters are precluded from expressing their views. The situation becomes ludicrous when this group becomes the purchaser in behalf of the candidate which set the lowest unit cost scheme in the first place—under the present committee interpretation of the bill.

And if the candidate certifies, the group's ad is viewed as an advertisement associated with that candidate and charged the lowest unit cost for the viewing. If the ad is not considered a particular campaign issue, it can go on the air with normal commercial charges and subject to the normal customs and regulations of the industry.

Under present interpretation by the committee, if an applicant or candidate is dissatisfied with a decision by the broadcast station, he may appeal to the FCC for a final ruling on the matter.

The above example highlights the serious problems which I believe most would have with this bill.

The bill violates the public's right of free expression and free association which our Constitution guarantees. A group can no longer independently express itself on an issue related to a campaign unless they associate themselves with a particular candidate for purposes of certification and receive certification by a candidate. If both are not consented to, the expression is completely forbidden.

This, to me, is repugnant to America's ideals of freedom, the right to free expression and unabated participation in the electoral process.

It strips groups of any independence. It encourages—it directs—groups to be dependent upon a candidate. Independence of views is discouraged, dependence fostered. We all know how dependency in the political arena breeds obligations and inhibition of expression. The bill discourages the open discussion of substantive issues and controversy and encourages fireside Wall Street ads to influence one's candidacy. Noninvolvement and ignorance can easily be its by-product.

I find the bill tampering and upsetting the delicate balance of first amendment rights and the right of the Federal Government to legislate for the general welfare. The harm created by the bill, quite frankly, exceeds the harm attempted to be corrected. I doubt whether the first amendment permits statutory authorization for one person to determine whether a group or an individual can express their political views in such forms as newspapers, magazines, billboard facilities, and other periodicals as contemplated by S. 382.

The bill gives to the local broadcast stations, the FCC and sellers, in the nonbroadcast media, enormous and dangerous powers to interpret the intent of Congress. This is another example of "delegation run wild." A station for example would on a case by case approach decide what ad is considered to be related to a particular campaign, whether it is major campaign issue or an issue which is in derogation of a particular candidate's stand. Do we want to delegate such authority? I for one do not. In addition, this delegation of judicial functions to the FCC raises some serious constitutional issues.

The bill at the same time gives too much authority to us—the prospective candidates, for the candidates would in essence control—in the strictest sense of that word—the political and quasi-political expression during 105 days prior to the election. This, I believe is an unreasonable power to bestow upon us. I can imagine interest groups running around from one candidate to another in an atmosphere of prior censorship and prior restraint in an attempt to guarantee certification. The public's right to know should not be curtailed by what the candidate wants to tell.

The only safeguards for the public to assure equality and nondiscrimination by the licensee in these instances are the fussy area of the "fairness doctrine" and the test of reasonableness as pronounced by the committee—a test which is found nowhere within the language of the bill. Congress must set forth explicit guidelines as to its intent and objectives within the bill.

It seems to me that if an advertisement does not specifically mention or reasonably refer to a candidate either in support of his candidacy or in derogation of his opponent, then that advertisement should be able to be viewed and be subject to the ordinary charges and process of exclusion and inclusion practiced by the broadcast and nonbroadcast industry.

In other words if it does not appear that the purchaser is controlled by the candidate or is attempting to influence the election of a candidate, he should not be governed by the certification provisions. If this is the intent of the committee and the Congress, it certainly is not clear in the present bill.

I believe the above problems can be resolved within the framework of the bill as drafted. And to this end, I am planning to make the following amendments.

I will offer amendments to change the definition of "use of broadcast time" to make it limited to the criteria of "influencing" the outcome of an election. The word "influencing" has an appropriate reference in the definition of "contribution" in title III. It would seem logical if one gives to another to influence his candidacy that amount, or value thereof, should be reported and disclosed as well as attributed toward his spending ceiling if that "giving" was in the form of a purchase of time or space. The amendment would exclude any reference to "campaign issue" and the dangerous authority given to the broadcast media and nonbroadcast media in this area.

This amendment would clear up the issue of negative campaigning for only if the ad is viewed to influence an election should it come within the certification rule.

This still does not dispense with all the first amendment problems for still the candidate could control those ads which are intended to influence his election. I do believe my amendment is a useful and workable compromise. Quite frankly, I do not believe that the Congress can enact a constitutionally sound bill on spending limitations. I have felt this way since cosponsoring S. 956 and my feelings were made even more distinct while studying the mechanics of S. 382.

One area which the bill omits and which should be considered by the full Senate, is the matter of injunctive relief by the candidate. What is the remedy if another candidate who watches the expenses of his opponent—a fact which should be expected under this legislation—discovers that he will soon exceed his limit by a certain expenditure? What can he do? As drafted, the bill affords no relief. We should seriously consider inserting a provision similar to that contained in title III for injunctive relief to any aggrieved party.

PREDICTABILITY OF AUTHORIZED PERSON

In both the broadcast media—section 102, page 7, lines 16 and 17—and the nonbroadcast media—section 103, page 13, lines 3 and 4—the candidate or "a person specifically authorized" is given authority to certify for purposes of cost attribution within the spending ceiling. This person should not be one merely "authorized" by the candidate, for that person may vary from candidate to candidate, but rather should be a predictable person easily ascertained by the appropriate Federal authority and the broadcast station seeking certification.

I will offer amendments to make this person one who will be registered with the appropriate Federal authority and correspond to the person in title III who is responsible for the reporting and disclosure of the candidate's contributions and expenditures. A central campaign committee will be required in both titles to achieve these objectives. This concept was introduced in S. 956, the Scott-Mathias bill and is again, I believe, needed for sound campaign reform legislation.

SCOPE OF MEDIA

Section 102, on page 5, line 3 and the following outlines the coverage of the bill for purposes of the broadcast media. The definition clearly omits the use of closed circuit television. This, I believe, is a possible loophole. We have no way of forecasting the use of such a medium.

I understand that to put such media under the jurisdiction of the FCC, at this time, would be questionable. Its authority over certain kinds of cable television are currently in dispute. Thus to avoid the jurisdictional question—at least until the FCC's lines of authority are clearly drawn—the closed circuit TV question could be adequately handled in the bill by amending section 101's definition of the "use of broadcast stations" to include this medium. I plan to offer such an amendment.

PRESIDENTIAL ELECTIONS

Section 102—page 6, line 9 and the following—and section 103(c)(1), page 11, line 19 and the following deals with the spending limitations for presidential primaries. The language reasonably construed is interpreted to mean that a president calculates how much he can spend in any one primary by first determining how much he can legally spend in the Nation—which is $0.05 times the number of resident population. Taking this figure, he can then divide that amount by as many primaries as he wishes to enter. He may spend it all in one State's primary or enter three, 10, or 50.

The language in general is fairly vague and should be tightened up. For instance, when it refers to the "resident population," for the purposes of this section, is it talking about resident Democrats or Republicans, or the resident population of the entire State? I have proceeded on the assumption of the latter interpretation.

This approach, I believe, discourages broad base participation by all States and their respective citizens. The Congress should declare a policy that it desires more presidential primaries, and that it desires more citizens of more States to have a realistic opportunity to determine the party nominee for President. It is unfair for a presidential aspirant to choose to enter one State's primary to the exclusion of another and yet use that State's population base for the purpose of spending ceilings in the primary of his choice.

An amendment will be offered which will limit the amount a president can spend to $0.05 times the estimated number of resident population of each State in which the candidate enters a primary. This amendment would not be limiting a candidate's choice but rather encouraging him to go into more primaries which in the end will result in a more responsive system of nominating a

president. In the general election, no similar restrictions would be applied and the presidential nominee may spend as much as he wants within the established ceiling in each State or geographical region.

PROBLEM OF STATE SOVEREIGNTIES

Section 102—page 7, line 25, and the following—of the broadcast section provides that if the Federal Communications Commission makes certain findings as to the applicability of State law then that State's candidates will come within the purview of the bill as it pertains to licensees' certification and spending ceilings. I have no objection to the laudable objection of uniformity and permissive compliance with Federal law, but I do find constitutionally suspicious the concept of a Federal agency—in this case the FCC—determining the applicability of State law. This should be left to the States and their judicial process. I can see States and their governments resenting this preemption enough not to attempt to make uniform their election laws. The need for uniformity is clearly outweighed by constitutional protection of State sovereignty in the area of judicial affairs.

I plan to introduce an amendment which attempts to remedy this by providing that the State must specifically declare its intention in the State legislature to come within the Federal law. In addition, the Commission's determination would be omitted making the act completely permissive in nature on behalf of the State.

NONBROADCAST MEDIA COVERAGE: DIRECT MAILING

It should be noted that direct mailings are omitted from the spending ceiling in the nonbroadcast media section. There are sound reasons for its omission. One statewide mailing, for example, could eat up the entire nonbroadcast media ceiling. Also, it would be easy to avoid the application of ceilings by receiving large donations of stamps. And, as previously mentioned, a limit on direct mailings would really aggravate the constitutional question of free expression.

I plan to propose a franking amendment similar to the one offered in S. 956, for all candidates in varying degrees at reduced rates. If a cost-free franking privilege amendment is offered to all candidates rather than a reduced rate privilege which I prefer, I would then offer an amendment to have the direct mailings included in the nonbroadcast media coverage, for then, statewide mailings would be free and all others should be attributed to the spending ceiling.

EQUALITY BETWEEN THE BROADCAST MEDIA SECTIONS AND NONBROADCAST MEDIA

It is absolutely imperative that we treat alike broadcast media and nonbroadcast media. This was one of the President's requests; it is a fair and equitable principle to guide the bill. And I believe if not done, the bill will fail to meet constitutional requirements. I, of course, recognize the difficulty of complete equal treatment under the law, due to constitutional and jurisdictional problems of Federal law over nonbroadcast media. Nonetheless, an attempt must be made within a realistic framework to create such a parity.

Several parts of the bill come to mind which fail to meet this requirement. Firstly, as we know there is nothing in the nonbroadcast media which is equivalent to the fairness doctrine and related nondiscriminatory principles as they appear in the broadcast media section. The nonbroadcast media seller is virtually free to discriminate; the bill makes no attempt to remedy the problem.

In the broadcast media, if a licensee charges lower than lowest unit cost, according to the intent of the committee, that new rate then becomes the new lowest unit cost, and a refund is given to all candidates, making all candidates equal before the licensee. In the nonbroadcast media, free space, goods, or services or a reduction below the lowest unit cost is equivalent to a contribution—a term which is meaningless for there are no limitations on contributions—only spending. In the nonbroadcast media, reductions in cost are discouraged and yet the favored candidate can benefit from a gift which is not attributed to his spending ceiling. In the broadcast media section, presumably free time and reductions in cost are encouraged.

An amendment will be offered which will attempt to solve this particular disparity without getting into any constitutional problems of jurisdiction over the nonbroadcast media. If the nonbroadcast media charges one candidate less than the other—or gives one candidate free space, goods, or services, and not the other, the amendment will provide that the amount saved by the candidate shall be considered a contribution and expenditure and attributed toward his ceiling limitaton. Thus, if candidates are treated differently by a nonbroadcast media seller, then the favored treatment should rightfully be considered a contribution and an expenditure and attributed toward the spending limitation. This is a means of gaining equality among the candidates without controlling the nonbroadcast media. The latter is free to charge and treat the candidates as it chooses; however, the candidate must take the consequences.

The second inequality is more patent. Violation of sections dealing with the broadcast media is 10 years or $1,000. For the nonbroadcast media it is 5 years or $5,000 or both. This unequal treatment becomes unworkable when you consider the present interchangeability of the spending limitations for broadcast media and nonbroadcast media. As presently drafted, if one exceeds the spending limit, he could say with impunity that he violated that section which has the lesser penalty.

Two amendments will be offered. One will make both sanctions equal to the nonbroadcast media violations—subsection (f)—the other will insert in both, the qualification of "knowingly and willingly." This will take the sanction out of the "malum prohibitum" arena and into those criminal statutes which require intent and knowledge by the violator. If this is not done, a strict liability would be given to the actions of candidates; a responsibility which would be overbearing to the candidates. I believe it would be a lot more realistic to create a joint criminal responsibility and I hope the committee would consider such an amendment.

NOTIFICATION BY NONBROADCAST MEDIA

There is nothing in the bill as drafted, as it pertains to nonbroadcast media, which would require the sellers of nonbroadcast media to notify the FCC of any certification or even keep appropriate records. Such is not the case for the broadcast media sellers, for the FCC has extensive regulations for bookkeeping and notification procedures.

I will offer an amendment which will make mandatory similar notifications by nonbroadcast media when it sells goods and services under the certification section of the bill. It can certainly be argued that if the seller of the nonbroadcast media wants to partake in Federal elections—an act which is purely permissive in nature—he then must comply with all related Federal regulations.

EFFECTIVE DATE

The bill as presented to the floor recommends the effective date for title I to be 30 days after enactment in the case of section 101(b) and 120 days for section 102. Such a variance dismisses the equality of importance between the two, and the 120-day stipulation is too long for purposes of guaranteeing coverage of the next election.

I will offer an amendment to make both 60 days.

TITLE II: CRIMINAL CODE AMENDMENTS

BANK LOANS

Section 201—page 16, line 15 and the following—defines "contributions" for the purposes of this criminal title. A bank loan is properly exempt from the term "contribution." This is in keeping with recent court decisions, as well as policy decisions which attempt to encourage candidates to seek money from recognized and established money institutions. After all, the more money available through banks, the less the candidate has to go to "other" sources with their obligatory attachments.

However, loans should not be exempt from contributions, if they are given out of the ordinary course of business. For instance, if the bank alters its ordinary customs and regulations and gives money to a candidate the preference over another, such a loan should be considered a contribution. An amendment will be offered to add the words "in the ordinary course of business" after the word "regulations" which appears on pages 16 and 17, lines 20 and 22, respectively.

This amendment is offered in an attempt to prohibit discrimination toward any candidate in a Federal election by any banking institution. We must make all necessary efforts to assure this objective of equality throughout the entire legislation. This is another amendment offered to achieve this objective.

COLLATERAL

Section 206 on page 23 creates a new section to protect those service businesses whose rates are regulated by the Fed-

eral Government. The committee attempts to protect those businesses which provide transportation and public services to candidates by requiring full collateral for prospective services. This is a laudable policy in light of numerous and large unpaid bills in all these areas. However, I feel it is equally important to protect the other providers of services by offering an amendment prohibiting all others from compromising a debt for less than its face value. This would assure that those who deal with a federally regulated industry would not be put on a safer, higher level of protection, than those who do not.

CONTRIBUTION LIMITATIONS

S. 956 contained what I believe to be a section necessary in any campaign reform legislation. It reenacted section 608 of title 18 of the United States Code in the area of contribution limitations to limit the amount of money a candidate by himself or through his family, can give to influence his candidacy. In the case of a presidential election, the limitation was $50,000; in a senatorial election, $35,000; and an election held for the office of representative, delegate, or resident commissioner, the limitation was $25,000.

I intend to reintroduce this concept as an amendment to S. 382.

I feel a candidate should not be able to buy off any election in his behalf. Men and women elected to Federal office must be elected and chosen by their constituency and not by themselves.

Although I realize it is impossible to equalize all candidates before the public, I feel strongly that a deep pocket should not be a license to serve the public. If our Government is to represent all of America and its diversified economic interests, we must assure that not only the rich have an opportunity to serve.

A more plenary view on this subject appeared in my introductory remarks to S. 956.

TITLE III. REPORTING AND DISCLOSURE

Title III is the most important part of the 1971 campaign reform. It deals with the public's right to know. It guarantees responsive government as well as an alert and well-informed public. And, it is for these reasons, title III must be comprehensive and tough.

DEFINITION OF STATE

The first amendment which I feel is necessary is perfecting in nature. Title II and title III have two different definitions of "State." One appears on page 18, lines 19 through 22; the other on page 28, lines 20 through 22. It can be argued that the second definition's reference is inclusive and the "State" is limited in definition to the District of Columbia, the Commonwealth of Puerto Rico, and so forth. This drafting oversight should be corrected so no problem could be raised as to the jurisdiction of the bill.

An amendment will be offered to change this latter definition to conform with the definition on page 18.

FULL REPORTING AND DISCLOSURE

Throughout the bill, the name and address of a donor, seller, agent, and so forth, is required on some report. Accordingly, one may list his name and box office and satisfy the law. This I feel is inadequate. It is important that the public and the regulating agency fully recognize and understand an individual's affiliation and financed ties with a candidate. If merely one's name and box office address or even a nonbusiness mailing address appear on a form 5 days prior to an election, there is hardly enough time for anyone interested in reporting to the public to get a complete and accurate picture of the candidate's financial affiliations. It is for these reasons that I will offer an amendment which will require that each person's principal place of business and occupation appear on the appropriate reporting forms.

EXPENDITURES IN BEHALF OF A POLITICAL COMMITTEE

Section 302(c)(3) as well as 302(d) require the treasurer of a political committee to keep a detailed account of all expenditures by such political committee or in behalf of such committee. This latter provision is to cover those individuals who buy services for a candidate. In addition, since this expenditure by the donor would be considered a contribution for purposes of the spending ceilings, it is important to have a cross-check. However, when page 35 requires expenditures to be reported to the Commission or the GAO, as the case may be, it leaves out this essential "in behalf of such committee" language and only refers to expenditures by such committee. The detailed list kept by the committee of these type expenditures is useless unless it is properly reported and disclosed to the Commission.

On page 35, line 18, I plan to offer an amendment to insert the words "or in behalf of such committee." This will assure reporting of the same expenditure information as is required to be kept by the treasurer.

An additional matter comes to mind in talking about this disclosure provision as it relates to expenditures. It is not clear whether this section covers the detailed reporting of services performed by multiservice corporations. If, for example, X, a multifaceted corporation, does $10,000 worth of business for a candidate in the area of printing, advertising, mailings, and so forth, would these enumerated services be listed separately with their respective costs or would the report only indicate the bulk amount of $10,000 and generally state the purposes for the expenditure?

In other words, does the word "each" on line 35 refer to the aggregate expenditure of each expenditure within the aggregate? Section 302(d) requires such a detailed report. This again is the section requiring merely that the treasurer keep certain data available for inspection. However, it is questionable whether the same amount of detail is required in the reporting section.

S. 956 contained such specificity and it seems to me it would be good policy to again make it part of this legislation. If this situation is not covered by the bill, I hope the committee will make the appropriate amendments.

TRANSFERS

As we all know, in the close ranks of political campaigns the adroit and able campaign treasurer is a most valuable asset of any candidate. The value a candidate places on such men is directly linked to the extraordinary costs of political campaigns and the need to expertly manage funds to obtain maximum results. These financial demands have too often bred abuses.

One particular abuse is not covered by S. 382. The rapid transfers of funds in any campaign coupled with the increased use of credit facilities permit a pyramiding of credit and hence of purchasing power which might significantly affect the relative posture of candidates in any one election. Although it is impossible to equalize financial positions of candidates, nor prevent the manipulation of money to one's benefit, it is important that the public know what the candidate is doing with the moneys received.

S. 382 as drafted does not disclose and report all the possible transfers, which might occur during a campaign. Section 303(b) subsection (9) should include a listing of all transfer agents as well as the now required banks, safety deposit boxes or other repositories. Such an amendment will be offered.

Subsection (b)(1) of section 304, the section dealing with reports by political committees, in addition should contain some provision to alert the Commission or the GAO, as the case may be, of rapid transfers of money. The definition of contribution and expenditure in title III contain provisions which include transfers between political committees. However, the problem arises when there is a transfer between banks or a nonpolitical committee.

An amendment will be offered to require reporting of all transfers, their recipients and amounts which are more than 10 percent of the amount of cash in each reporting period. In addition, if the 10-percent transfer occurs more than once during the reporting period, it would then have to be reported within 24 hours to the appropriate Federal agency.

CONTRIBUTIONS IN EXCESS OF $100

S. 382 requires only the reporting of contributions to the Federal agency which are "in excess" of $100. Reliable data presented at the hearings as well as published in numerous reports, indicate that by requiring reports in excess of $100 you omit a substantial number of $100 contributions.

It would seem logical that a person would write a check or give cash in the amount of $100 rather than in the amount of $101. This is a serious loophole which I feel must be filled. I will offer an amendment to delete the words "in excess" to achieve the above objective of including those $100 contributions.

CONTINUOUS REPORTS AFTER ELECTION

Subsection 12 of section 304 on page 36 requires the reporting of all debts and obligations owed by or to the committee. This is a laudable objective. However, the obligation by the candidate should extend beyond the election. The public should know whether a debt has been fully paid or whether it lingers on unsatisfied. The reporting of the debt is only half of the obligation owed.

I will offer an amendment which will

add a provision to subsection 12 requiring such continuous reporting of debts and obligations to the appropriate Federal agency until they are completely extinguished.

CENTRAL CAMPAIGN COMMITTEE

As noted earlier in the remarks associated with title I of this bill, I intend to offer an amendment to that title creating a Central Campaign Committee for the purpose of making predictable that person who along with the candidate, is permitted to certify to costs attributed to the candidate's ceiling.

In title III I will offer an amendment which will expand the duties of this committee and in so doing make both titles work hand in hand. An amendment will be offered in section 304 (a)—page 33, line 21 and following; the section which sets forth the requirements of the reports for political committees. The amendment will require all contributions and expenditures for a particular candidate to be submitted to the Commission through his central campaign committee. This would have the effect of centralizing the reporting procedure of the candidate, as well as providing an effective check for all other political committees operating in the candidate's behalf.

The Central Campaign Committee would then logically be those people designated by the candidate who would be certifying costs for purposes of spending ceilings and would be reporting all contributions and expenditures. Such a centralization and predictability is absolutely essential if we are to have a meaningful, enforceable, and workable reform bill.

PURCHASER AND "USER"

Section 305 in the presently drafted bill contains reporting requirements for those other than a political committee. Among those listed are those businesses whose rates are regulated by the ICC, FCC, or CAB. Section (h) (1) (A) requires the name of the purchaser and the candidate for the benefit whose campaign, the services or goods were purchased. The "user" of such goods and services has been omitted. It is possible, it seems to me, for the purchaser and the candidate to be a different person that the user of such goods and services. This is in keeping with other provisions which enable acts "in behalf of" a candidate.

I will offer an amendment which will insert the word "user" in section 305(b) (1) (A) on page 34, line 14 and following.

PROPER DISCLOSURE

Title III of S. 382 sets forth a comprehensive and somewhat complex arrangement for the reporting of facts during an election for Federal office. However, there is little or nothing which guarantees exposure of these facts to the public and without this necessary ingredient the reporting becomes a mere academic exercise.

I will offer an amendment which will offer two methods of remedy for this lack of public exposure. The amendment would require the reports to be published in the CONGRESSIONAL RECORD and in papers of general circulation within the political jurisdiction representing the election. In both, the Commission or the GAO, as the case may be, will disseminate the condensed version to the appropriate recipients. In both, the expenses will be incurred by the Federal Government.

PRESERVATION OF RECORDS

Sections 308 and 309 contain provisions for preservation of the records reported to the Commission or the GAO, as the case may be, and the clerk of the U.S. district courts. In both a distinction is made between House races and other Federal elections. Information pertaining to House elections are preserved for 5 years—in all others the period of preservation is 10. I feel this distinction is unnecessary and unreasonable in light of the equality of the harm and the protection afforded the public intended in all Federal elections. We cannot put those elections to the House of Representatives on a lesser plane of exposure than all others.

I will offer an amendment to enable all records in all Federal elections to be preserved for 10 years. Quite frankly, I would prefer such reports to be preserved in perpetuity. This would not be impractical considering the modern methods of recordation. If offered, I would support such an amendment; however, I feel this prior amendment at this point is a realistic compromise.

In addition, S. 382 does not direct the district courts throughout the United States to preserve and maintain these reports in a uniform manner. In consonance with other amendments to this legislation, it is again necessary to make predictable and uniform reports filed for public disclosure. Although the report itself would be uniform, there is nothing to direct uniformity of organization. By adding the words "and uniform" in section 309(b) (1), page 45, line 3, we would accomplish this objective.

INDEPENDENT COMMISSION

I strongly believe that if we are going to have a workable and realistic scheme of reporting and disclosing campaign activities, it must be coordinated and directed by an independent Federal agency—a nonpolitical entity. I find if such duties were given to the Congress through each Chamber's clerks, it would defeat the entire objective of the bill. The GAO is a useful compromise, but quite frankly we cannot afford to compromise in this essential element of the legislation. GAO as an arm of the Congress would still be tainted with suspicion by the public and subjected to possible controls by the Congress.

I will offer an amendment to establish an Independent Election Commission; it will be similar to the version as introduced in S. 956.

S. 382 which has the GAO performing these services, does not give this Federal agency any subpena authority—a necessary investigatory power. This should be considered if the Senate, in my view, unwisely decides to retain the GAO as the coordinating Federal agency.

TITLE V

I am proposing to add a new title to the bill which would create a franking privilege for all candidates at reduced rates. This amendment was contained in S. 956 and has been adequately explained in the introductory remarks to that bill.

The amendment serves the objective of providing the means for all candidates to have equitable access to the public and is a realistic way of reducing campaign costs.

Mr. President, I ask unanimous consent that the full text of the amendments referred to above be printed in the RECORD at this time.

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

AMENDMENT NO. 267

On page 4, line 5, strike "(e)" and insert "(f)".

On page 8, line 20, strike the closing quotation marks.

On page, between lines 20 and 21, insert the following:

"(e) One who willfully and knowingly violates the provisions of subsection (c) or (d) of this section shall be punished by a fine not to exceed $5,000 or imprisonment for a period not to exceed five years, or both. The provisions of sections 501 through 503 of this Act shall not apply to violations of such subsection.

On page 31, strike lines 19 through 21 and insert in lieu thereof:

(f) One who willfully and knowingly violates the provisions of this section shall be punished by a fine not to exceed $5,000 or imprisonment of not more than five years, or both.

AMENDMENT NO. 268

On page 4, strike out lines 17 through 21 and insert in lieu thereof the following:

"(B) 'use of broadcasting stations by or on behalf of any candidate' means any broadcast made for the purpose of influencing the nomination for election, or election, of any legally qualified candidate to Federal elective office in which any individual is identified, explicitly or implictly, as a candidate for such office,

On page 10, strike out lines 3 through 8 and insert in lieu thereof the following:

(4) "use of any nonbroadcast communications medium by or on behalf of a candidate" means any use of a nonbroadcast communications medium for the purpose of influencing the nomination for election, or election, of any legally qualified candidate to Federal elective office which identifies, explicitly or implicitly, any individual as a candidate for such office.

AMENDMENT NO. 269

On page 4, line 21, before the semicolon insert the following: "and includes the use of closed circuit television for such purposes".

AMENDMENT NO. 270

On page 4, line 22, strike "(C)" and insert "(D)".

On page 4, between lines 21 and 22 insert the following:

"(C) 'central campaign committee' means a political committee (as defined in Section 301(d) of the Federal Elections Campaign Act of 1971) designated in writing by a candidate as his agent for the purpose of the certification of broadcast and nonbroadcast media expenditures, and no candidate shall so designate more than one such committee."

On page 5, line 3, strike "(D)" and insert "(E)".

On page 7, lines 16 and 17, strike out "a person specifically authorized by such candidate in writing to do so," and insert in lieu thereof the following:

"the treasurer of his central campaign committee".

On page 13, lines 3 and 4, strike out "an individual specifically authorized by such candidate in writing to do so," and insert in lieu thereof the following:

"the treasurer of his central campaign committee (as defined by section 315(c)(1)(C) of the Communications Act of 1934)".

AMENDMENT NO. 271

On page 5, line 2 before the semicolon insert the following: "or (3) has publicly announced his candidacy for such office or has knowledge or information that any other person or political committee has received contributions or made expenditures for the purpose of bringing about his nomination for election, or election, to such an office and has not notified that person or political committee in writing to cease receiving such contributions or making such expenditures".

On page 10, line 2 before the semicolon insert a comma and the following: "or (C) has publicly announced his candidacy for such office or who has knowledge or information that any other person or political committee has received contributions or made expenditures for the purpose of bringing about his nomination for election, or election, to such an office and has not notified that person or political committee in writing to cease receiving such contributions or making such expenditures".

AMENDMENT NO. 272

On page 6, strike lines 9 through 13 and insert in lieu thereof the following: "For the purposes of computing the limitation provided by the first sentence of this paragraph in connection with a Presidential primary election, the resident population of voting age for the office of President shall be held and considered to be the entire population of voting age for such office within the State in which such primary election is conducted. Amounts spent by or on behalf of any candidate for nomination for election to such office in connection with his primary campaign in any State shall not exceed such limitation for that State.

On page 11, strike lines 19 through 23 and insert in lieu thereof the following: "For the purposes of computing the limitation provided by the first sentence of this paragraph in connection with a Presidential primary election, the resident population of voting age for the office of President shall be held and considered to be the entire resident population of voting age for such office within the State in which such primary election is conducted.

Amounts spent by or on behalf of any candidate for nomination for election to such office in connection with his primary campaign in any State shall not exceed such limitation for that State".

AMENDMENT NO. 273

On page 7, beginning with line 25 strike down through line 20 on page 2, and substitute in lieu thereof:

"(d) if a State by law clearly and expressly

"(1) has provided that a primary or other election for any office of such State or of a political subdivision thereof is subject to this subsection, and

"(2) has specified a limitation upon total expenditures for the use of broadcasting stations on behalf of the candidacy of each legally qualified candidate in such election, and

"(3) has provided in any such law an unequivocal expression of intent to be bound by the provisions of this section, and

"(4) has stipulated that the amount of such limitation shall not exceed the amount which would be determined for such election under subsection (3) had such election been an election for a Federal elective office, or nomination thereto;

then no station licensee may make any charge for the use of such station by or on behalf of any legally qualified candidate in such election unless such candidate, or a person specifically authorized by such candidate in writing to do so, certifies to such licensee in writing that the payment of such charge will not violate such limitation."

AMENDMENT NO. 274

On page 13, strike lines 7 through 18, and insert in lieu thereof the following: "A copy of such certification shall be forwarded within 24 hours of its receipt by the person furnishing such services, to the Comptroller General. Any person who furnishes the use of any nonbroadcast communications medium to or for the benefit of any such candidate at a rate which is less than the rate normally charged by such person for such use shall accord the same rate to all other candidates for the same office and shall be deemed to have made a contribution to such candidate in an amount equal to the excess of the rate normally charged over the rate charged such candidate. Any such contribution shall be deemed to be an expenditure by the candidate and shall be counted towards the expenditure limitations of paragraph (1) of subsection (c) of this section".

AMENDMENT NO. 275

On page 14, line 22, strike "30" and insert in lieu thereof "60".

On page 14, line 25, strike "120" and insert in lieu thereof "60".

AMENDMENT NO. 276

On page 16, line 20, insert after the word "regulations," the following: "and in the ordinary course of business".

On page 17, line 22, insert after the word "regulations," the following: "and in the ordinary course of business".

AMENDMENT NO. 277

On page 22, strike out lines 9 and 10 and insert in lieu thereof the following:

SEC. 203. Section 608 of title 18, United States Code, is amended to read as follows:

"§ 608. Limitations on contributions by candidate

"(a) No candidate for nomination for election, or election, to Federal office may make expenditures from his personal funds, or the personal funds of his immediate family, in connection with his campaign for such nomination or election in excess of—

"(1) $50,000, in the case of a candidate for the office of President or Vice President;

"(2) $35,000 in the case of a candidate for the office of Senator; or

"(3) $25,000 in the case of a candidate for the office of Representative, or Delegate or Resident Commissioner to the Congress.

"(b) For purposes of this section, 'immediate family' means a candidate's spouse, and any child, parent, grandparent, brother, or sister of the candidate, and the spouses of such persons.

"(c) Violation of the provisions of this section is punishable by a fine not to exceed $1,000 imprisonment for not to exceed one year, or both."

On page 24, strike out the matter between lines 17 and 18 and insert in lieu thereof the following: "608. Limitations on contributions by a candidate.";

AMENDMENT NO. 278

On page 24, line 9, strike the closing quotation marks.

On page 24, immediately before line 14, insert the following:

(c) "(1) No person shall compromise or settle any debt incurred by a candidate, a political committee, or any person acting on behalf of such candidate or committee, for goods or services purchased or used in connection with the campaign of such candidate, or in connection with any election, for less than its full value.

"(2) Violation of the provisions of this section is punishable by a fine not to exceed $1,000, imprisonment for not to exceed one year, or both."

AMENDMENT NO. 279

On page 26, between lines 14 and 15 insert the following:

"(e) 'central campaign committee' means a political committee designated in writing by a candidate as his agent for reporting contributions and expenditures to the Comptroller General and no candidate shall so designate more than one such committee;".

On page 26, line 15, strike "(e)" and insert in lieu thereof: "(f)".

On page 27, line 15, strike "(f)" and insert in lieu thereof: "(g)".

On page 28, line 14, strike "(g)" and insert in lieu thereof: "(h)".

On page 28, line 16, strike "(h)" and insert in lieu thereof: "(i)".

On page 28, line 20, strike "(i)" and insert in lieu thereof: "(j)".

On page 33, line 21, after "office" insert: "through his or her central campaign committee"

AMENDMENT NO. 280

On page 28, strike lines 20 through 22 and insert in lieu thereof the following:

(i) "State" means each State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, and any territory or possession of the United States.

AMENDMENT NO. 281

On page 29, line 6, before the period, insert a comma and the following: "and no such expenditure shall be made unless such committee is registered with the Comptroller General in accordance with the provisions of section 303".

AMENDMENT NO. 282

On page 29, line 11, after "address" insert the following: "(occupation and the principal place of business, if any)".

On page 29, line 20, after "address" insert the following: "(occupation and the principal place of business, if any)".

On page 30, line 1, after "address" insert the following: "(occupation and the principal place of business, if any)".

On page 34, line 9, after "address" insert the following: "(occupation and the principal place of business, if any)".

On page 35, line 3, after "address" insert the following: "(occupations and the principal places of business, if any)".

On page 35, line 16, after "address" insert the following: "(occupation and the principal place of business, if any)".

On page 35, line 22, after "address" insert the following: "(occupation and the principal place of business, if any)".

AMENDMENT NO. 283

On page 32, line 20, after "repositories", insert a comma and "and all transfer agents."

On pagee 36, line 8, strike "and".

On page 36, between lines 8 and 9, insert the following:

"(13) the transfer from any bank or other depository of more than 10 percent of the amount reported under paragraph (1) of this subsection to any person, including the amount so transferred and the name and address of the bank or other depository from which it was transferred and the person to whom it was transferred; and".

On page 36, line 9, strike "(13)", and insert in lieu thereof "(14)".

On page 36, line 15, after the period, insert the following:

"If more than one transfer of funds, to which paragraph (13) of subsection (b) of this section applies, occurs between the date on which a report under this section was last filed and the date on which such a report is next due, the treasurer of the political committee whose funds are so transferred, shall report such transfers within 24 hours after each transfer after the first such transfer occurs".

AMENDMENT No. 284

On page 34, line 14, strike "in excess of $100" and insert in lieu thereof: "of $100 or more".

AMENDMENT No. 285

On page 35, line 18, after "committee' insert: "or on behalf of such committee".

AMENDMENT No. 286

On page 36, line 8, strike the semicolon and the word "and" and insert in lieu thereof: "and a continuous reporting of their debts and obligations after the election at such periods as the Comptroller General may require until such debts and obligations are extinguished; and"

AMENDMENT No. 287

On page 37, line 14, before "purchaser", insert "the user and the".

AMENDMENT No. 288

On page 41, line 7, beginning with "receipt", strike through line 10 and insert in lieu thereof "receipt;".

On page 45, line 7, beginning with "receipt," strike through line 10, and insert in lieu thereof "receipt;".

On page 45, line 3, after "orderly" insert the following: "and uniform".

AMENDMENT No. 289

On page 44, between lines 13 and 14 insert the following:

"(c) Reports required under sections 304, 305, and 307 shall be published, in a form to be developed by the Comptroller General under section 308(a)(2) which shall reduce as much as possible the volume of reported materials, but retain such information as may accurately reflect the true levels of all contributions to and expenditures by candidates and political committees, in the Congressional Record next published after such reports are made available for public inspection and copying under section 308(a)(4). However, if there is no Congressional Record published on any of the four days following the date on which such reports are made available for public inspection and copying, then a Congressional Record containing such reports shall be published on the fifth day following such date.

"(d) Reports published pursuant to the provisions of section 308(c) shall be published by and at the expense of the Comptroller General in the next issue of a newspaper of general circulation following the publication of such reports in the Congressional Record. Such publication shall be according to the following specifications:

(1)(a) Reports for a candidate for the House of Representatives shall be published in the two newspapers of largest general publication within the Congressional district in which he is a candidate.

(b) Reports for a candidate for the United States Senate shall be published in the five newspapers of largest general circulation within the State in which he is a candidate.

(c) Reports made with respect to a candidate for election to the Presidency shall be furnished to such a newspaper in each State in which the candidate's name appears on the official ballot for the expression of a preference for the nomination of persons for election to such office or for election of Presidential electors.

(2) Reports of all other candidates for Federal elective office shall be published in a manner to be prescribed by the Comptroller General, but such publication shall be as broad as practicable.

AMENDMENT No. 290

Following the last title of this bill, insert the following new title:

LIMITATIONS ON POLITICAL CONTRIBUTIONS, EXPENDITURES AND PURCHASES

(a)(1) No person, other than a political committee or a candidate, may make contributions directly or indirectly during any calendar year in an aggregate amount in excess of

(A) $25,000 to any candidate for the office of President in connection with his campaigns for nomination for election, and election to such office;

(B) $15,000 to any candidate for the office of Senator in connection with his campaigns for nomination for election, and election, to such office;

(C) $5,000 to any candidate for the office of Representative or Delegate or Resident Commission to the Congress, in connection with his campaigns for nomination for election, and election, to such office.

(2) Amounts contributed to a political committee which make contributions to or expenditures on behalf of only one candidate shall be held and considered to be contributions to such candidate. Amounts contributed to the candidate of any party for the office of Vice President shall be held and considered to be contributions to the candidate of the same party for the office of President.

(3) Indirect contributions are defined as the transfer of funds from a donor to a candidate through one or more other persons, including members of the donor's family, without a fair market return to the donor for the money thus expended. When such indirect contributions are made in a way to conceal the origin of the contributions, any citizen eligible to vote in the election in which the receiving candidate is standing or any public prosecutor at any jurisdiction which the receiving candidate will represent, may seek a court injunction requiring such indirect contributions to be assessed against the original donor and counted toward his limit. If such action is not taken and a donor exceeds his limit without refund from the candidate, beginning on the day of the election in which the candidate is standing the donor is subject to criminal prosecution for any contributions he has made under the meaning of this act that exceed his lawful limit. If a person through whom such contributions have been channeled willingly aided the original contributor to exceed his lawful limit, he too shall be subject to criminal prosecution.

(b) In addition to the limit set forth in section (a) no person, other than a political committee, may make aggregate contributions to any political committee organized to support two or more candidates or any number of such committees in excess of $10,000. Nor may any such person specify how his contribution to a political committee supporting two or more candidates should be apportioned among the candidates the committee is supporting. All such contributions must be deposited in the committee's general fund to be dispensed at the committee's judgment.

(c) A committee that is expending funds with the substantial purpose of affecting the election or defeat of a candidate shall be considered a political committee under the meaning of this Act, even if it is ostensibly organized to support an issue. Any citizen eligible to vote in the election that is allegedly influenced by such a committee has standing to show in court that the committee is a political committee required to observe the restrictions bearing on other political committees (both) regarding the amount that can be legally contributed to these committees and regarding the manner in which and the amount these committees can legally spend in behalf of a candidate. In judging whether such a committee is in fact a political committee the court may consider, among other things, its organizational history, the geographic distribution of its expenditures, and the degree to which its stand on the issue suggests to the voter a choice of candidates.

(d)(1) No political committee or candidate may sell any goods, commodities, advertising, articles, or services to any person other than a political committee or candidate. No person other than a political committee or candidate may purchase any goods, commodities, advertising, articles, or services from a political committee or a candidate.

(2) This subsection shall not apply to a sale or purchase—

(A) of any political compaign pin, button, badge, flag, emblem, hat, banner, or similar campaign souvenir or any political campaign literature or publications (but shall apply to sales of advertising including the sale of space in any publication), for prices not exceeding $25 each;

(B) tickets to political events or gatherings;

(C) of food or drink for a charge not substantially in excess of the normal charge therefor; or

(D) made in the course of the usual and known business, trade, or profession of any person or which is a normal arm's-length transaction between persons, or a transaction between a candidate and his spouse, child or parent.

(e) In all cases of violations of this section by a partnership, committee, association, corporation, or other organization or group of persons, the officers, directors, or managing heads thereof who knowingly and willfully participate in such violation shall be punished as herein provided.

(f) Any candidate adjudged guilty of the willing receipt of funds in violation of this provision shall be fined not more than $5,000 or imprisoned for not more than five years, or both. A contributor who violates this section shall be fined an amount, not tax-deductible, twice as large as the amount by which he exceeded his limit and shall be subject to imprisonment for no more than one year.

AMENDMENT No. 291

On page 52, after line 17, add the following:

TITLE V—CAMPAIGN MAIL

SHORT TITLE

SEC. 501. This title may be cited as the "Congressional Campaign Mail Act".

DEFINITIONS

SEC. 502. As used in this title—

(1) "Federal office" means the office of Senator, or Representative in, or Delegate or Resident Commissioner to the Congress;

(2) "major party candidate" means—

(A) the legally qualified candidate of a political party whose candidate in the next preceding general election for the same Federal office received at least 30 percent of the total number of votes cast for all candidates for such office; or

(B) any legally qualified candidate for election to a Federal office who is not affiliated with a political party and who was a candidate for the same office in the next preceding general election for such office and who received at least 30 percent of the total number of votes cast in such election for all candidates for such office;

(3) "minor party candidate" means any legally qualified candidate for election to

Federal office who is not a major party candidate;

(4) "State" means each of the United States, the District of Columbia, and the Commonwealth of Puerto Rico; and

(5) "campaign mail" means campaign literature mailed by a candidate for nomination for election, or election, to Federal office in connection with his campaign for nomination or election.

RATES

SEC. 503. On and after the first day of January following the date of enactment of this Act, campaign mail which is mailed in accordance with section 504 of this title and regulations promulgated by the Postal Service to carry out the provisions of this title (and the Postal Service is authorized to promulgate such regulations)—

(1) shall be considered matter mailed by a qualified non-profit organization under section 4452(b) of title 39, United States Code, as such section existed on August 11, 1970; and

(2) may be mailed at the same rates of postage that any such organization is authorized to mail matter under such section or section 3626 of such title, as enacted by section 2 of the Postal Reorganization Act.

ELIGIBILITY

SEC. 504. (a) A major party candidate in a general or special election shall be eligible to mail a number of pieces of campaign mail equal to two times the number of persons registered to vote in the State in which he seeks election, in the case of a candidate for election as Senator or as Delegate or Resident Commissioner to the Congress, or in the district in which he seeks election, in the case of a candidate for election as a Member of the House of Representatives.

(b) A minor party candidate in a general or special election shall be eligible to mail a number of pieces of campaign mail equal to the number of persons registered to vote in the State in which he seeks election, in the case of a candidate for election as Senator or as Delegate or Resident Commissioner to the Congress, or in the district in which he seeks election, in the case of a candidate for election as a Member of the House of Representatives.

(c) Any candidate for nomination for election to Federal office shall be eligible to mail a number of pieces of campaign mail to equal to—

(1) two times the number of persons registered to vote in the State in which he seeks such nomination, in the case of a candidate for nomination for election as Senator or as Delegate or Resident Commissioner to the Congress, or in the district in which he seeks such nomination, in the case of a candidate for nomination for election as a Member of the House of Representatives, if such candidate secures the signatures of such persons equal to 5 percent of such number; or

(2) the number of persons registered to vote in the State in which he seeks such nomination, in the case of a candidate for nomination for election as Senator, or as Delegate or Resident Commissioner to the Congress, or in the district in which he seeks such nomination, in the case of a candidatae for nomination for election as a Member of the House of Representatives, if such candidate secures the signatures of such persons equal to 3 percent of such number.

(d) (1) The Postal Service may enter into contracts or other arrangements with the government of any State or political subdivision thereof in order to obtain information as to the number of persons registered in any State or district, and to verify signatures obtained by candidates for the purposes of subsection (c).

(2) In the event that the number of persons registered to vote in any State or district is unavailable to the Postal Service, the number of persons registered to vote in such State or district shall be held and considered to be 150 percent of the total number of votes cast in the next preceding general election for all candidates for the office which a candidate for Federal office is seeking.

AMENDMENT No. 292

On page 28, strike lines 14 and 15, and insert in lieu thereof the following:

(g) "Commission" means the Federal Elections Commission;

On page 30, line 13, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 31, line 2, strike "Comptroller General" and insert in lieu thereof "Federal Elections Commission".

On page 31, line 13, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 31, lines 20 and 21, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 31, line 21, strike "he" and insert in lieu thereof "it".

On page 32, line 25, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 33, line 3, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 33, line 10, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 33, lines 21 and 22, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 33, line 23, strike "him" and insert in lieu thereof "it".

On page 34, line 3, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 36, line 7, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 36, line 10, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 37, line 1, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 37, line 12, strike Comptroller General" and insert in lieu thereof "Commission".

On page 38, lines 3 and 4, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 38, lines 21 and 22, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 38, line 23, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 39, line 6, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 40, line 6, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 40, lines 10 and 11, strike "COMPTROLLER GENERAL" and insert in lieu thereof "COMMISSION".

On page 40, line 13, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 40, line 15, strike "him" and insert in lieu thereof "it".

On page 40, line 24, strike "him" and insert in lieu thereof "it".

On page 41, line 18, strike "he" and insert in lieu thereof "it".

On page 41, line 24, strike "he" and insert in lieu thereof "it".

On page 42, line 9, strike "he" and insert in lieu thereof "it".

On page 42, line 23, strike "Comptroller" and insert in lieu thereof "Commission".

On page 42, line 24, strike "General."

On page 42, line 24, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 43, line 1, strike "he" and insert in lieu thereof "it".

On page 43, lines 4 and 5, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 44, lines 16 and 17, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 44, line 22, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 44, line 25, strike "he" and insert in lieu thereof "it".

On page 45, between lines 21 and 22, insert the following:

FEDERAL ELECTIONS COMMISSION

SEC. 310. (a) (1) There is hereby created a commission to be known as the Federal Elections Commission (referred to hereafter in this Act as "Commission"), which shall be composed of five members, who shall be appointed by the President, by and with the advice and consent of the Senate.

(2) A person may not be appointed to the Commission—

(A) if at the time of his appointment he was not a member of a major political party, or

(B) if his appointment results in more than three persons from his party being members of the Commission. For purposes of this paragraph, the term "major political party," means a national political party whose candidate for President received either the largest or the next largest popular vote in the preceding presidential election.

(3) One of the original members shall be appointed for a term of two years, one for a term of four years, one for a term of six years, one for a term of eight years, and one for a term of ten years beginning from the effective date of this title, but their successors shall be appointed for terms of ten years each, except that any individual chosen to fill a vacancy shall be appointed only for the unexpired term of the member whom he shall succeed. The President shall designate one member to serve as Chairman of the Commission, and one member to serve as Vice Chairman. The Vice Chairman shall act as Chairman in the absence or disability of the Chairman or in the event of a vacancy in that office.

(b) A vacancy in the Commission shall not impair the right of the remaining members to exercise all the powers of the Commission.

(c) The Commission shall have an official seal which shall be judicially noticed.

(d) The Commission shall at the close of each fiscal year report to the Congress and to the President concerning the action it has taken; the names, salaries, and duties of all individuals in its employ and the moneys it has disbursed; and shall make such further reports on the matters within its jurisdiction and such recommendations for further legislation as may appear desirable.

(e) (1) Members of the Commission shall, while serving on the business of the Commission, be entitled to receive compensation at a rate fixed by the Director of the Office of Management and Budget, but not exceeding $100 per day, including travel time; and, while so serving away from their homes or regular places of business, they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code.

(2) The Commission shall, in accordance with chapter 51 of title 5, United States Code, and subchapter III of chapter 53 of title 5, United States Code, appoint and fix the compensation of an Executive Director and such other officers, agents, attorneys, and employees as it deems necessary to assist it in the performance of its functions.

(3) The Executive Director shall be the

chief administrative officer of the Commission. He shall perform his duties under the direction and supervision of the Commission, and the Commission may delegate any of its functions, other than the making of regulations to him.

(f) The principal office of the Commission shall be in or near the District of Columbia, but it may meet or exercise any or all of its power at any other place.

(g) All officers, agents, attorneys, and employees of the Commission shall be subject to the provisions of sections 7324 and 7325 of title 5, United States Code, notwithstanding any exemption contained therein.

(h) It shall be the duty of the Commission—

(1) to develop prescribed forms for the making of the reports and statements required by this title;

(2) to prepare and publish a manual setting forth recommended uniform methods of bookkeeping and reporting for use by persons required to make reports and statements required by this title:

(3) to develop a filing, coding, and cross-indexing system consonant with the purposes of this title;

(4) to make reports and statements filed with it available for public inspection and copying during regular office hours within 24 hours after filing and to make copying facilities available;

(5) to preserve such reports and statements for a period of ten years from date of receipt;

(6) to prepare and publish, within ten working days after the thirty-first day of January and the tenth days of March, June, and September of each year, and within three calendar days after the due dates of the reports required to be filed on the fifteenth and fifth days preceding an election, summaries of the respective reports received which shall contain, in addition to such other information as the Commission may determine, compilations disclosing the total receipts and expenditures appearing in each report by categories of amounts as the Commission shall determine, and shall also include the full name and address and amount of contribution of each person, listed alphabetically, shown to have contributed the sum of $100 or more; and such summaries shall be grouped according to candidates and parties;

(7) to prepare and publish an annual report including compilations of (A) total reported contributions and expenditures for all candidates, political committees, and other persons during the year; (B) total amounts expended according to such categories as the Commission shall determine and broken down into candidate, party, and nonparty expenditures; (C) total amounts contributed according to such categories of amounts as the Commission shall determine; and (D) aggregate amounts contributed by any contributor shown to have contributed the sum of $100 or more during any calendar year;

(8) to prepare and publish from time to time special reports comparing the various totals and categories of contributions and expenditures made with respect to preceding elections;

(9) to prepare and publish such other reports as it may deem appropriate;

(10) to assure wide dissemination of summaries and reports;

(11) to make from time to time audits and field investigations with respect to reports and statements filed under the provisions of this title, and with respect to alleged failures to file any report or statement required under the provisions of this title;

(12) to report suspected violations of law to the appropriate law enforcement authorities; and

(13) to prescribe rules and regulations to carry out the provisions of this title.

(i) For the purpose of any audit or investigation provided for in paragraph (11) of subsection (k) of this section or in section 308(b), the provisions of sections 9 and 10 of the Federal Trade Commission Act (15 U.S.C. 49, 50) are hereby made applicable to the jurisdiction, powers, and duties of the Commission, or any officer designated by it, except that the attendance of a witness may not be required outside of the State where he is found, resides, or transacts business, and the production of evidence may not be required outside the State where such evidence is kept.

On page 45, line 23, strike "Sec. 310." and insert in lieu thereof "Sec. 311."

On page 46, line 4, strike "Sec. 311." and insert in lieu thereof "Sec. 312."

On page 46, line 8, strike "Sec. 312." and insert in lieu thereof "Sec. 313."

On page 46, line 13, strike "Comptroller General" and insert in lieu thereof "Commission".

On page 46, line 20, strike "Sec. 313." and insert in lieu thereof "Sec. 314."

On page 47, line 2, strike "Sec. 314." and insert in lieu thereof "Sec. 315."

AMENDMENT NO. 293

On page 3, line 23, before "reasonable" the first time that it appears in such line insert: "non-discriminatory and".

On page 3, line 25, strike "candidacy", and insert: "candidacy; or for willful or repeated failure to charge in a non-discriminatory and reasonable manner for the use of a broadcasting station".

THE HEALTH SECURITY ACT—AMENDMENT

AMENDMENT NO. 265

(Ordered to be printed and referred to the Committee on Finance.)

MENTAL HEALTH CARE BENEFITS

Mr. MOSS. Mr. President, as a result of the dedicated and thoughtful work of countless people over years of time, mental illness has almost attained the public concern and understanding it deserves and needs. We are nearly to the point where an individual can seek psychiatric help without people thinking he is "crazy." In short, mental health hopefully will be dealt with in the same way as physical health in the not so distant future. Unfortunately, because of recent actions by the present administration, the future of these important and beneficial developments is in doubt.

In his message to Congress on health care last February, the President examined in detail the problems of our medical delivery system. He stated we were facing a "massive crisis," and that good care had become too scarce and too expensive for many; nonexistent for some. He cited the need for great changes in that system to insure decent care for all. But the President failed to mention the whole area of mental health, as if it were not an integral part of our Nation's well-being.

The Department of Health, Education, and Welfare issued this May a white paper entitled "Toward a Comprehensive Health Policy for the 1970's." The Department chose to describe the health policy as comprehensive, yet nothing was discussed concerning mental illness.

Not unexpectedly, when the President's health care plans, the National Health Insurance Partnership Act, and the Family Health Insurance Plan for low-income people, were introduced 2 months ago, mental health care benefits were absent.

The absence of these benefits in the proposal would be comprehensible if our present system was taking care of mental health care needs better than it is other problems. Yet the opposite is true. Indicators of performance, such as the number of people covered by insurance, extent of coverage, and proportion of those needing help who are treated, all show that if any part of our health care system demands improvement, it is in mental health. A good illustration is that the Director of the National Institute on Mental Health tells us that only 5 percent of the children who require treatment for emotional disturbances or mental illness receive it.

The administration's stance would be easier to understand if the problem were not so serious. But no one can deny the significance of mental illness.

One out of 10 Americans suffers pain and anguish as a result of some form of mental or emotional illness.

Fifteen to thirty percent of the work force is seriously handicapped by emotional problems.

One-fourth of employee absenteeism is based on emotional factors.

Sixty-five to eighty percent of the people separated from jobs are dropped for personal rather than technical or economic reasons.

Personal factors account for nine tenths of industrial accidents.

Its total annual drain on the economy has been estimated at over $20 billion.

The American people realize the magnitude of the problem. Asked to identify those areas in which they felt the Government should be more active, those responding in a recent national poll placed mental health third, following only air and water pollution control.

We could accept the Department's thinking if the problem were going away. The facts show otherwise. The attitudes and behavior of the mentally ill may lead to divorce, disharmonious family relationships, excessive gambling, promiscuity, alcoholism, drug abuse, or crime. We are all too aware of the growth of these problems.

The position taken by those who support the National Health Insurance Partnership Act would make more sense if mental and physical health were not connected. However, all the work done in this field has demonstrated how interrelated the different kinds of illnesses are. We all know from common experience physiological problems are often the result of mental disorders, and that sickness or accidents many times cause emotional difficulties.

A recent study of a large group of people shows this interrelationship, and at the same time suggests how our health care system can work more effectively. Where outpatient psychiatric referral was available, utilization of medical services was markedly reduced. Fifty-six percent of those enrolled in this prepaid group practice program made fewer visits to the internal medicine department and 48 percent had fewer laboratory procedures performed. Several other studies

have reached the same conclusions, demonstrating that proper mental health care can enable more efficient use of our medical facilities. Any rational health care system must treat mental and physical problems equally and together.

Perhaps we would be forced to go along with the administration plan if the alternative was prohibitively expensive. But data from insurance companies, Blue Cross-Blue Shield, and the prepaid group practice plans do not show that liberal outpatient coverage results in disproportionately high utilization and excessive claims. In different plans covering millions of people, it is found that only 1 or 2 percent use the service in the beginning. When there are efforts to overcome barriers to care, such as deductibles and coinsurance, utilization gradually increases to 4 percent in some programs. Most importantly, doctors have methods to decide how most efficiently to use their resources and prevent abuses. Even if having complete psychiatric benefits in the health plan was felt to be too expensive, they should not have been eliminated entirely. Mental health care should have been included, and coverage for both this and other health needs then should have been reduced to meet the required amounts.

Thus we see there are no reasons for the administration to leave out mental health care benefits. Mental health financing is less adequate than in other care, the problem is serious, and it is getting worse in many ways. All evidence shows that mental and bodily health are interrelated. Including psychiatric care would not overburden the system.

I am not today criticizing the specifics, or the financing methods, of the national health insurance partnership plan. However, it should be noted that deductibles and coinsurance payments, features of this bill, often delay people from seeking care in the early stages, when treatment is much easier and less expensive. I am saying that any national health care proposal must deal with mental health the same as it does physical health. If it does not, we will not only be denying decent mental health care to a large portion of our citizenry, we will be reviving the dying notion that mental disorders are not as real or important as physical illnesses. As the American Psychiatric Association warns:

> Any limitation of coverage for psychiatric services beyond those placed on other medical services perpetuates the existing double standard, and discriminates against the psychiatric patient.

Keeping the different kinds of care on a separate basis puts a stigma on mental illness, adding to the suffering of those afflicted.

The administration bill is not the only proposal before Congress whose coverage differs for physical and psychological conditions. In varying degrees, many of the plans have benefit structures which discriminate against mental illness. Even the Health Security Act—S. 3—which I have cosponsored, is slightly unfair in this respect. With this in mind, I am introducing today an amendment to S. 3 which will delete the minor limitations. I urge the sponsors of the other national health insurance proposals to study this problem, and, if necessary, adjust their bills so that they deal with mental and physical problems equally.

President Kennedy told the Congress nearly a decade ago that mental health services "should be financed in the same way as other medical and hospital costs." Congress must incorporate this principle in the forthcoming health care legislation.

ADDITIONAL COSPONSORS OF AN AMENDMENT

AMENDMENT NO. 238

At the request of Mr. PEARSON, the Senator from Colorado (Mr. DOMINICK) and the Senator from Vermont (Mr. PROUTY) were added as cosponsors of Amendment No. 238, intended to be proposed to S. 382, the Federal Election Campaign Act of 1971.

ANNOUNCEMENT OF HEARINGS OF ARMS CONTROL SUBCOMMITTEE OF THE COMMITTEE ON FOREIGN RELATIONS

Mr. MUSKIE. Mr. President, on Thursday and Friday, July 22 and 23, the Arms Control Subcommittee of the Foreign Relations Committee will hold open hearings on the current possibilities of moving toward the negotiation of a comprehensive nuclear test ban agreement—that is, an agreement that would ban underground nuclear tests as well as other forms of nuclear testing. We will also hear testimony on the proposed Cannikin nuclear test which is scheduled for October on Amchitka Island in the Aleutians.

On Thursday, July 22, the subcommittee will hear testimony from Philip J. Farley, Deputy Director of the Arms Control and Disarmament Agency; and Dr. Franklin A. Long, formerly of ACDA, and now director of the program on science, technology, and society, Cornell University. On Friday, July 23, we will hear Carl Walske, Assistant to the Secretary of Defense—Atomic Energy; Dr. James Brune of the Institute of Geophysics, University of California at San Diego; and Senator MIKE GRAVEL. The hearings will begin at 10:00 a.m. on both days in room 4221 of the New Senate Office Building.

Mr. President, it is worthwhile to recall that the Preamble to the Limited Test Ban Treaty—August 5, 1963—states that the parties will seek "to achieve the discontinuance of all test explosions of nuclear weapons for all time," and will "continue negotiations to this end," and that they desire to "put an end to the contamination of man's environment by radioactive substances." This treaty also states in article I, paragraph 1, b, that its provisions—

> Are without prejudice to the conclusion of a treaty resulting in the permanent banning of all nuclear test explosions, including all such explosions underground, the conclusion of which, as the Parties have stated in the Preamble to this Treaty, they seek to achieve.

This commitment to work toward a comprehensive test ban is again stated in the Preamble to the Treaty on the Nonproliferation of Nuclear Weapons—July 1, 1968. The Preamble recalls—

> The determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere and in outer space and under water . . . to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end.

Not only are we obligated by virtue of our position under these two treaties, but the commitment to work toward a comprehensive test ban has also been explicitly stated by President Nixon. On March 18, 1969, President Nixon, in a message to Ambassador Smith of the the Arms Control and Disarmament Agency, said:

> The United States supports the conclusion of a comprehensive test ban adequately verified. In view of the fact that differences regarding verification have not permitted achievement of this key arms control measure, efforts must be made towards greater understanding of the verification issue.

More recently, on February 23 of this year, President Nixon said in a message to the Conference of the Committee on Disarmament in Geneva:

> The General Assembly has requested this Committee to continue as a matter of urgency its deliberations on a treaty banning underground nuclear weapon tests. It also called attention to the need to improve worldwide seismological capabilities in order to facilitate such a ban. The United States will continue to support these efforts, particularly those designed to achieve a greater understanding of the verification issue.

It is clear, therefore, that the only obstacle to such a comprehensive test ban agreement is the problem of verification. When sufficient progress has been made in this area, we can move expeditiously toward such a treaty. The country is committed, and President Nixon has clearly articulated that commitment.

Mr. President, in these 2 days of hearings, we will want to explore these questions: Why is it important to negotiate a comprehensive nuclear test ban agreement? What are the possible benefits of such an agreement? What are the possible risks?

Some of the benefits of such an agreement are obvious enough: to slow or even terminate the arms race in the area of nuclear warhead development; to further the goal of nonproliferation of nuclear weapons by imposing the same testing constraints on the nuclear powers that are already imposed on the nonnuclear powers by the nonproliferation treaty; and to avoid the enivronmental hazards posed by leakage and other possible accidents or geophysical effects of underground nuclear testing.

But there may also be possible risks to negotiating a comprehensive test ban prematurely—primarily the fear that such a treaty might not be adequately enforceable by current verification techniques without provisions for onsite inspection—which have unfortunately proved to be a barrier to such an agreement in the past. Since it is the administration's policy to work for improvements in verification techniques so that we can move toward the conclusion of a comprehensive test ban agreement, we will want to know what the state of the

art is today, and what the administration is doing to make further progress.

The security risk from a comprehensive nuclear test ban depends not only on the seismic and other capabilities for detecting clandestine tests, but also on the military importance of tests which might escape observation. No matter what improvements are made in the science of seismology, some very low-yield tests will always be indistinguishable from natural earthquakes. Therefore, it is also important for these hearings to explore, within the limits of military classification, the security implications of possible secret nuclear tests below the yield which might be detected. Would such tests provide any risk to our security, and if so, how do these compare to the risks from continued unlimited testing? Do the military gains from such low-yield tests provide sufficient incentive for the U.S.S.R. to risk the military and political cost of being caught in a violation?

Finally, we will hear testimony on the proposed Cannikin test. The Cannikin test has been criticized not only because of the environmental risks involved, but also because it may even be militarily unnecessary. The Cannikin test is apparently designed to test a large warhead—an estimated 5 megatons—for use on the Spartan long-range antiballistic missile. This long-range interceptor was originally designed for a thin area defense of the United States primarily against a small nuclear attack originating from China. However, the primary mission of ABM has since been changed to defense of our Minuteman bases, and it is doubtful that such a large warhead will be necessary for this new defense function. Furthermore, Defense officials have testified that a new improved Spartan missile will not use such a high-yield warhead. We will want to learn, therefore, what justification there might be for going ahead with the Cannikin test this October.

Mr. President, these are questions that concern us all deeply. Among all the difficult problems that face our civilization, none has the urgency of the nuclear dilemma—for the consequences of a failure to control the arms race, to prevent the spread of nuclear weapons, to prevent a nuclear war—are too painful even to contemplate. Therefore, we all look forward to the implementation of this Nation's stated policy to work for a comprehensive test ban agreement. We hope in these hearings to have an optimistic progress report.

ANNOUNCEMENT OF HEARINGS BY THE DISTRICT OF COLUMBIA COMMITTEE

Mr. EAGLETON. Mr. President, I wish to announce that the Senate District of Columbia Committee will continue hearings on veterans' unemployment in the District of Columbia on Wednesday, August 4, 1971, at 10:30 a.m., in room 6226, New Senate Office Building.

Persons wishing to testify on this subject should notify Mr. Gene Godley, General Counsel of the committee, in room 6226, New Senate Office Building.

NOTICE OF HEARING ON 18-YEAR-OLD JURORS

Mr. BURDICK. Mr. President, as chairman of the Judiciary Committee's Subcommittee on Improvements in Judicial Machinery, I wish to announce a hearing for the consideration of S. 1975 to lower from 21 to 18 years the age qualification for service as a juror in Federal court.

The hearing will be held on Thursday, July 29, 1971, beginning at 9:30 a.m. in room 6202, New Senate Office Building.

Those who wish to testify or submit a statement for inclusion in the record should communicate as soon as possible with the Subcommittee on Improvements in Judicial Machinery, room 6306, New Senate Office Building.

ADDITIONAL STATEMENTS

BRITISH CONSERVATIVE GOVERNMENT ACTS TO STIMULATE EMPLOYMENT AND CUT INFLATION

Mr. PROXMIRE. Mr. President, the economies of both the United States and Great Britain suffer from similar disabilities. In both countries there is high unemployment—in the 6-percent range in the United States and 3.2 percent in Great Britain, which is very high for that country where the figures are calculated on a different statistical base than in the United States.

In addition, both countries suffer from high inflation. Consumer prices in the United States this year have risen from 4 to 5 per cent over a comparable period a year ago. Wholesale prices are up 3.6 percent over a year ago—a large rise for that index. In Great Britain price increases are at a 10-percent level.

But the U.S. Government has refused to act. Secretary Connally, speaking for the President, avowed that there would be no tax cuts, no wage-price guidelines, and no fiscal stimulation through new actions.

But the British Conservative Government has acted. They have zeroed in on unemployment as their number one target. Why should not this country do the same? The British Government has just announced drastic cuts in purchase tax rates—excise taxes on consumer durables. They have also announced new incentives for investment. Furthermore, the Confederation of British Industries has agreed to hold price increases to 5 percent for the coming year and all expectations are that the Trade Unions Congress will be willing to modify its demands because of the tax cuts on consumer goods and the smaller increase in prices.

The action by the conservative government is precisely the action every informed economist in the United States has been urging on the U.S. administration to help stop inflation and reduce unemployment.

But the administration flatly and stubbornly refuses to act. If the British can do it, why cannot we? Their actions are the prescription to help stop "stagflation" there. Similar action to cut taxes, moderate price rises, and modify wage demands through voluntary means can work equally well in the United States.

The time to act has arrived. We have suffered far, far too long from excessive unemployment and high prices.

President Nixon should immediately push forward into this year the tax cuts already scheduled for next year. He should also consider cutting excise taxes which would reduce prices on consumer goods. In addition, he should establish now voluntary wage-price guidelines in which both industry and labor would undertake to limit price increases and wage demands in return for policies which would stimulate employment and help stop inflation.

The administration is following an unnecessary negative policy. The action of the British Government will help stop "stag-flation" there. We should do no less here.

EROSION OF SENATE COMMITTEE JURISDICTION

Mrs. SMITH. Mr. President, recently at my direction and under my supervision as chairman of the Senate Republican Conference, Mr. Sam Bouchard, professional staff member of the Senate Republican Conference and special assistant to the conference chairman, made a study, analysis, and report on the subject of "Erosion of Senate Committee Jurisdiction."

It is an excellent, enlightening, and revealing analysis of a very serious and growing problem within the U.S. Senate and on a matter of growing concern to many Senators. Because it is, I ask unanimous consent that it be placed in the RECORD and I invite the serious attention of all Members of this body to it.

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

EROSION OF SENATTE COMMITTEE JURISDICTION

1. THE CURRENT RULE ON JURISDICTION

The performance of conflicts of jurisdiction by Senate Standing Committees in violation of the Standing Rules of the Senate as outlined in the Reorganization Act of 1970 (P.L. 91-510) and which is identical to the Reorganization Act of 1946 (P.L. 79-601) continues. The section on jurisdiction is described as follows:

Decisions on questions of committee jurisdiction

"Sec. 137. In any case in which a controversy arises as to the jurisdiction of any standing committee of the Senate with respect to any proposed legislation, the question of jurisdiction shall be decided by the presiding officer of the Senate, without debate, in favor of that committee which has jurisdiction over the subject matter which predominates in such proposed legislation; but such decision shall be subject to an appeal."

2. PURPOSE OF THE RULE ON JURISDICTION

One of the main purposes of the Legislative Reorganization Acts of 1946 and 1970 was to clarify committee duties and reduce jurisdictional disputes. Although the situation following the enactment of the 1946 Act was better than the one which pertained prior to it, in more recent years there has been evidence of a breakdown of committee jurisdiction lines and functions. The breakdown continues after the 1970 Act even though it is less than one year old.

Although the intent of Sec. 137 itself is clear enough, it is by no means binding. And,

that it is vital to check it seems evident as just like a contagious disease it spreads into every session of Congress causing confusion, hard feelings, wear and tear on personalities and a lot of wasted time due to duplications. Plainly, there exists a growing and serious encroachment of Committee effectiveness that should no longer be overlooked to the degree that is happening.

3. COMMITTEE PURPOSE UNDER RULE ON JURISDICTION

The purpose of a committee is to allow a designated group of Senators time to examine a subject in great detail and to report its findings to the Senate as a whole. These committee members become experts in matters assigned to them and this in turn becomes the most vital part in the legislative process.

Another breakdown that often occurs is that of not allowing the entire Senate membership time to study these reports and to review the hearings thus forcing them to vote without really having enough information. The rules regarding this are very specific and say in part:

"A measure or matter reported by any standing committee of the Senate (including the Committee on Appropriations) shall not be considered in the Senate unless the report of that committee upon that measure or matter has been available to the Members of the Senate for at least three calendar days (excluding Saturdays, Sundays, and legal holidays) prior to the consideration of that measure or matter in the Senate. If hearings have been held on any such measure or matter so reported, the committee reporting the measure or matter shall make every reasonable effort to have such hearings printed and available for distribution to the Members of the Senate prior to the consideration of such measure or matter in the Senate."

Because of this generally acknowledged importance of the committee system to the function of the Senate any breaking down in the functions and jurisdiction must inevitably stymie the efforts of the Senate to enact legislation of benefit to the entire nation. Thus it becomes logically necessary that the Jurisdiction rule be observed more than it is now.

4. JURISDICTION AND DUTIES CLEARLY OUTLINED

The value of the Committee system as we know it right now is clearly understood and the duties and jurisdiction are clearly outlined. The present status was arrived at through a trial and error type of process of evolution and at one time included as many as 74 Committees in the Senate. The biggest swing toward efficiency was the consolidation of Standing Committees by the 1946 Act down to 15 Standing Committees. The Space and Veterans' Committees were added to bring the total to 17.

There is no substantial argument to the claim that without the committee system in Congress, the legislative system would actually break down. It is considered far more important to congressional decisions than activity on the floor. It is the backbone of all work done by the Congress. The standing committees are the workshops where the hard, searching, in-depth, 90 percent of all work is performed. It is where legislation is honed and shaped prior to floor action.

Summing up, these reformed standing committees largely determine what legislation will be written. Each receive assignments on the basis of their responsibilities as described in the Standing Rules of the Senate. The rules are clear and specific and it does not seem possible that any misunderstanding should occur as to what should go where as is shown in the list describing the jurisdiction and duties of committees from the Rules and Manual of the United States Senate.

5. EXAMPLES OF ENCROACHMENT ON JURISDICTION

The consolidation of standing committees has proven to be such a good improvement in committee management and legislative operation that it has become recognized that Congress could not get anything done without the committee system. It is said that without the committee system in Congress, the legislative system would break down. Yet, despite this accepted approval, unfortunately various kinds of assaults on jurisdiction continues and the result of this causes serious damage.

George Goodwin, Jr., in his book entitled "The Little Legislatures" says in part:

"Even with the stable pattern that has been in effect since 1947, the committees have not existed in a state of harmony. Committee members show human tendencies of wanting to broaden their areas of operations. Groups outside Congress are likely to seek to have favored legislation steered to friendly committees and bills they oppose sent to committees that will be hostile. . . ."

Mr. Goodwin's observations appear under the section of the book entitled: "War and Peace Among Committees".

Encroachment by "watchdog" method

Commenting on the "watchdog" aspects of committee conflict, Senator Margaret Chase Smith, the Ranking Republican on the Armed Services Committee, declared in a Senate floor statement on March 5, 1970:

". . . Mr. President, more important than the prestige and integrity of any one committee is the committee system itself upon which the fundamental operations of the Senate are based—the committee system which is the very heart and backbone of the work of the Senate.

"Subjectively, many committee members are deeply concerned with what they consider to be unwarranted incursions by other committees into the work and jurisdiction of their own committees—sometimes to the point that one committee may continuously be looking over the shoulder of another committee, assuming to itself being a 'watchdog' over another committee. . . ."

Another example of this practice is noted by the creation by the Senate Foreign Relations Committee of its Subcommittee on United States Security Agreements and Commitments Abroad in February of 1969. Though it can be argued that this is a reasonable activity for the Foreign Relations Committee, nevertheless, much of the subject matter (e.g. contingency plans, intelligence arrangements, sale of arms, etc.) falls under the purview of the Armed Services Committee. Partly in jest, this subcommittee has come to be known as the "Foreign Relations Subcommittee on the Oversight of the Senate Armed Services Committee," or alternatively, the "Senate Watchdog Subcommittee on the Armed Services Committee."

Committee invasion through hearings

Hearings provide the largest number of jurisdictional encroachments. For example, jurisdictional conflicts tend to arise when a number of hearings are held by different committees on the same subject. Some of these hearings are, without question, legitimate because committees may view subject matter from differing angles. An example of this would be S. 3108, Assistance to Airways and Airports, which was considered in 1969 by both the Committees on Finance (for tax purposes) and Commerce (transportation aspects).

Another example of this kind of conflict was the decision of the Subcommittee on Administrative Practices and Procedures (Senate Judiciary Committee) to hold hearings on the draft. While it can be argued that administrative practices and procedures are involved in the draft, there is no question but what Senate Rule XXV specifically confers upon the Armed Services Committee jurisdiction over selective service.

The Congressional Record states that this subcommittee, headed by Senator Kennedy, then planned to examine the administration of the draft laws, to measure how closely they hew to the congressional intent as embodied in the draft statutes; and examine the changes which could be made in the administration of the law to make the system more fair.

During the discussions on the Senate floor on September 29, 1969 in relation to jurisdiction on these hearings, Senator John Stennis, Chairman of the Armed Services Committee, stated:

"Mr. President, another point relates to the general problem of committee jurisdiction over legislation relating to selective service. Senator Kennedy and I have conferred informally and he has also sent me a letter regarding his plans for hearings by his Subcommittee on Administrative Practices and Procedures of the Judiciary Committee with respect to the administrative interpretation of the selective service laws as they appear in the regulations. Senator Kennedy has further indicated that his subcommittee would not concern itself with the many bills relating to the Selective Service System which are now pending before the Committee on Armed Services.

"As the Senate may recall, Senator Kennedy conducted hearings on certain aspects of the Selective Service System before the Committee on Labor and Public Welfare several years ago prior to the extension of the present law, enacted in 1967.

"Mr. President, I realize that even though a committee may not have legislative jurisdiction over a given subject, it may nevertheless examine this same subject in a limited way by virtue of some general oversight authority.

"There are many subjects that may be indirectly related to a subject matter over which another committee has the primary legislative jurisdiction. I make two comments in this regard, Mr. President.

"First, the record should be unmistakably clear that the committee which has jurisdiction over selective service legislation is the Committee on Armed Services. Among the matters which the Legislative Reorganization Act places within the jurisdiction of the Committee on Armed Services is all 'proposed legislation and other matters relating to Selective Service' which is listed as item number six among the subjects of jurisdiction. Mr. President, the Committee on Armed Services has always fully carried out its duties and we intend to continue as we have in the past.

"Second, I would only observe that if caution is not exercised by the Senate there could be an erosion of the committee system. I am certain that no one intends this result but I think that all committees and subcommittees must exercise the rule of reason in these matters lest there be complete duplication of effort within the committee system of the Senate. I in no way wish to imply this motive to Senator Kennedy since his letter makes clear that his subcommittee will restrict itself to a review of the administrative interpretations of the various regulations."

Senator Kennedy's letter referred to by Senator Stennis stated in part:

"After considerable reflection on our discussion, and after consultation with others, I believe that the Subcommittee on Administrative Practice and Procedure could proceed to hold a limited number of hearings on the present administration of the Selective Service laws without infringing on the responsibilities of the Armed Services Committee. . . ."

During the fall of 1969, the Subcommittee on Administrative Practices and Procedures

held its hearings on the Selective Service System. (Rule XXV(d)5 specifically confers jurisdiction on this matter to the Armed Services Committee.) The legislative history of the Subcommittee on Administrative Practice and Procedures does not suggest any authority for holding hearings on the draft.

In a committee print released by the subcommittee during the 91st Congress, first session, 1970, entitled "A Study of The Selective Service System; Its Operation, Practices and Procedures", Senator Strom Thurmond stated in part about these draft hearings:

"On the opening day of hearings before this Subcommittee I expressed my reservations concerning the subject matter before us. At that time, I was of the opinion that this Subcommittee had no jurisdiction over the Selective Service System and, therefore, had no basis for holding hearings. I still adhere to this belief.

"Historically, the Committee on Armed Services has been concerned with and responsible for Selective Service legislation and review of the operation of the Selective Service System. The Armed Services Committee is concerned with the problem of keeping the armed forces supplied with manpower and the agency charged with military manpower procurement should fall completely under its purview. The Armed Services Committee of the Senate, of which I am a member, has frequently held extensive and exhaustive hearings on the Selective Service System. The distinguished Chairman of the Armed Services Committee made it unmistakably clear, on the Floor of the Senate, when the matter of jurisdiction of this Subcommittee was debated on September 29, 1969 that the 'The Committee which has jurisdiction over Selective Service legislation is the Committee on Armed Services and the Legislative Reorganization Act places with the jurisdiction of the Committee on Armed Services all proposed legislation and other matters relating to Selective Service . . .'"

Public Policy (1965) published by the Graduate School of Public Administration, Harvard University, in its section dealing with Congressional Government and Committee management, tells of a study of a single subject that involved four committees over a period of 12 years. It noted:

"The area of decision chosen for this analysis involves the United States' economic aid program for India over a twelve year period from 1951 through 1962. Four congressional committees reviewed this program during each of these twelve years in their hearings and deliberations on the general foreign aid authorization and appropriation bills. Thus these committees acted on twenty-four different aid bills which included provisions relating to India. Subsequent floor action throughout the twelve-year period produced six roll call votes directly on the Indian program alone and over fifty roll calls involving India because they determined the total money amounts to be authorized and appropriated. . . ."

The Communications Satellite Bill in 1962 was the subject of hearings by no less than five committees. (Space, Judiciary, Commerce, Foreign Relations, and Small Business.) While it can be argued that each of these committees had a legitimate interest in the subject matter, the witnesses were kept very busy.

Conflicts over referral of bills

On May 5, 1971, Senator Edmund S. Muskie introduced S. 1945, a bill to improve the intergovernmental coordination of programs to control drug abuse within the United States. The bill was referred to the Committee on Government Operations; and, by unanimous consent, to the Committee on Labor and Public Welfare, if and when reported by the Committee on Government Operations.

Cited as the Intergovernmental Drug Abuse Control Coordination Act of 1971 the Congressional Record quoted: "Mr. Muskie. Mr. President, I introduce a bill entitled the Intergovernmental Drug Abuse Control Coordination Act of 1971. I believe it will be referred to the Government Operations Committee. However, to the extent that there is any overlap of the jurisdiction of the Senate Labor and Public Welfare Committee, I ask unanimous consent that the bill, after it is reported by the Government Operations Committee, be referred to the Labor and Public Welfare Committee."

Another example regarding assignment of bills was S. 985, (89–1) (1965) to regulate interstate and foreign commerce by preventing the use of unfair or deceptive methods of packaging or labeling of certain consumer commodities distributed in such commerce and for other purposes. It was read the second time by its title and referred to the Committee on Commerce.

The action followed ten and a half pages of debate in the Congressional Record in which the Committee on Judiciary sought to have consideration of it after the Commerce Committee completed its work on the bill.

The bill was introduced by Senator Hart and was before the Senate for disposition.

During the lengthy debate on the floor, the Congressional Record showed in part:

"Mr. President, Senators will recall that this bill was introduced several weeks ago. At that time, the distinguished minority leader asked that it lie on the table. It was his intention to raise questions with respect to the appropriate reference of the bill.

"As the introducer of the bill, my request was that it be received and appropriately referred. In view of the concern expressed by the Senator from Illinois (Mr. Dirksen), I now ask unanimous consent that the bill be referred to the Committee on Commerce. I do this inasmuch as that is where the bill, the preliminary events concerning which I have described, would normally be referred.

"I do this for a simple reason. Established tradition and precedents clearly require and direct that proposed legislation that would establish labeling requirements on goods moving in interstate commerce should be referred to and be under the jurisdiction of the Committee on Commerce. This is precisely such a bill; and under the precedents I move that this reference now be made.

"Mr. Dirksen. Mr. President, a parliamentary inquiry.

"The Presiding Officer. The Senator will state it.

"Mr. Dirksen. I presume that at the end of the discussion, on the basis of parliamentary advice, the Chair will make a reference; and I am assuming, of course, in line with the request of the distinguished Senator from Michigan, that the bill will be referred to the Committee on Commerce. Is that correct?

"The Presiding Officer. The Senator from Michigan has moved to refer the bill to the Committee on Commerce.

"Mr. Dirksen. Mr. President, I make it plain now that I have no quarrel with the jurisdiction of the Commerce Committee, because I believe that its jurisdiction is involved. However, I would first request that the distinguished Senator from Michigan agree, if he is in a position to agree, that after the Commerce Committee completes its work on the bill, it shall go to the Committee on the Judiciary.

"Failing of that, I would probably have to take an appeal from the ruling of the Chair. Is that correct?

"The Presiding Officer. The motion to refer is now pending before the Senate for its determination.

"Mr. Hart. The President, several weeks ago, when the bill was introduced, and the question first developed, I indicated that I felt that at this juncture it would be inappropriate and indeed undesirable to direct the reference of this bill to any committee other than the Committee on Commerce. It may well be that in the form reported, if at all reported, by the Committee on Commerce, the bill could be referred to some other committees, including the Committee on the Judiciary.

"I feel very strongly, however, that it would be undesirable at this juncture to condition the reference to the Committee on Commerce on a subsequent reference to the Committee on the Judiciary.

"My motion was to refer the bill to the Committee on Commerce."

The Congressional Record proceedings of November 30, 1967 noted a change of reference on S. 2269. It follows: "Mr. President, I ask unanimous consent that Calendar No. 807, S. 2269, be referred to the Committee on Foreign Relations with instructions to report back not later than Monday, December 11, 1967."

The measure had to do with unlawful seizure of fishing vessels of the United States by foreign countries.

The measure was reported out of the Commerce Committee and was agreed to.

The Congressional Record for June 9, 1971, again noted that a change of reference was ordered for S. 1991. In addressing the Floor, Mr. Mansfield said: "Mr. President, I ask unanimous consent that the Committee on Banking, Housing and Urban Affairs be discharged from the further consideration of S. 1991, a bill to assist in meeting national housing goals by authorizing the Securities and Exchange Commission to permit companies subject to the Public Utility Company Holding Act of 1953 to provide housing for persons of low and moderate income, and that the bill be referred to the Committee on Commerce."

In the 80th Congress, Senate committees clashed over the reference of the "portal-to-portal" bill, legislation on the unification of the Armed Services, and bills providing autos to disabled veterans, an interstate oil compact and the interstate water rights on the Colorado River.

The creation of a Veterans Affairs Committee was advocated because of what was deemed to be conflicting jurisdiction between the Senate Finance and Labor Committees.

In the 81st Congress, there were jurisdictional disputes over small business, the reference of Reorganization Plan Number 8 concerning the Department of Defense and the Foreign Military Assistance Plan. This last mentioned was solved by sending it for joint study and report to the combined Committee on Armed Services and Foreign Relations.

In the Congressional Record proceedings of April 29, 1971, Senator Mansfield addressed the chairman on referral of S. 382 which went to three committees. He said:

"Mr. President, on January 28, 1971, S. 382, the 'Federal Election Campaign Act of 1971', was referred to the Committees on Commerce, Rules and Administration, and Finance with instructions that the bill, after being reported first from one of these three committees, would commence the running of a 45-day period in which the remaining two committees must report their recommendations, if any.

"The Committee on Commerce will report S. 382 this Friday. To facilitate the deliberations in the Rules and Administration and Finance Committees, I ask unanimous consent that the version of S. 382, as amended by the Commerce Committee, be referred to the Committee on Finance and Rules and Administration with instructions that it be reported back within 45 days."

On March 30, 1971, Senator Talmadge addressed the Senate regarding discharge of committee and referral of a bill. He stated:

"Mr. President, S. 1356 was referred to the Committee on Agriculture and Forestry.

"The rules of the Senate provide that the Committee on Interior and Insular Affairs has jurisdiction over forest reserves and national parks created from the public domain, whereas the Committee on Agriculture and Forestry has jurisdiction over forestry in general and forest reserves other than those created from the public domain.

"The Department of Agriculture advises that the land covered by S. 1356 is either all or practically all from the public domain.

"I therefore ask unanimous consent that the Committee on Agriculture and Forestry be discharged from further consideration of S. 1356 and that the bill be referred to the Committee on Interior and Insular Affairs."

On May 6, 1971, Senator Moss asked for joint reference of a bill to the Committee on the Judiciary and the Committee on Commerce.

In addressing the Chamber, he noted:

"Mr. President, on behalf of the Senator from Wisconsin (Mr. Proxmire) I make the following statement:

"On April 14, the Senator introduced S. 1521, a bill to amend the act providing an exemption from the antitrust laws with respect to agreements between persons engaging in certain professional sports for the purpose of certain television contracts in order to terminate such exemption when a home game is sold out.

"The bill, to end TV blackouts at home games when all the tickets were sold, was referred to the Committee on the Judiciary. Because this bill deals with antitrust laws and with commercial television, the Committee on Commerce has concurrent jurisdiction. Therefore, I ask unanimous consent that S. 1521 also be referred to the Committee on Commerce jointly."

On April 20, 1971, Senator Cranston requested a re-referral of Senate Joint Resolution 84 to the Committee on Commerce. He asked:

"I rise for the purpose of asking that a bill, erroneously sent to the Committee on Interior and Insular Affairs be re-referred to the Committee on Commerce.

"I have cleared this matter with the Committee on Interior and Insular Affairs. The Bill is Senate Joint Resolution 84, which relates to wildlife refuges. This sort of legislation is within the jurisdiction of the Committee on Commerce.

"I therefore ask unanimous consent that Senate Joint Resolution 84 be referred from the Committee on Interior and Insular Affairs to the Committee on Commerce.

"Mr. Mansfield. Mr. President, reserving the right to object—and I do not think I shall object—has the distinguished Senator from California cleared this matter with the leadership on the other side of the aisle?

"Mr. Cranston. Frankly, I cannot state whether that has been done, but it has been cleared with the chief of staff of the Committee on Interior and Insular Affairs. It is clearly a matter within the jurisdiction of the Committee on Commerce.

"Mr. Mansfield. Well, as a matter of courtesy, would the distinguished Senator withdraw his request temporarily so that we can continue to keep alive this cordial relationship. I am quite sure that the Senator is correct, but I think we should do that.

"Mr. Cranston. I will be happy to do that.

"The Presiding Officer (Mr. Bentsen). Does the Senator from California withdraw his request at this time?

"Mr. Cranston. Yes, Mr. President, I temporarily withdraw it.

"The Presiding Officer. The request of the Senator from California is temporarily withdrawn."

Encroachment by amendments

The May 18, 1971 Congressional Record discussed the Mansfield Amendment to cut troops in Europe. Senator Smith noted in the Congressional Record: "A vote on this was called for without in depth hearings. This is a complex subject and there are a lot of things to consider before such an action is taken. Yet, it was asked for without any hearings."

This is still another kind of encroachment and a complete departure from long established procedure that constitutes the legislative process. The adoption of such a proposal without some committee study and hearings would "herald the world that the United States is 'tossing in the towel' abrogating its commitments without even consultation with its allies, repudiating the President of the United States, dimming the memory of Czechoslovakia and the Brezhnev doctrine . . .", noted Senator Smith.

There were no committee hearings held on this proposal.

Another debate on committee jurisdiction and principle is noted in the CONGRESSIONAL RECORD of October 6, 1970 when the Senate considered an amendment by Senator Javits to the Reorganization Act of 1970 requiring Senate Committees to have rules of procedure and that they be published in the RECORD each year.

A comment related to the amendment by Senator Cotton from the RECORD proceedings that day follows in part:

"Mr. President, I suggest to the interested Senators now present that in dealing with this very important measure there is a related problem area. While the amendment of the Senator from New York is certainly, I think, a step in the right direction—and a very logical and orderly addition to the procedure—it will not make a single bit of difference how scrupulous and careful committees are in adopting and enforcing rules within the committee if a recent practice is continued. I now have reference to the practice of 'tacking on' bills pending before one committee as an amendment to another committee's reported bill.

"Mr. President, I will state frankly that I endeavored this morning, with the assistance of the staff members, to try to draft an amendment which I was tempted to offer to this measure in order to end this practice.

"For example, within the past 2 weeks I discovered that two bills referred to our Committee on Commerce—S. 3072 and S. 2425—have been adopted as amendments to two bills reported by the Committee on Public Works—S. 4358 and S. 4418—and passed by the Senate.

"One of them—S. 3072—already had passed the Senate so there was no great objection. The other—S. 2425—however, had not been reported.

"Now, because we are nearing the end of this Congress, this Senator served notice in our Committee on Commerce that we were going to have a quorum present and voting on any controversial measures before they were reported.

"In connection with the second bill—S. 2425—there had been controversy in the committee. I was very, very much opposed to it in its present form, as was the Department of Transportation, notwithstanding concurrence in its objective. There were other members of the committee who were dubious about it. But, we never had an opportunity to vote on it. I find, as I indicated earlier, that it was attached in the form of an amendment to a bill from another committee, and passed the Senate last week. I did not know about it until Friday night. I appreciate the concern of the chairman of our Committee on Commerce in offering the bill as an amendment to preserve committee jurisdiction and share it with him as the senior Republican on that committee. However, I do question the practice in principle.

"I now learn that another bill, S. 2236, which would establish a Federal Insurance Guarantee Corporation or Agency is about to be proposed as an amendment to a bill from the Committee on Banking and Currency—S. 2348—which now is pending on the Senate calendar—Order No. 1236. S. 2236 has been the subject of determined and sharp controversy in our Commerce Committee.

"If that sort of thing goes on what difference does it make if there are rules in committee or not? What difference does it make if it is said a measure is not going to be reported from committee unless a quorum is present and voting or, if as provided in section 108 of H.R. 17654, the report must be available for at least 3 calendar days before consideration by the Senate? If any Member objects on that ground, then someone need only attach the same measure, which is in controversy in the committee to which it was referred, to a similar bill—and sometimes a bill of not a similar subject—putting it through here when interested Senators are not in the Chamber. Then the committee wakes up only to find that the Senate passed the measure as an amendment without its knowledge, except for perhaps two or three Members who were interested in the bill?

"I am serving notice in connection with the measure I have just referred to—S. 2236—that when it comes up in the Senate I hope to be notified. I must say I hate to do it since I have never been involved in a long discussion, sometimes known as a filibuster, but I will certainly be able to consume 5 or 6 hours in debate on that bill if this procedure of offering it as an amendment is followed.

"I am not, however, going to complicate the situation with respect to the bill, H.R. 17654, now under consideration by a last-minute amendment. I did give consideration to an amendment which would have provided that after *X* date in the year no legislation could be reported from any standing committee without the approval of the majority leader and minority leader, leaving open the opportunity to consider vital legislation. I also gave some thought to an amendment concerning this practice of attaching bills pending in committee in the form of amendments to other bills on the floor.

"However, I did not want to hastily prepare an amendment and perhaps complicate this bill, H.R. 17654. But, I do wish to call the attention of Members of the Senate to the fact that this is a practice which I think should be avoided, if at all possible."

Another illustration of jurisdictional conflict that arises through amendments is noted in the proceedings of the Congressional Record of June 21, 1971 in the amendment presented by the Senate Majority Leader entitled "Termination of Hostilities in Indochina". The amendment was offered by Senator Mansfield during "a lapse in agreement" and asked unanimous consent for consideration during a period of time when many other related amendments to the Military Selective Service Act were being processed.

Appealing to his right to object to the proceedings, Senator Stennis, chairman of the Armed Services Committee, noted in the Record:

"Mr. Stennis. Mr. President, reserving the right to object, under the circumstances, with an amendment I have not read, I would be very foolish to agree to quick consideration of it, with a little 'quickie' vote run in here, ahead of other amendments to which we had all solemnly agreed last week, I do not know who is absent today or who may be present——

"Mr. Mansfield. If the Senator will yield, I do not know and I do not care. The amendment will have to speak for itself, and it will be brought up at some time or other. After all, it is so simple that anybody could understand it in less than 2 minutes."

"Mr. Stennis. Reserving the right to object—if I may proceed for one moment—I do not know who is absent; but certainly there should be some kind of notice, more than a few minutes, in a matter on which we already have voted four times and is as far reaching as this amendment.

"I am not making any excuses for objecting. It is my duty to object, and I do object, in the name of orderly procedure, if for not any other reason. . . .

". . . Mr. Mansfield. Mr. President, to say that I am surprised at the objection is understanding my feelings on this matter. . . ."

The objection was upheld and the amendment was scheduled for action the following day.

Conflicts over conference reports

By a vote of 54 to 11, the Senate adopted the Agriculture and Forestry Committee conference report extending by two years the Agricultural Trade Development and Assistance Act of 1954, after rejecting, 46 to 24, a motion by Senator Fulbright to have the report referred to the Foreign Relations Committee for hearing, study and recommendations.

Known as the food for peace program, the Congressional Record contained 13 pages of debate on jurisdiction between the two committees with 13 Senators contributing comments.

Some of the comments noted in the Record were:

"Mr. Holland. I thank the Senator.

"Mr. President, a parliamentary inquiry. Suppose the Senate should unwisely adopt the motion and send the conference report to the Foreign Relations Committee, which has no relation at all to this particular conference report or this field of jurisdiction. What, if anything, would the Committee on Foreign Relations be instructed to do?

"The Presiding Officer. The Parliamentarian informs the Chair that all the committee could do would be to hold hearings. That would be it. It could take no action.

"Mr. Fulbright. Mr. President, the committee could make recommendations. The Foreign Relations Committee could hold hearings and make recommendations to the Senate in regard to those matters in the bill within its jurisdiction. . . .

". . . I wish to make one further observation. If the conference report is referred to the Committee on Foreign Relations, I propose to develop the proper recommendations. The report would then come back to the Senate, and the Senate would then agree to it or reject it with an understanding of what it was doing.

"Mr. Clark. I hope the motion of the Senator from Arkansas will prevail. Criticism has been raised as to procedure. The procedure was fixed and determined by the unanimous-consent agreement into which the Senate entered yesterday. If there is any deficiency in procedure, in my opinion, it is because the Committee on Agriculture and Forestry of both Houses and the conferees of those committees impinged on the jurisdiction of the Committee on Foreign Relations on a subject into which they should never have gone."

Senate closed door session abuses

During unusually long proceedings on the Military Authorization Bill in 1969 a lot of time was spent on the generally routine procedure of who would be allowed to attend a closed door session during debate of the bill.

An exchange of comments by Senator Goldwater and the Majority Leader taken from the Congressional Record is noted:

"Mr. Goldwater. Mr. President, I wish to make one comment with respect to this possible request for advisers to be on the floor from the committees other than the Committee on Armed Services.

"I think it is proper, if it could be allowed, to have experts from the Committee on Armed Services, but the Foreign Relations Committee has been holding hearings in the field of armed services, and they are unalterably opposed to many things that the Committee on Armed Services is for:

"I think it would be a mistake to allow people on the floor who come with a prejudiced or prejudged view on the matter of weapons, ABM's and so forth. It is the job of the Committee on Armed Services to present the case and not the Foreign Relations Committee. I may be wrong, but I do not think I am.

"Mr. Mansfield. One of the difficulties in this body with respect to the committee system concerns the infringement of authority and responsibility. Sometimes the line is drawn pretty thin, and it is hard to say where it lies. Nowadays, because the field of defense is so overlapping, it becomes increasingly difficult to determine where the responsibility of one committee begins and the responsibility of another committee ends. It is overlapping, it is a difficult question, and it goes beyond the committees here involved. I recall that the chairman of the Committee on Foreign Relations has had questions raised about certain hearings held by the Committee on Government Operations, which were in the field of foreign policy.

"Mr. Goldwater. I am looking at it from a technical standpoint. The expertise in this matter is in the Committee on Armed Services and not in some other committee.

"I am very happy that the distinguished Senator from Mississippi refrained from holding hearings on foreign policy. I think that is the job of the Committee on Foreign Relations. . . ."

The exchange of comments noted in the Record continued:

"Mr. Goldwater. The problem that comes up in my mind is, Where do we put an end to this? If the Committee on Armed Services is allowed one for the majority side and one for the minority side and the Committee on Foreign Relations is allowed one, because I do not think there is any minority side to it, then some other Member comes up and says, 'I have got an interest in this. I have done a great deal of studying on it. I have a brilliant young man who has spent the past 3 weeks studying this matter and I think he should be on the floor'. If we start that, then I suggest that everyone is entitled to have some expert behind him.

"Mr. Mansfield. I tend to agree with the Senator that we will end up by having no 'experts' or none in an unofficial capacity on the floor. Perhaps that is the best way to handle the situation. Certainly, Senators are supposed to have mature judgment and a grasp of the subject which they are discussing in this Chamber. They should be prepared to undertake that responsibility to the full and take it unto themselves, solely, if necessary."

During the same debate under the title of "Overlapping of Functions Between the Committee on Armed Services and the Committee on Foreign Relations", the following exchange of comments by Senator Murphy and the Majority Leader is noted:

"Mr. Murphy. Mr. President, I should like at this point to remark on the colloquy that took place earlier in the day with respect to the hearing in the Committee on Armed Services, in which it was suggested that there might be an overlap between the function of the Committee on Armed Services and that of the Committee on Foreign Relations.

"I should like to state that as far as I am concerned, it is my understanding and belief that the two committees have completely distinct and different functions, and I see no reason why there should be an overlap in the hearings on the subject matter that is presently before the Senate. . . .

"I think that there are entirely different responsibilities, entirely different purposes, and entirely different areas of interest between the two committees, and I respectfully submit that it is my great hope and desire that my fellow Senators, in their enthusiasm, will not permit a confusion of purposes to occur in the present debate. . . .

"Mr. MANSFIELD. Mr. President, I appreciate what the distinguished Senator from California had to say. I do not at all find his remarks amiss, but I do wish to point out that there is a great difficulty in defining the lines where the authority and the responsibility of one committee ends, and where that of another begins. There is overlap. . . ."

Appropriations without prior authorization

On May 17, 1971, during discussion of the 1971 Second Supplemental Appropriations Bill, it was noted that there existed at least six instances of appropriations without prior authorization and on which a point of order could be raised regarding invasion of jurisdiction by the Appropriations Committee. Among those six, a classic example of continuing erosion of jurisdiction, is the approved spending of National Aeronautics and Space Administration funds for projects unrelated to activities of that agency.

A statement by Senator Smith in the Congressional Record on these proceedings is shown in part as follows:

"Without review or evaluation by the legislative committees concerned and contrary to existing restrictions contained in authorizing legislation, chapter IV of the supplemental bill would allow over $4 million of NASA funds to be used to construct facilities and purchase equipment for the specific use of such diverse agencies as the Geological Survey, NOAA, and EPA. . . .

"I believe review of the history leading to chapter IV is appropriate.

"In 1970, NASA's Mississippi Test Facility, designed specifically to test large launch vehicles, was scheduled to be placed in standby, because of the suspended production of the Saturn V. In order to facilitate the possible use of the Mississippi facility and its related computer facility in nearby Slidell, La., language was inserted in the 1971 Independent Office Appropriations Act to set aside $10 million of NASA funds for 'institution and technical services' for other Federal agencies who might locate at the Mississippi facility.

"The proposal was not brought to the attention of the Space Committee before it was inserted in the Independent Offices Appropriation Act. Yet I—and several of my colleagues, reluctantly agreed to withhold objection because we were assured that, first, the provision was a temporary expedient involving only 1 year, and second, no major construction by NASA would be involved because the existing NASA facilities were of the type needed by these other agencies.

"As an indication of these assurances I point to the fact that the $10 million was made available in a NASA appropriation which remains available for only 1 year and whose funds are specifically prohibited for use in major construction. Further, I point to an agreement between NASA and NOAA dated June 30, 1970, which specifically provides that NASA will not be required to fund construction for NOAA activities at Mississippi.

"Apparently, those agreements and assurances are no longer valid. Chapter IV of the 1971 supplemental appropriation bill would require NASA to fund construction and purchase equipment at its Mississippi site which have no relation to aeronautics or space activities. To illustrate—

"About $2.8 million for a marine hydrological testing facility for NOAA;

"About $900,000 to change a warehouse into a laboratory for Geological Survey; and

"About $500,000 to construct an insecticide testing laboratory for EPA where samples from all 50 States will be tested.

"It seems to me that new capabilities for these agencies at a specific location are decisions that should be reviewed and evaluated by the specific legislative committees assigned such responsibility under the rules of the Senate.

"What then, is the result of this seemingly innocuous provision in the supplemental bill?

"One result is a complete lack of fiscal integrity. For another, it bypasses the jurisdiction of the legislative committees concerned. A final and perhaps more significant result is that it would permit the use of NASA's research and program management appropriation funds to be used for major

construction projects which is specifically prohibited by the provisions of the 1971 NASA Authorization Act.

"The Committee on Aeronautical and Space Sciences, if it saw fit to do so, could take exception, to, and raise a point of order on, the provision in the bill that permits funds for the Mississippi test facility for constructon work when the previous authorization for such funds would bar such diverted use of these funds.

"I am particularly interested in this item since I am a member of both the Committee on Aeronautical and Space Sciences—the authorization committee—and the Committee on Appropriations. Further, I am interested in this item since it is in the research and program management of NASA and there have been some rather scandalous actions in NASA's expenditure of funds in its research and program management program. Two of these have been centered in the NASA consultant program and in the NASA executive mess where top NASA officials pay only bargain basement prices for rather luxurious luncheons and food that has been illegally procured and on which records have been falsified and on which false statements have been made by some NASA officials.

"I shall not go into detail on that at this time but rather later on, sometime prior to, or during, the Senate consideration of the NASA fiscal year 1972 bill.

"Another item on which a point of order could be raised is that which relates to the $750,000 on Geological Survey in chapter V dealing with the Department of the Interior. Obviously, the Committee on Interior and Insular Affairs could take exception to the Committee on Appropriations' usurpation of authorization action in this legislation on appropriations.

"The Committee on Labor and Public Welfare could take exception to provisions in Chapter VI that extend the time for the availability of funds with respect to certain health and medical programs and negation of sections of the Social Security Act and could make a point of order on these provisions as legislation on appropriation.

"The Committee on Commerce could take exception to provisions in chapter X which provide for refunds to airlines on the SST program and to the authorization of railroad research funds of the Federal Railroad Administration until expended rather than the restricted period of the current fiscal year and make a point of order on these provisions as being legislation on appropriation. The same thing could be done with respect to the lack of legislation authorization for making funds available for the Commission on Government Procurement 7 months longer than under the deadline under the authorization legislation.

"Let it be noted that the Committee on Appropriations has brought these instances to the attention of the Senate on pages 110 and 111 of the committee report on this bill. Such formal notice is a requirement arising out of the acrimonious debate in the past 2 years in which the Committee on Foreign Relations bitterly protested the action of the Committee on Appropriations in placing legislation on appropriations.

"I bring this matter pointedly before the Senate so that no Member of this body can claim ignorance of these instances of legislation on appropriation and in acceding to these instances of legislation on appropriations cannot deny the precedents thereby established as an excuse for doing the same thing over and over again in the future.

"When this is done over and over and over again, the anguished cries and protests against violation of parliamentary procedure on legislation on appropriation have a decidedly hollow ring. Let us face the real truth and be honest. Too many times such protests under the proclaimed guise of principle are nothing less than sheer parliamentary sophistry in which the real reason for the protest is opposition to specific proposal, program or item, and not the sanctimoniously claimed defense of legislative principles."

On December 20, 1969, more than a dozen Senators participated in what developed into a two hour debate on the Senate floor when the Senate resumed discussion of the Conference Report of the Foreign Assistance Appropriations, 1970, Specifically noted was the lack of effect of authorizing committee recommendations to the Appropriations Committee. Senator Smith declared that she would ask for a study of "this growing encroachment on committee jurisdiction." Senator Fulbright suggested: "We must take a new look at the whole structure of the Senate."

In addition to Senators Smith and Fulbright participating in the debate were Senators Holland, Ellender, Pell, Hart, Stennis, Miller, McClellan, Montoya, Dodd and Magnuson.

The lengthy debate developed following Senator Holland's observation that $4 billion had been appropriated for foreign assistance without having any authorization.

Environment encroachment merry-go-round nightmare

Another disturbing aspect of the assaults on jurisdiction that occurs frequently happens before some bills ever reach the Senate floor for reference. These are the behind-the-scenes attempts to find out what will happen to a bill when it is finally presented to the Senate. If it turns out that the bill will go to some committee other than the desired one, then recommendations are sought on how to change the wording to get it to the desired committee. This is a situation officials face just about every day. It's a stress on the responsible officials. Somehow compromises are reached after many meetings, which usually include committee chairmen and often staff directors. This procedure can be compared to a merry-go-round.

What this exercise amounts to is: If you don't want to take your chances that a given bill will end up where you would like it to, then you attempt to control its destination by this method. This could be called a sort of legislative control.

A good example of this practice is the current wide interest shown in the state of the earth's environment—a subject that no one would touch at one time. But that has all changed today and now it seems that many want to get in on the act whether or not it is a proper function of their committee. As many as four committees get involved, all at the same time in one way or another, for a chance to take part in this field. It adds another burden to the responsible officials.

With this current interest in the earth's environment, disposition of proposed bills on the subject has become more complex than usual and could be regarded as approaching nightmare proportions. An example of the merry-go-round struggle is occupying a good deal of attention during the current session of Congress (92nd-1st) by Senate officials and also has prompted a scramble by Senate members who desire to be involved. This is indicated by the variety of bills that have been offered so far on this subject and their assignment to several committees.

Some of the bills are: S. 1011, S. 1012, S. 1013, and S. 1014, introduced in the Senate February 26, 1971. These bills are designed to amend the Federal Water Pollution Control Act and were all referred to the Public Works Committee.

Another environmental bill, S. 1143, was introduced March 9, 1971, and is designed to control the dumping of wastes into the ocean. Another one entitled the Environmental Financing Authority Bill was introduced February 18, 1971 and asked for joint reference to the Committee on Public Works and the Committee on Banking, Housing, and Urban Affairs.

The list continues: S. 1259, introduced March 16, 1971, was referred to the Public Works Committee. It would authorize the Secretary of Interior to incur obligations for construction grants.

S. 1618, introduced April 22, 1971, was referred to the Committee on Banking, Housing, and Urban Affairs. It would provide Federal revenues to State and local governments and afford them broad discretion in carrying out community development activities and to help States and localities to improve their decisionmaking and management capabilities.

S. 1724, introduced April 29, 1971, was referred to the Committee on Banking, Housing, and Urban Affairs. It asks permission to expand the home improvement loan program under sections 203(k) and 220(h) of the National Housing Act to include interest subsidy payments on behalf of the owners of modest homes, in order to preserve and restore the residential character of neighborhoods in cities, villages, and towns.

Another one, S. 745, was introduced February 10, 1971, and referred to the Committee on Agriculture and Foresty. It is designed to protect the public health and welfare and the environment through improved regulation of pesticides, and for other purposes.

Committee jurisdiction problems had to be considered in the proposed legislation transmitted to the Senate following transmittal of the President's Environmental Message of February 8, 1971. The subject matter includes such measures as: "amending sections 5, 6, and 7 of the Federal Water Pollution Control Act of 1965; amending section 8 of the Federal Water Pollution Control Act of 1965; amending section 10 of the Federal Water Pollution Control Act of 1965; Land and Water Conservation Fund Act Amendments; National Housing Act Amendments; Surplus Property Act of 1944 Amendments; Sulphur oxide charge; tax on per cent of lead in gasoline, and tax reforms for better conservation of open space and historic sites."

The measures also include the "Noise Pollution Control Act of 1971; the Marine Protection Act of 1971; Federal Environmental Pesticide Control Act of 1971; to establish an Environmental Financing Authority, Toxic Substances Control Act of 1971; National Land Use Policy Act; Mined Area Protections Act of 1971; and Power plant siting."

While the response to protect the environment through the variety of these measures seems gratifying and would seem to indicate assurance for the survival of the ecological community, the nightmare scramble by Senate Committees to participate may provide such a crucial stress to the jurisdiction procedure as to endanger the survival of the committee system.

6. SUMMARY OF JURISDICTIONAL ABUSES

It is possible to conclude that the Senate spends a good deal of its time disagreeing while trying to agree to its normal work of assignment of bills, resolutions, and practically everything else that comes before it. Add to that the time spent in the behind-the-scenes practice of trying to prepare bills in such a way as to control their destination, plus the everyday maneuvering of tacking amendments on to bills that have nothing in common, you would have to conclude that this could be described as a lot of time being wasted.

Accepted way of life

The situation can no longer be considered an invasion of jurisdiction—it is plainly out of control and has become an accepted way of life.

An appropriate observation by Woodrow Wilson reads as follows:

"It is not far from the truth to say that Congress in session is Congress on public exhibition, while Congress in its committee rooms is Congress at work."

While there is some wisdom in that remark, the effect today of the word "exhibition" would appear to have a reverse meaning from what was intended, as it now seems to represent a display of dissent, confusion, and ir-

responsibility. The second part remains true if only members would allow it to happen.

Referring bills confusing task

In his book "The United States Congress: Organization and Procedures," Dr. Floyd M. Riddick, the Senate Parliamentarian, refers to the task of referring bills as a confusing one. He says, "So many bills can seemingly be referred to two or more standing committees."

The Parliamentarian quotes the Senate rules for the Presiding Officer regarding references as follows:

"In any case in which a controversy arises as to the jurisdiction of any standing committee of the Senate with respect to any proposed legislation, the quesion of jurisdiction shall be decided by the Presiding Officer of the Senate, without debate, in favor of that committee which has jurisdiction over the subject matter which predominates in such proposed legislation; but such decision shall be subject to an appeal."

Dr. Riddick, who has written several books on the subject of Congress, is faced with the problem of jurisdiction every day since many bills presented are drafted in multiple fashion, are complex and seemingly more than one committee should have jurisdiction.

In making reference the process followed by the Parliamentarian is: follow the rules, refer to the committee having predominant interest; check with the leadership; try for a compromise, and finally ask for unanimous consent.

Coordination desirable

In Senate Document No. 51 (82–1st), on the Organization of Congress entitled "Some Problems of Committee Jurisdiction," Dr. George B. Galloway observes:

"Any systematic effort to improve the organization of Congress must continue the evolution begun in 1946 toward creating a more orderly grouping of the duties and responsibilities of the standing committees along functional lines. . . ."

Dr. Galloway further notes:

"It remains to consider what arrangements might be made to promote better intercommittee coordination. Coordination is deemed desirable in order to avoid jurisdictional disputes, promote consistency and coherence between different areas of legislative policy making, let the right hand know what the left hand is doing, avoid duplication, and accelerate the legislative process. Four devices or means of coordination are available to these ends:

1. Some realinement of committee jurisdiction
2. Interlocking committee membership.
3. Intercommittee bill referrals.
4. Joint committees and joint staffing."

Personal responsibility

The object of the rule on jurisdiction is to clarify committee duties. However, since the rule continues to be overlooked, a suggestion heard from time to time as a possible remedy, is more joint hearings by all committees including the Appropriations Committee. A renewed effort in the area of personal responsibility would seem to offer the most immediate chance for improvement. Closer attention and a more sincere attitude to the existing rule could possibly go a long way in restoring order and harmony to this continuing struggle.

No action on resolutions for study and report

From time to time, Senator Smith has indicated her deep concern over this problem by calling attention to it in floor statements. As recent as May 17, 1971, Senator Smith noted that "for the past two years, there has been considerable acrimonious Senate debate on the matter of invasion of committee jurisdiction. The debate was so acrimonious that I introduced resolutions calling for a study of this matter. As yet, the Committee on Rules and Administration has not acted or held hearings on either of my resolutions."

The two resolutions referred to were presented to the 91st Congress, 2d Session, on March 5, 1970, by Senator Smith and were referred to the Rules Committee.

The resolutions were: S. Res. 356, "to establish a temporary Special Committee on Jurisdictional Rules," and S. Res. 364, "to determine the extent of compliance by standing committees with jurisdictional rules of the Senate." They called for a study and investigation followed by a report with recommendations.

In introducing the resolutions, Senator Smith noted:

'Mr. President, in the more than 21 years that it has been my privilege to serve in the U.S. Senate, I found the Senate debate on the evening of December 20, 1969, to be probably the most acrimonious and bitter I had heard. Deep anger and resentment were expressed by several Senators.

"There were several facets to this deep anger and resentment. But the basic anger and fundamental resentment expressed were with respect to committee jurisdiction. . . ."

Senator Smith further noted:

". . . I considered the debate that night to be the climax of a growing pent-up emotion in the Senate on this matter of committee jurisdiction and the committee system—and that I would introduce a resolution calling for an inquiry and study of this matter."

"I was quite surprised at the number of Senators who came to me and, with great feeling, expressed their approval of such a move, with many of them saying that they would like to cosponsor such a resolution. . . ."

No action was taken by the Rules Committee on either of the resolutions.

ADDRESS BY AUGUSTINE R. MARUSI

Mr. SAXBE. Mr. President, the chairman and president of Borden, Inc., Mr. Augustine R. Marusi, recently delivered a very thoughtful speech before the 23d congress of the ICC. The title was "Technology and Society: Challenge to Private Enterprise, Responsibilities of Government and Industry."

Mr. Marusi offers some provocative thoughts about such topics as ecology and the environment and the industrialized nations of the world's efforts to cope with them.

I ask unanimous consent that the address be printed in the RECORD.

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

TECHNOLOGY AND SOCIETY: CHALLENGE TO PRIVATE ENTERPRISE—RESPONSIBILITY OF GOVERNMENT AND INDUSTRY

(By Augustine R. Marusi)

With each technological advance in man's long history, he has been chipping away at the environment—first, with burning and grazing, and then on to coking coal and cracking plants. This paper will not attempt to describe the damage that has been done to our environment. Our knowledge of the basic problem is still imperfect and the precise nature of our ecological injury is a matter of contention. But we know that we have a serious problem, and the papers presented at this Congress demonstrate remarkable agreement on the need to learn more about it.

Pollution is not just a twentieth century problem. Here is how one author put it:

"It was a town of red brick, or of brick that would have been red if the smoke and ashes had allowed it; but, as matters stood it was a town of unnatural red and black like the painted face of a savage. It was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves forever and ever, and never got uncoiled. It had a black canal in it, and a river that ran purple with ill-smelling dye, and vast piles of buildings full of windows where there was a rattling and a trembling all day long, and where the piston of the steam-engine worked monotonously up and down, like the head of an elephant in a state of melancholy madness."

This might have been written yesterday. It wasn't. It is a quote from a book, *Hard Times*, by Charles Dickens, published in 1854.

He was, of course, describing the effects of the first industrial revolution. Now, some 117 years later, the problem is incredibly more complicated. But, fortunately, the world has recognized that something must be done about it. In the most technologically-advanced countries, pollution control is now more than a desirable goal—it is recognized as imperative if we are to forestall irreversible damage to the environment that sustains us.

I would suggest that the most significant change in my own country on the ecology issue during the past five years has been the absolute acceptance by business leaders of environmental protection as a business and political imperative.

The battle for a commitment has been won.

The only question now is how to proceed.

In its first issue of 1971, *Fortune* magazine commented editorially: "Government must now be recognized as having the right and duty to repress, retard or deflect those technological advances in which the prospect of damages or danger clearly seems to outweigh the expected benefits."

No one could quarrel with this judgment.

But the most important element in that quotation is the recognition that the relationship between costs and benefits is an essential guide for government regulation of actions that affect the environment. As yet we are not in the habit of weighing costs and benefits in the environmental field. So we are beset with demands to take disconnected, isolated and sometimes conflicting actions.

In its concern to treat effluents, modify processes, recycle waste products, society may shut its eyes to the costs involved. But if society does, business managers cannot. The costs emerge inexorably, in the form of higher prices for a given product, market dislocations, the closing of plants that are too old to modify. That fact tends to cast businessmen in the role of scapegoats, or of villains in a battle of good against evil.

But an awareness is growing that costs and benefits go hand in hand. On the simplest level, many American communities are becoming increasingly sensitive to what is called the "jobs versus ecology" equation. In some early centers in industrialization, with older plants and equipment, this is a real, present concern. No one wants to continue pollution. But how do you end it rapidly and still avoid or minimize severe dislocations in areas with obstinate problems?

No need is more urgent than the institution of a systems approach to the pollution problem. We must all survive while we improve—and we must make sure that improvement proposals are really effective. It is one thing to say, for example, that industrial discharges are contributing to the pollution of a river and order a city of a company to stop at whatever cost. It is quite another to present alternative programs with price tags attached to clean up the river—programs that provide real measures of the total costs and benefits of amelioration. The result of the latter is often surprising. The best known major cost-benefit study on water quality dealt with the Delaware Estuary. It demonstrated clearly that the familiar government patterns of having industry help pay for

cleaning up a mess were far less efficient than providing economic incentives for less of a mess in the first place. For example, the study suggested that the use of incentives in the form of effluent charges would bring about the desired degree of improvement at half the cost of the conventional administrative approach of requiring uniform treatment.

As important as the use of a systems approach is the development of uniform standards. One of the major problems for business within my own country is the sharp variation in standards from community to community, state to state. Within a national jurisdiction, nothing could be less fair and more self-defeating. Industries in more progressive states or localities are faced with higher immediate costs for pollution control than their competitors in other states. The result is what you would expect: serious competitive burdens and great pressure on the authorities of the progressive communities to weaken enforcement in order to avoid the loss of industry.

Business can and should work openly for effective national standards on measures that are incontestably in the public interest. There is no other rational approach and no other pattern that provides the order required for sensible planning and investment.

The reality for American business today is that we do not yet see government taking the systems approach we would like, that we do not yet have effective national standards and that to a great extent business is expected to adhere to standards that are still in the making.

But in the meantime action is required.

Early this year President Nixon sent 300 pages of legislation to the Congress on environmental matters. Many of the proposals were new. Many deal with the desperate need to make sense out of the existing patchwork of inconsistent legislation and overlapping jurisdictions.

In the last session of Congress, some 4,000 separate proposals on the subject were introduced. Obviously, some of these proposals are wrong on every count. Others are less than the best solutions that could be devised. But the sheer weight of legislative invention is witness to the deep concern that Americans and their lawmakers have for the state of the environment. It is a concern that cannot be ignored.

One measure of the commitment of American business to environmental protection is the fact that corporate leaders are not using the imperfect quality of our standards, the limits of our knowledge or the relative disorder of our enforcement machinery as a pretext for stalling action on the problem. To do so would be futile and wrong. Instead, there is strong evidence that business and government are doing to best they can, as fast as they can, with the knowledge and the machinery available.

I do not believe that the consequences of this commitment, however, are adequately understood in either the United States or abroad.

For one thing, foreign manufacturers are going to have to meet increasingly tough performance standards in order to sell their products in the United States. As an example, drastic actions to limit air pollution through automobile exhausts are going to be taken, notwithstanding objections from our trading partners.

We know that there are many factors that determine the unit cost of items traded internationally. They include the cost of labor, of capital, of raw materials, and of taxes. Such costs differ from country to country and if nations offset all these differences by tariffs or quotas, there would be no trade.

But I think it is safe to predict that costs of environmental protection will, in many cases, be offset by border adjustments. They are the new factor in unit costs and no one can say with assurance how large they will be. As such, there is ample precedent for treating them like excess taxes or value added taxes and giving a credit to exporters equal to the added cost, while placing a surchage on imports or products not subject to the extra costs of production under environmentally safe conditions.

In some non-American quarters such actions are inevitably going to be interpreted as a subterfuge for protectionism. There is ample precedent for this even in health and safety standards. But anyone who dismisses this as protectionism misses the whole thrust of our ecological concern.

In the United States, and in other advanced countries, the rising tempo of actions to stem pollution is going to lay new requirements on products to be sold in national markets. It would be far the best thing to recognize the certainty of such action now, to acknowledge the reasons for it, and to begin creating an international system to minimize distrust and uncertainty about the effects of environmental protection programs on trade and competitive positions.

Similarly, the imposition of disparate national standards can be expected to create new competitive disadvantages in international markets. We see this already within the United States, where standards still differ from state to state, from city to city. We can expect growing sensitivity to the competitive disadvantages that stem from different national priorities for the protection of the environment. A major American steelmaker is already on record as feeling injured by compliance with pollution controls stricter than those applicable abroad.

The magnitude of costs involved in serious environmental protection programs is such that there may be cases where even large companies will be hard put to survive. The effect of this on international trade should not be underestimated. We have seen how readily national governments will turn to protectionist policies to help small and even backward industries.

How much more compelling would be the demands for special protection to an industry that is in trouble solely because of the costs incurred in complying with new environmental safeguards!

As always, the developing countries face special problems—and they develop a special challenge—in coping with the need for environmental protection.

The industrialized nations are the ones most concerned about the deteriorating environment. They are also the chief source of most of the new contaminants in nature. It is clearly difficult for Europeans or Americans or Japanese to admonish the leaders of poor nations to adhere to a stringent set of international standards without being accused of sanctimony.

In a sense, the rich countries got rich faster by spending the capital of their environment, being profligate with natural resources, using the air and water as unlimited garbage cans. Suddenly, the poor nations are told they must stretch scarce investment resources still further to include pollution control measures right from the start.

The reaction of the leaders of the developing countries is well known and it is genuine. They simply cannot afford under present circumstances to forego any means of improving the lives of their people in direct economic terms. The leaders of poor countries would prefer to abide by all proposals to improve the environment—but proposals which do not deal with their basic problem, development, are incomplete and even harmful.

The answer, of course, lies in a linkage of environmental protection with economic development. It is a linkage which must be considered by any future international trade and assistance programs. The dimension of the challenge this presents is staggering, but it is not unlike the challenge of development that has been with the international community for years. By joining environmental protection and development together we may find progress easier on both. Given current levels of aid this suggests incentives rather than penalties to ensure that the two factors are linked. One of the tasks of this Congress should be to get this principle accepted by the international business community.

There is much, it seems to me, that the International Chamber of Commerce can do to prevent the struggle for a decent environment from degenerating into a new threat to international economic cooperation. To begin with, there is a great potential in the Chambers' unique relationship with international bodies like the United Nations (including the UN Conference on Trade and Development), the General Agreement on Tariffs and Trade and the Organization for Economic Cooperation and Development.

Only a year away in the United Nations Conference in Stockholm on pollution control and protection of world resources. Far more extensive preparatory work has gone into this conference than is generally realized. It would be most unfortunate if business prematurely discounts the importance of this conference and, in a sense, assures its futility by abandoning the field to governments and non-business environmentalists.

The Congress of Vienna could make an important start in demonstrating that the world business community is totally committed not just to the morality of environmental protection but to the means and the diplomacy of achieving it.

Let us look at some of the possibilities that are open to organized business in the world.

As a first step, I would propose that we consider asking the UN to declare a moratorium on major forms of pollution. This is a simple proposal. But it is not, given the facts of national and human behavior a simplistic one.

Most governments of the world have been willing to declare a moratorium on nuclear testing because of the clear international dangers of radioactive fallout.

Well, why not a moratorium on other pernicious forms of pollution? Pollution, like radioactive fallout from nuclear tests, knows no boundaries and it knows no discrimination. Air currents carry noxious fumes for thousands of miles, from one nation to another. Rivers carry wastes into lakes and oceans thousands of miles from the source of the pollution. Pollution of whatever kind is not a local problem. Although success depends on political action at all levels, it is a world problem. Let's treat it as such. Let the United Nations General Assembly declare, on behalf of the peoples of the world, that such pollution must be ended. By itself, such a declaration may not mean much, but it puts the countries of the world on the record and behind the force of public opinion, and it is a state, a beginning. All such a declaration has to say is that "we, the peoples of the world, recognize that pollution, like poverty is a threat to mankind and we ask the member governments to take steps to bring an end to both."

I believe that such a commitment has been made by business in the United States. It is implicit in the actions of individual firms and it is explicitly stated in the announced policies of American corporations and trade associations. Without this commitment to act. I doubt if we could today be engaged in a rational discussion of alternative approaches to the problems of environmental protection. I believe the same kind of explicit commitment is necessary if we are to clear the international field for a rational exploration of the means of controlling and ending serious threats to the world environment.

Another step that we might consider is to encourage the establishment of a United Nations agency—similar to the International Civil Aviation Organization or the International Atomic Energy Agency—to develop cooperative international programs to monitor pollution and the cost to poor countries of actions to control it. Such an agency could act

as a watchdog, a center for the dissemination of information, a clearing house, and a pace setter in the recommendation of standards for all the countries of the world. Business funding of part of such an agency is well within reason.

In conclusion, I would like to urge participants in the Vienna Congress to regard their meeting as a business caucus for the 1972 Stockholm Conference and begin preparing their colleagues and the public for involvement in what could be mankind's greatest adventure. Perhaps in the fight against pollution we have stumbled on the long-sought "moral equivalent for war." I hope it was such a premonition that caused President Nixon in the end of his second State of the World message to speak of the "transcendent importance" to the United States of a more effective international organization to deal with a wide range of world problems, "from peace and security to environmental pollution."

DRUGS ON THE MARKET

Mr. MONDALE. Mr. President, an editorial entitled "Drugs on the Market," published in Progressive magazine for July 1971, points out that although Americans spend about $1 billion a year for over-the-counter drug preparations—

No effective mechanism exists to regulate these preparations, evaluate their effectiveness, or even ascertain that they will not harm the user. In fact, no one knows precisely how many such products are on the market.

This is one of many shocking facts which has been brought to the attention of the American public by the vigorous efforts of the distinguished Senator from Wisconsin (Mr. NELSON).

On June 15, at the Small Business Committee's Monopoly Subcommittee hearings on over-the-counter analgesics, Dr. William Beaver, of the Department of Pharmacology at Georgetown University, gave testimony concerning claims that various aspirin products were "extra strength" or "extra potency" or that they could relieve tension or nervousness. Commenting on such promotional material, Dr. Beaver said:

The consumer assumes that claims like these could not be made unless they were substantially true; he assumes that "somebody up there" is effectively regulating the promotion of these products and guarding his welfare. In this assumption he is dead wrong.

The growing drug orientation of our society is steadily becoming one of our most pressing problems. I commend both Progressive magazine and Senator NELSON's Subcommittee on Antitrust and Monopoly for their efforts to promote the public welfare by bringing to light information which, though previously unknown or obscure, is necessary if self-medication is to be at all rational. As this article and the testimony on analgesics before the subcommittee in June indicate—

The inquiry comes none too soon and . . . it should be followed promptly by the enactment of stringent regulatory legislation.

I ask unanimous consent that the editorial be printed in the RECORD.

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

DRUGS ON THE MARKET

Americans spend about a billion dollars a year on drugs and medications sold over the counter without a doctor's prescription. No effective mechanism exists to regulate these preparations, evaluate their effectiveness, or even ascertain that they will not harm the user. In fact, no one knows precisely how many such products are on the market.

The closest the Commissioner of the Food and Drug Administration, Charles C. Edwards, could come in recent testimony before the Senate Monopoly Subcommittee was to estimate that there are between 100,000 and 200,000 over-the-counter drugs, and that they are all "formulated from some 250 significant active ingredients designated to alleviate about thirty easily recognizable symptoms."

The Subcommittee, headed by Senator Gaylord Nelson, Wisconsin Democrat, has begun an intensive investigation of the promotion and merchandising of over-the-counter drugs. Early testimony indicates that the inquiry comes none too soon, and that it should be followed promptly by the enactment of stringent regulatory legislation.

Edwards, who has declared that non-prescription drugs are often promoted "in ways to make a snake-oil salesman green with envy," reported on results of a recent evaluation of a representative sampling of 400 products by the National Academy of Sciences. Positive evidence of efficacy was found for only fifteen per cent of the drugs, while eleven per cent were rated positively ineffective for the purposes claimed by the manufacturers. A rating of "probably effective" was given to twenty-seven per cent, and forty-seven per cent were found "possibly effective."

To apply similar evaluations to all the drugs on the market would be an "obviously enormous task" for his agency, Edwards declared. One major difficulty, he said, is that while manufacturers routinely advertise their drugs to the public as "new" and "improved," they insist to the FDA that the products are identical to those that have been sold for years and "generally regarded as safe." The FDA has no authority to investigate drugs marketed before 1938.

"There have been few discoveries of medicinal agents for self-medication in a decade or more," Edwards testified. "Most of these products consist of several components to satisfy a range of afflictions, both real and imagined. Each is advertised as uniquely different, twice as effective, or longer lasting than its competitors. In my judgment, it is difficult for a consumer to make an intelligent, discriminating self-medication choice under these circumstances."

Advertising of over-the-counter drugs is "one of the most urgent issues," Edwards said, and testimony from a Federal Trade Commission economist seemed to bear this out. According to industry sources (which the FTC expert described as "underestimates") leading manufacturers devote a whopping 36.7 per cent of their wholesale revenue to advertising. Among the most heavily advertised products are Anacin, with an annual advertising budget of $24.6 million; Bayer aspirin, $22 million; Alka-Seltzer, $18.9 million; Dristan, $14.4 million, and Bufferin, $13.8 million. In almost every instance the heavily advertised products are more expensive to the consumer than comparable preparations with lower advertising budgets.

A spokesman for the American Pharmaceutical Association told the Nelson Subcommittee that advertising of over-the-counter drugs "has gotten completely out of control and has become a major public health problem."

"It is often erroneous, it exaggerates claims, and it even attempts to convince people that they have nonexistent diseases," said W. James Bicket, a practicing pharmacist from Zion, Illinois. "Most critically, it contributes substantially to the 'drug orientation' of our culture and we believe something should be done about it."

The question Congress must soon face, Bicket said, is this: "Can advertising of medical products to the public ever be justified?" When so radical a question is raised by a trade association spokesman, how much longer can Congress wait to take remedial action?

CAPTIVE NATIONS WEEK

Mr. HRUSKA. Mr. President, for those who love freedom, Captive Nations Week has a double meaning. It means renewed and heightened awareness of the oppression which continues in the captive nations, a vivid reminder that the Iron Curtain still does indeed exist, and still does indeed stifle the aspirations of a good portion of humanity. The week also means for those of us in this country an additional awareness of our own priceless privileges, the results of a free society.

During this week let us take special note of the recent events throughout the world which indicate the continuation of a world oppression which has persisted far too long.

It was only 3 years ago this summer that the attempts of the Czech people to secure a modicum of freedom were abruptly eliminated by an invasion of Russian troops and tanks followed by the systematic liquidation of the few modest reforms initiated by the Dubcek government.

This brutal attack on human rights was representative of numerous excesses perpetrated in all the countries of Eastern Europe, which in recent decades have fallen one by one under the iron boot of communism. Many of these events, Mr. President, are becoming part of the dim distant past and our memory of the slaughters and degradation are becoming less vivid with time.

All Americans should utilize this week to remind ourselves that the people of Eastern Europe and of other captive nations throughout the world still dream of democracy and still are willing to fight and to risk their lives to achieve their birthright. Despite all the Communist devices and programs to suppress freedom, the natural stirrings of liberty will not be quelled in any people. This is one of the valuable lessons the world should learn from the repeated rebellions against autocratic rule in captive countries.

It is obvious from the striving of the captive people that the desire for freedom is unquenchable, the strongest instinct which arises in man's breast.

Last month was the 31st anniversary of the invasion of the Baltic States of Latvia, Lithuania, and Estonia. After a bloody takeover, the Communists promptly executed those who dared to dissent, or shipped them to prison camps where their existence was perhaps less pleasant even than death.

It was not a mere handful who suffered such a cruel fate. During the 1940's hundreds of thousands of those

who spoke out for freedom were sent from their homelands to be slaves to Soviet communism.

Let us look at the nations which have fallen to Communist imperialism since 1920: Armenia, Azerbaijan, Byelorussia, Cossackia, Georgia, Ideal-Ural, North Caucasia, Ukraine, Far Eastern Republic, Turkistan, Mongolia, Estonia, Latvia, Lithuania, Albania, Bulgaria, Yugoslavia, Poland, Romania, Czechoslovakia, North Korea, Hungary, East Germany, Mainland China, Tibet, North Vietnam, and Cuba.

This long list is an awesome catalog of fearsome suppression by ruthless forces that reject freedom and all treasured spiritual and humanistic values.

Realization of our own basic freedoms is also a vital part of Captive Nations Week. We must remember that many of our ancestors came to this country to escape political persecution in all its insidious forms. They have passed on to their children a great love of freedom, an essential component of which is the confidence that a government, based on freedom, is the only foundation for true progress and humanity. This confidence carries with it an awesome responsibility for each and every citizen of a democracy, a responsibility which some elements of our society all too often forget.

I call upon all freedom-loving people to make Captive Nations Week meaningful by sustaining an effort to bring to the attention of the free world the pervasive cruelties in the captive nations, and the strong desires of the people in those countries to break the chains that bind them. We must inform these hopeful people in all possible ways that we truly understand and care, both for their freedom and ours. We want the people of the captive nations to know that we stand proudly by their side in the fight for cherished freedom.

THE U.N. CONVENTIONS AND INTERNATIONAL LAW

Mr. PROXMIRE. Mr. President, I have argued daily since 1967 for Senate ratification of the U.N. Conventions on Human Rights and will continue to do so for many reasons.

I have argued and will continue to argue, for example, that we must ratify the Genocide Convention in order to affirm before the world our absolute abhorrence of this crime. I have argued and will continue to argue for the Convention on the Political Rights of Women on the grounds that we as a nation have guaranteed those rights and must make it clear that we support strengthening women's rights in every nation.

But there is an additional reason why we should ratify the Human Rights Conventions, and that is to build a broader foundation of international law. Just as every good law enacted by this Government generates a more complete and useful body of national law, so the enactment through ratification of these essential provisions of the United Nations legislation would create a more complete basis of international law. As former Chief Justice Earl Warren stated in 1966, an enlarged body of international law is vital for the peaceful progress of all the nations of the world:

> The answer to our problem of establishing world order is a strong world law structure and mankind's failure to concentrate cooperative international efforts on creating this law structure is the main reason such a peace structure has not come into existence.

Mr. President, I ask unanimous consent to have printed in the RECORD Chief Justice Warren's address on this subject.

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

ADDRESS DELIVERED BY THE HONORABLE EARL WARREN, CHIEF JUSTICE OF THE UNITED STATES, BEFORE SPECIAL MEETING OF THE WORLD PEACE THROUGH LAW CENTER, GENEVA, SWITZERLAND, MARCH 12, 1966

We sincerely thank Your Excellencies and Chief Justice Haberlin for the hospitality of your wonderful country. Switzerland through the centuries has earned a unique place among nations as a land of peace. Its existence as a neutral amid the turmoil of the quarrels and wars of others has achieved this peace image in the minds of the peoples of the entire world. Switzerland's record of neutrality and its example of harmonious living among peoples of diverse language, race, religion, and custom, have set an example all peoples admire and respect. Here you have provided a place where they who would do the work of peace may meet in an atmosphere somewhat detached from the world's struggles.

I am sure also that the pulse of everyone here is quickened merely because we are in Geneva, the renowned "city of peace." It has become customary for mankind's greatest peace efforts to operate in and out of Geneva. Universally, they who would do the work of peace almost involuntarily say, "Let's meet in Geneva."

Geneva is thus a most natural place for us to meet and discuss our plans for cooperative efforts to advance the quest for peace through justice for men and nations. Here, as we seek to formulate a role for judges, we can draw inspiration from the work of the many international organizations headquartered here and the many meetings held here which have made Geneva such a symbol of man's striving for peace.

Here was born the Red Cross. Here lived the League of Nations. Here lives the International Labor Organization with its ringing motto "Poverty anywhere constitutes a danger to prosperity everywhere." Here, too, is located the European office of the United Nations. And here lives the baby of international organizations, one in whose birth so many in this room participated and for whose future we have such high hopes: the World Peace Through Law Center. And Geneva should be the headquarters of the new organization of the world's judges which we are here to create in order to further the cause of peace with justice under the rule of law for all men and all nations.

The peace conferences held in Geneva are so broad ranging and so numerous as to prevent even a partial description or listing. I must mention, however, that even as we gather, the anxious minds of the peoples of the world turn ever hopefully and prayerfully to the disarmament discussions which seek a way out of the ever-accelerating arms race. Mankind knows that every arms race in all history has, through accident or design, ended in war. And all men know that the holocaust of nuclear war could mean incineration of humanity. Never has mankind so urgently and so universally desired world peace. Never has peace been so imperative. Never has the world so urgently needed new peace machinery. It is my thesis that any such machinery that is possible, credible, and thus workable, will be composed of law.

Many of you in this audience are major contributors to man's constant efforts for survival in a peaceful world. To many of you, humankind owes a great debt for your contributions. We judges ask your help in defining a proper role for courts within the framework of man's ancient and unending search for peace. We further ask your assistance in carrying out that role in order that law may be kept synonymous with justice.

In the beginning disputes between man and man were settled by brute strength in a fistfight. Next man used stones in slings, bows and arrows, and finally guns, generally seeking decision by death. But today, in all civilized nations of the world, we have progressed to the point where decision by death is outlawed in disputes between man and man. These disputes are settled in the courts under the rule of law. Law is the indispensable base of civilization. But even today with all our claims for achieving such a high state of civilized existence, decision by death under the law of the jungle is the ultimate mechanism in disputes between nations.

With leadership and hard work, we can and we must progress to the point where law performs the same functions internationally as it does within nations. We must create such a credible system of justice under law that it will anticipate and prevent war. Our dramatic accomplishments in so many areas of human endeavor prove beyond question that we are capable of filling this the greatest gap in the growing structure of civilization.

War is the most repugnant product of the human mind. To pull the world out of the present ultimate reliance upon war as a method for resolving disputes between nations we must create a credible alternative. This must encompass a plan to achieve and maintain peace which the peoples of the world will accept. Such a plan must capture and fire the imagination of peoples everywhere. To be successful, it must be a plan which all peoples can understand. It must be related, therefore, to their ordinary, everyday knowledge and experience. If this is done the peoples of the world will understand, admire, and support a law system which replaces decision by armed violence between nations with decision under law in courthouses.

As initial proof of this plan's credibility, let me remind you that in every international area where law rules are universally accepted they are effective. The law of the sea, law of diplomatic immunity, and Postal Convention are evidence of this fact. In instances where international courts have been used for peaceful decision of international disputes their decisions, with very few exceptions, have been accepted and carried out even though unpopular with those who lost. The Thailand-Cambodia and Nicaragua-Honduras border dispute decisions of the International Court of Justice are examples. The European Court of Justice has an outstanding record of decisions on many international disputes between men and nations within the Common Market.

While the pages of recorded history are in large part a chronicle of wars and warriors, and the weapons they used to kill, destroy and enslave, no one can dispute that the brightest chapters in world history are those which represent advances in law. The Code of Hammurabi, the Ten Commandments, the Law of Moses, the Code of Solon, the Twelve Tables of Rome, the Corpus Juris of Justinian, the law revisions and compilations of Charlemagne, the Magna Carta, the Declaration of the Rights of Man and of the Citizen, Napoleon's Civil Code, and our own Constitution are illustrations of such chapters.

In every community, city, state, or nation,

civilization has blossomed and advanced as law has replaced force as the controlling factor in relations among men. Every new high in civilization's progress has been accompanied by a new crest in use of and reliance upon the rule of law. History demonstrates that where law has prevailed, individual freedom of man has been strong and progress great. Where law is weak of nonexistent, chaos and fear lurk and thrive and human progress is destroyed or retarded.

An evaluation of the ideas, ideals, and concepts which mankind has developed since the dawn of civilization leads to the inescapable conclusion that the rule of law offers the best attainable route to peace. In a world sundered by differences of language, color, creed and belief, and by background in diverse forms of government, the rule of law is the one concept universally understood as an ideal nearly all men have in common on a worldwide basis. It, therefore, offers the best common ground which mankind possesses upon which to erect an edifice for peace.

I sincerely believe that in today's world no man can stand aside from the search for a peace formula which will command such universal support as to be both credible and workable. We must all contribute our efforts, our thinking and our leadership. We judges must seek out together a role that is appropriate to the position we occupy and the function we perform. That is why I am here. I am sure that is why each of you is here.

Ours has been called the space age, the science age, and the atomic age. But if man is to live until future ages, ours must become known as the age of peace. To pin that label on our time and make it a true label requires the most extraordinary creative effort in the history of mankind. For it requires no less than that mankind get beyond words and work together on such concrete steps that world peace will indeed be created—created out of words, but they must be words which mean something because embodied in law; law adopted by so many nations that it is universally applicable to men and nations and their international relations; law that is so extensive it will govern and guide so much of these international relations as to minimize conflict; law which will channel the inevitable conflict into a world court system where peaceful decisions can be made and violent conflict thus avoided.

I do not join the doubters who say this task is impossible because it has never been accomplished. I join that growing group of optimists who say we will do it because we must. I refuse to believe that our creative generation which has split the atom, conquered space, developed a cure for polio, set up an almost instantaneous worldwide communications system, and brought about more international cooperation on more subjects than any other generation since the world began cannot create a workable peace structure for the world community.

These great achievements were accomplished even though detractors, many of them scientists of great distinction, scoffed at the idea of splitting the atom or putting a man into space. Other great scientists were determined to succeed and did succeed. So it must be here. We men of the law must not allow detractors and scoffers to prevent the great effort without which success is impossible. The price of failure is too great. We dare not fail. Mankind's failure to realize that the answer to our problem of establishing world order is a strong world law structure and mankind's failure to concentrate cooperative international efforts on creating this law structure is the main reason such a peace structure has not yet come into existence. There has been a failure to communicate to the people, to educate the people, in the required elements of a world order which is strong enough to achieve and maintain peace.

Law development must be the heart of all international efforts to build world stability, order, and peace. And while law in many respects reflects crystallized public opinion, this task of building a law structure for the world and creating proper public realization of its worth, is primarily a job for the legal profession. Heads of state, diplomats, medical doctors, dentists, engineers, and ministers of the gospel can help but we of the law must provide the manpower and the leadership. Sure it is a long, uncharted, and tremendously difficult road. But travel it we must. And the more of us that travel the road, the sooner we will reach the great goal we seek.

We must not overlook any experience or idea. No two of us have traveled the same law road in reaching this Conference. We come from many systems of law. We each bring to this meeting our own private and personal history of hopes for the law, discoveries about the law, disappointments about the law, and then new insights and new hopes and new defeats, and perhaps fresh hopes again for a constantly improving justice for all men and nations under the rule of law. I believe in the law and its creative capacity to meet the needs of man. That is why I believe so greatly in our creative capacity to develop justice under law which will meet the imperative need of our generation for a peace structure to prevent war.

A creative program of law building and new legal institutions adapted to our ever more interdependent world is the most positive and most possible initiative for peace which we of our day can undertake. We must use our inventive genius to create these new law instruments of control which are equal to the new instruments of destruction mankind now possesses. We can and must confront and master the problems that exist in such a program. Again, I say we will succeed because we must.

I trust that others here who are not members of my profession know that we of the law are already practicing what we preach when we urge law as the best road to world peace. We have already banded together worldwide and organized ourselves effectively to do some of the work that must be done. Through the World Peace Through Law Center we have compiled summaries of international law and summaries of the national law of over 100 nations. We have used and are using this worldwide law experience to develop and carry out a work program containing ideas, proposals, and projects designed to make law a credible plan for peace.

The idea for this historic Conference to create a world organization of judges first arose in Athens in 1963. There I participated in the inauguration of the first world Conference ever held to consider how we of the law could best further the goal of world peace. Some 50 judges and more than 1,000 lawyers from 105 nations attended that Conference. These judges informally discussed the fact that the executive departments have their channels for exchange of ideas and experience through their diplomats and members of parliaments have their interparliamentary unions, but that the world's judges have not yet created any organized channels for exchange of opinions and similar material or for face-to-face discussion of common problems. When the Washington Conference on World Peace Through Law was planned the Chief Justices and other high court judges were invited to attend so we could explore this matter further. We held two special meetings of the 65 chief judges and the some 200 other judges at the Conference. But the pressure of so many other programs and events along with the attendance of over 3,000 members of the legal profession from some 115 nations prevented our finalizing plans for a world organization of judges.

The Athens Conference did adopt a work program, which was updated and expanded at the Washington Conference and which includes many things we judges are interested in, such as plans for the first volume of a world law code and a system of low-level international courts as the beginning of a world judicial system. The formal declaration of faith in world order adopted unanimously at the final session of the Washington Conference is an inspiring document setting forth the beliefs that "only under law can there be order and justice" and "whatever transient disputes there may be, a just world order under law can be achieved." It was the Athens Conference which created the World Peace Through Law Center to carry out this global work program as a cooperative effort of the more than 1 million members of the world's legal profession. And in January 1966 the Center established its Secretariat here in Geneva.

By usual standards this Conference is convening rather quickly after the Washington Conference. But these are unusual days, and an acceptable plan for world order must provide justice for men and nations. Speedy efforts to advance world order is the great necessity of our day. At the Washington Conference and since then in many communications addressed to the Center, it has been urged that the very formation of a world organization of judges will have an impact on this necessity. It is in response to these urgings that this group of distinguished judges has been invited here to complete the task of organizing the world's judges and to define what the role of this new organization should be.

So I want you who are not of my profession to understand that in the broad spectrum of the worldwide picture of ever-increasing cooperation in religion, education, science and other disciplines, those of us concerned with the law are searching for new ideas, assuming new initiatives and utilizing the advanced thinking and technology of our times. We are, for example, exploring the feeding of law into computers to make it more available nationwide and worldwide. Our great law libraries around the world have offered to provide materials upon request to judges and lawyers in nations and cities not served by adequate law libraries. These are vital steps. By making law more available it will be used and relied upon more than ever before. Thus will it grow as a factor for world peace.

This then is the record of the legal profession and its growing efforts to further world peace. It is no longer a mere spectator of world events but is deeply implicated in the destiny of mankind. We are creating programs out of law which will substitute organized peace for organized force. Law is the only device yet developed by the mind of man whereby power can be constrained.

In urging law as the best formula or path down the road to peace, I do not mean to downgrade the great contributions of diplomacy, religion, science, communications or economics. I do point out that the contributions of each other discipline sometimes gain permanence and stability only when written into law or when so universally used, accepted and respected that they become law by custom. Customary law which that great English law leader Sir Wilfred Jenks, who is here with us, records in his book the "Common Law of Mankind."

Many take the growth of the law for granted like the air we breathe and the water we drink. But this is a misreading of law's history. Every great reform or expansion in the law has come from leadership and hard work. What we need today to make law grow strong enough, and quickly enough, to achieve and maintain world peace is the type of concentrated "crash" programs which split the atom, put manned satellites into space, and which may soon put men on the

Moon, Venus, or Mars. If any man of responsibility had spoken of a man on the Moon a few years ago, few would have agreed. Now no one can really doubt that this will happen.

And so in the field of law where all mankind has so very much at stake we must seek and secure the support of all who desire peace as backers for our effort to mount such a concentrated "crash" program to build a peace structure for the world community.

We of the law are working for peace with an intensity, knowledge, and effectiveness never before achieved. We still have a great educational program to carry out. The public at large does not yet realize that a world ruled by law can indeed be created. But the number and strength of the law's supporters are growing constantly. The fact that more than 100 messages from heads of state were sent to the Athens and Washington Conferences urging a strengthened and expanded rule of law for the world is in itself evidence of this ever-rising tide of support.

But we need to create more public awareness of the value of the world law as the most credible road to peace. As one illustration, the major educational foundations have not provided the support for law which they have for science, medicine, and other disciplines. Many nations have great academies devoted solely to the art of war, but no existing academy or university is devoted solely to the art of peace. It is estimated that worldwide some 150 billions of dollars are being spent yearly on arms by governments. But governments spend very little on building a peace structure—a law structure—for the world.

Man desires peace and individual liberty. Equal justice for men and nations under the rule of law is the only concept that can supply both. Any system that brings and maintains peace with justice will be a law system, not an arms system. The rule of law is the only concept with a proven record of capability to control the emotions and actions of men when made strong enough in all of its elements to be effective.

Those who lack faith in the law, and thus downgrade the value and effectiveness of the law, often do so because they fail to realize the respect for, and faith in, the law which exists among the vast majority of the peoples of all nations. The people do not look upon the rule of law as representing perfection or utopia. But they do look upon it with all its imperfections as representing the best system yet devised by man to avoid conflict, or to provide a peaceful decision for those conflicts that are always going to occur in a nation or world inhabited by human beings. This faith in and respect for the rule of law by most people is the reason why we of our generation can find in the application of that rule to relations between nations the answer to our number one necessity, world peace. In the law's principles, processes and procedures we have the best tested formula for living together rather than dying together in nuclear war.

We who work for peace through law are opening the door to a brighter tomorrow. And tomorrow's world is being built by today's people. If it is to be a peaceful world, a world wherein human rights are respected, a world wherein decision by death is ended, it must be a "law-ful" world.

As man has become more civilized, and as destructive power has grown, decision by war is no longer an acceptable method for settling disputes. True it is that reliance on the war method is easy and building a peace structure is perhaps the most difficult task ever undertaken by man. So difficult the fainthearted shy from trying. But no matter how difficult the creation of a peace structure may be, we dare not fail to build it, for it constitutes humanity's only hope for survival.

Since the dawn of history man has dreamed of a world without war. That the pages of recorded history are chronicles of failure does not mean we of our day will fail if we but make the greatest effort yet assembled by mankind on a worldwide basis for our assault on the problems of a world peace structure. We of our day can, and I believe we will, create this warless world. We will do it by building a new world order under the rule of law.

Not far from here near the Peace Palace at the Hague in a quiet resting place at the side of an ancient church in Delft, Netherlands, lies the remains of Hugo Grotius. He, with other greats of the law in centuries long past, earned eternal fame for articulating the idea of a peaceful world achieved and maintained through the rule of law. That their idea has not died but has risen up and shone forth to inspire succeeding generations to strive anew to make their dream come true attests to its strength and validity. There is an old proverb that nothing is as strong as an idea. And that nothing can stop an idea whose time has come. I urge you great leaders of men in this audience that we should seek together to enlist the support of all men, women, and children throughout the whole world in a crusade for peace, a crusade which will thereby gather the support to make the time of this great idea arrive in our day. We of our generation have made more ancient dreams come true than any generation in all history. The dream of world peace can also be translated by the peoples of our generation from dream into reality. The peoples of the world have the desire, the capacity, and the power to achieve this. Up to now they have lacked the inspiration, a program, and the essential leadership. Such inspiration, program, and leadership must be developed and it is our fervent hope that it will emanate from this center for world peace through world law.

The day when leaders could become renowned through use of arms is gone. The greatest leaders of our era will be those who lead in erecting a world peace structure. The rule of law will indeed replace force as the controlling factor in the fate of humanity as the peoples of the world become convinced that this is the only credible material out of which world order can be fashioned. Mankind's ancient quest for world peace will thus end in success—success through a world ruled by law. And when this rule of law prevails, then and only then will we live in a world where any man can live anywhere on the face of the earth, or travel to the vistas of endless space, in freedom, in dignity, and in peace.

TRAGIC INCIDENTS IN EAST PAKISTAN

Mr. SAXBE. Mr. President, I invite the attention of Senators to further events and accounts relating to the tragic incidents in East Pakistan. A lengthy speech is not necessary. The articles speak for themselves. I merely wish to repeat that the Saxbe-Church amendment suspending aid to Pakistan has 31 cosponsors. These cosponsors, plus the Senator from Idaho (Mr. CHURCH) and myself represent one-third of the U.S. Senate. Tomorrow at least one more Senator will add his name to the growing list of cosponsors. We merely wish to prevent the United States from being dragged into another civil war.

Mr. President, I ask unanimous consent that a number of articles on Pakistan be printed in the RECORD.

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

[From the Boston Sunday Globe, July 11, 1971]

EAST PAKISTAN—A MOUNTING CRISIS—WITNESS REPORTS ON DEATH, DESTRUCTION

An eyewitness account of the devastation left by West Pakistani troops, fanning out along the river leading from Dacca to the Bay of Bengal, is told in the following excerpts from a tapeletter recorded in the area in late May.

William H. Ellis, a Canadian engineer working on coastal embankments near the Bay of Bengal, recorded his comments on an unofficial and highly dangerous survey of the area in which he worked. The message was sent to Dr. John Rohde, formerly of the Cholera Research Laboratory in Dacca and now a resident at Children's Hosptial in Boston.

Ellis, who holds a master's degree in hydrology from McGill University, has now left Pakistan.

Ellis left Narayanganj on a shipping corporation coaster headed for Chitiagong and stopping at Barisal. The tapeletter:

Ship was carrying maybe 600 people. They were everywhere, under the lifeboats, in the lifeboats, on top of the cabins, between the decks, in the holds, companion ways, just everywhere. I tried to make my way to the engine room, but I just couldn't make it without chucking my biscuits so I came back up on deck.

We met two coasters coming up the river, both of which were loaded with military vehicles. One tanker was lying at anchor off Chungport. Further there were a dozen of the larger carrying cargo countryboats.

EXECUTIONS

There's practically no activity along the riverbanks; only an occasional person standing, watching the boats go by, nothing doing in the fields, no tilling, cattle are out grazing with herdsmen, but that's about all.

Barisal was completely deserted, only the dogs on the streets although it was still an hour and a half before curfew.

Once I got down there I discovered why they didn't want me down there. Every day for the last few weeks they have been executing 10 to 20 people a day. This I got from the people who lived in the area. Every afternoon at 4 o'clock there would be 10–20 single, spaced shots fired and they would later see the bodies in the khal.

. . . The executions apparently stopped a week or so ago, at least the firing stopped, but still discovered there were more bodies and it seems . . . they are still executing prisoners (by bayonet).

. . . I saw evidences of the anti-hindu operations in the form of a poster (on gutted shops) stating "under marshal law authority". I asked my native guide on what shops they were placed and he said they were Hindu shops. The operations had been going on in the area for two or three weeks now.

LIKE ANIMALS

There are now almost columns of Hindus in flight in the area. They have nowhere to go. They cannot get across the border to India, they flee in one direction, find there is an Army blocking their way and flee another. They're being hunted down like animals.

Families in the area are housing 15 to 20 people per house, and there is barely enough food . . . there is description after description of where the Muslims have covered up, have hidden Hindus, and taken great risks personally . . . in one village they called out the Muslim head man and asked where the Hindus were.

He refused so the army wrapped him up in jute and set fire to him . . . papers are full of requests for factory hands to come back, civil servants to return to their duties . . . but everyone knows if you come back to work you're likely to get shot.

. . . It was made clear the army was hunting for three elements which they would eliminate in this order: first, saboteurs and Hindus from India; second, all members of the Awami League; third, guerrillas and other "anti-social" elements.

CONSTANT BURNING

They have nowhere to flee but southward towards the sea. They are caught between the sea and the advancing army.

From Barisal, I took the mail boat to Khulna. The land is deceivingly peaceful. It is so green, so lush, but there is so little activity. From time to time we would see bodies floating in the river . . . other times we could smell but not pick them out from amongst the water hyacinths that are moving down as the water picks up . . .

. . . We passed villages that were in flames. This went on for miles. The jungle is so dense that you cannot see beyond the foreshore but in the sky all over on both sides we could see smoke in the sky . . . occasionally a searchlight would pick out the naked figures of persons who were fleeing along the riverbanks . . . They carried their few meager belongings on their head.

Later while I was sitting on the top level of the boat a crew member sidled up to me and told me that this burning had been going on for the last two weeks, every night . . .

Even in this area, unaffected by the cyclone (of November, 1970) there will be perhaps only 10 percent of the normal crop—so many people had to flee or have been murdered . . .

We reached Koona? at the next morning—here the activity is a fraction of what it used to be . . .

In this area conditions are closer to sheer chaos . . . this is because the Koona area is next to the border and the influence of large number of . . . even for those who would like to return to work it is practically impossible.

There is much looting and burning going on because there is no law and order . . . 10 to 20 people are knifed there every day in broad daylight. A man and his son were knifed while I was there. . . .

When the army arrives the Muslim league informs on the Awami league and the Hindus. The army comes to wipe out the Awami league and Hindus. . . . In the villages of . . . the government employees do not go to their offices for fear of being killed; their army is too busy killing Hindus . . .

I traveled to Jessore . . . a road that I have traveled many times before . . . I know it well, I know the activity and I know the villages . . . with comparison with before it is deserted.

Villages on both sides of the road have been burnt. We cannot see where the villages were . . . looking at the palm trees you can see where the palm fronds are all scorched and the trunks are blackened . . . Some villages remarkably have been spared and they have a few people listlessly watching you as you go by . . .

Usually when the mills are working it is belching black smoke; we saw only one mill with smoke coming out . . . there are many brickyards along the way; every one was deserted.

As before, there was practically no activity in the field . . . the only signs of farming were the cattle out grazing.

When you board a plane (at Jessore) it is interesting . . . your baggage is unpacked, searched piece by piece; you are given a complete physical search . . . they found my pocket knife and took it away from me . . . when you board the plane you find two armed guards.

I could see very plainly the area around there had been flattened. Most of the houses are like boxes without roofs. . . .

NOTHING MOVING

What was still very clear from 10,000 feet was that there is no traffic at all on the rivers or roads or paths. Nothing moving, not any boats to be seen tied up along the banks.

As we crossed the Ganges west of Dacca there were just a few of the cargo boats, maybe five or six where normally you would see dozens. As we got lower things looked relatively normal in the villages until we got close to Dacca and then I could see the pattern of boxes without tops, where roofs had been burnt off . . . and still the predominant feature of no activity.

Back to Dacca. It is clear the situation is entering a new phase where the Army has gained control of the towns, the land transportation routes, and is now fanning out on this massive operation to wipe out the Hindus . . . the regime which is running the country, the cabal of generals, has become so engorged with their own propaganda that they honestly believe that there is an Indian infiltrator behind every tree, and that every Hindu is suspect and to be shot on the spot.

As was pointed out to me, there is not a family in this whole country that has not been affected—that has not lost members that have been shot, or not looted, or had their women raped, or young girls taken away.

And yet in spite of this, or perhaps because of this, the regime has absolutely no support from the common people.

Everyone knows what they read in the Pakistan papers is a pack of lies and they know from experience that what they hear is true on All India Radio.

It is remarkable how they find out what goes on in every village.

It is clear that things here in Dacca are more normal than they are everywhere else, and that word normal has become a standing joke with everyone in East Pakistan . . . But even in Dacca they are already bold enough to strike in broad daylight.

Monday last at about 1 o'clock they threw hand grenades and the damage that was done to the bank looked like a grenade.

Anyway, about 1 they struck at seven places in Dacca . . . and so already they are striking back even here in Dacca, which supposedly is the normal place in this country.

The other thing I mentioned before, that Bengali men, have time and again said to me, "please do not have your country send any aid to this country, even food . . . the food will only go to the Army and prolong our agony." More than one man said to me "I'd rather die by starvation than go on with the agony that is going on now."

ARMS, ECONOMIC AID UPSETTING TO CONGRESS

(By Darius S. Jhabvala)

WASHINGTON.—When Presidential Adviser Henry Kissinger arrived at the Panam Airport in New Delhi last week he was greeted by an angry crowd of demonstrators who demanded "Kissinger of death, go, go home."

What has aroused the anger of Indians is an issue that is of great concern not only to the sub-continent but also to the United States Congress.

It is that the Administration has been almost covertly shipping military supplies to Pakistan contrary to the spirit of its own injunctions.

So strong have been the Indian sentiments against deliveries of further arms to Pakistan that almost daily voices are heard in Parliament for some unilateral action by the government to put a stop to it.

Similarly demands have been made in Congress for a complete halt to all economic, financial and military assistance to Pakistan.

(An amendment to the foreign aid bill, cosponsored by Senators Church and Saxbe, to suspend all aid awaits action in the Congress.)

The difficulties in Pakistan began last March 25 when leaders of East Pakistan's Awami League, having been frustrated in their long struggle for equality with the Western half, demanded autonomy and a certain measure of independence.

EXODUS

The regime of President Yahya Khan in the West reacted swiftly and brutally. Within hours of the rebellion for Bengla Desh (freedom) he dispatched his armed forces to crush the movement.

Awami leader Sheik Mujbir Rahman and his principal aides were promptly arrested and those who resisted were shot. The bloodbath that ensued took at least 200,000 East Pakistani lives.

Furthermore Hindus living in East Pakistan feared reprisals and so began an exodus of six million people into the neighboring provinces of India.

At the start of the rebellion the United States announced it would not sell weapons to Pakistan.

Furthermore it announced that no arms delivery was already in the pipeline.

The intent of the announcement was clear—namely, American weapons would not be used by the West Pakistan military in the East. Thus it was presumed that an embargo was in effect.

But last month word leaked out that two ships with cargoes of military supplies had indeed left the US for Pakistan.

Then Senator Edward M. Kennedy (D-Mass.) revealed that at least five more ships would sail from the US before Aug. 1 with similar military equipment.

Last Wednesday Senator Frank Church charged in a Senate speech that $35 million worth of military hardware was still in the pipeline for delivery.

In response to those charges the State Department claimed that what has been sent to Pakistan are items that were licensed prior to April 6 when the halt order went into effect.

They claimed that what was and will be delivered are not arms that can be used against the civilian population in East Pakistan.

Neither of those explanations have satisfied the Indian Government nor has it quieted fears of more substantial sales to Pakistan.

The Indian Government is in a particularly difficult situation. The six million refugees on its soil are severely straining not only the nation's immediate food and sanitation resources but also are a threat to its economic development.

It is true that the world community is providing India with massive relief assistance, including $70 million by the United States.

But Indians claim that the assistance will not cause the refugees to return to their own land.

CONFLICT

Thus the government proposed that the US pressure Pakistan to take steps which will entice the refugees to return. It should begin with a political reconciliation between the two halves of the nation, they suggested.

The US has conceded to the Indian argument but disagrees on the proposed methods. India has suggested that all economic and military assistance be halted. The United States has pointed out that were this to be done, Pakistan would be pushed further into the Communist Chinese orbit.

Late last month Indian Foreign Minister Swaran Singh warned that India would not tolerate an indefinite stay on her soil by the refugees. Implicit in his remark was the threat to forcibly evict the refugees, a move that could involve India and Pakistan in another armed conflict.

[From the Washington Star, July 19, 1971]

IN EAST PAKISTAN, "WE ARE ALL AFRAID"

(By Henry S. Bradsher)

DACCA, EAST PAKISTAN.—The East Pakistani government official broke down and cried.

"I don't know how we can go on," he told a visitor in the privacy of his home. "None of us Bengalis know when the army might decide to pick us up.

"Seventy government officers have disappeared, we don't know where, and we are all afraid.

When the army from West Pakistan began its terrorising crackdown on the Eastern province, its main targets were supporters of Mujibur Rahman's Awami League, the overwhelmingly dominant political party here.

But now the army seems to be practicing terror against the entire social structure of East Pakistan in order to better control it as a colony of a West Pakistani minority.

A leading lawyer and bank director of Dacca, Abdul Ahad, who took no part in politics, was seized by the army, released, seized again and his fate is now unknown.

Another nonpolitical figure, Alamgir Rahman, head of the Esso gasoline network in East Pakistan, similarly disappeared.

In Chittagong, the province's main port city, the chief engineer of the government port system, S. Zaman, was picked up by the army May 16 and still is missing.

Superintendent of Police Shamsul Hoque disappeared in early May. A leading industrialist, Abdul Kehaleque, also is missing.

There are many other examples of the army removing Bengali leaders who had never publicly opposed West Pakistani domination of this province.

In the early days of the army crackdown, which began March 25, there were executions of Awami League supporters. Wives were told to come collect their husband's bodies.

Occasional sounds of firing within the army cantonment here last week suggest that executions continue.

But when inquiries are made about people the army picked up, the army says they were released and if they failed to return home, then they must have fled to India.

Some forms of terror are more obvious. A public announcement last month said people living in an area of sabotage or guerrilla strikes would be held collectively responsible.

There are several well authenticated reports of reprisal killings.

Because of fear, the normal life of East Pakistan's cities has stopped. Most cities have only about half their usual populations.

Commercial activity in Dacca is perhaps one-third normal during the day, and people withdraw into their homes after dark.

Army checkpoints tighten up during the night on the lookout for Mukti Bahini (liberation army) commandos.

Bengalis complain they are robbed of money and valuables at army checkpoints.

This is so bad at Comilla that few persons are willing to work.

The system of cooperatives in dairy, poultry and related fields built up at Comilla by a Danish aid program to support 120,000 persons has broken down because of this fear.

"There is little physical damage but the psychological damage is tremendous," one Comilla resident said.

In Dacca, damage is both psychological and physical, but most of the latter has been cleaned up since the army shot and burned its way through the city March 25–27.

In Magh Bazaar, where the army destroyed a swath several blocks long and about 100 yards wide through the heart of the crowded old city, there now is a sign saying "site for the Dacca municipal community center." The sign is only in English—apparently intended to impress foreign visitors.

LANGUAGE BEING REPLACED

The Bengali language of the East Pakistanis is being replaced with Urdu, the language of West Pakistan's dominant group and with English which has been the official language to link together the disparate parts of the country. Many Bengali signs now are duplicated in Urdu.

The army's destruction in Dacca seemed to be more a warning than a result of any significant opposition it encountered. But several other East Pakistani cities, such as Kushtia, were badly damaged in fighting between the army and East Pakistani military forces who took up arms after March 25.

The Pakistani government has yet to present evidence to support its assertions that a rebellion of East Pakistani forces was planned and army action was necessary to head it off. But then the official explanation of what happened here in March and April has changed several times.

A government white paper now is in its final draft form at Islamabad, the national capital, and will be released as the definitive version of the government's case.

NIGHT OF VIOLENCE

This correspondent saw, from the hotel here where he was forcibly detained by the army the night of March 25, soldiers shooting up a building from which a Bengali nationalism slogan had been shouted, soldiers shooting up and burning an Awami League newspaper office and soldiers shooting at unarmed youths running in the street.

But on his return here he was assured by officials, up to and including an army general, that troops fired only into the air as a warning and casualties were very low.

The first group of correspondents allowed to visit East Pakistan after March 25—carefully selected to exclude those with previous knowledge of the area—were told Bengalis had murdered some 20,000 to 25,000 non-Bengali residents of the province before the army crackdown. The army moved to prevent such horrors, they were told.

This contention seems now to have faded.

There were several hundred non-Bengalis killed in the first week of March and perhaps as many as 10 percent of the 200,000 to 300,000 persons killed after March 25 were migrants from India, but there is no evidence of many killings before the army moved. A major assault on non-Bengalis—itself a horrible part of the situation which stains with blood the hands of those Bengalis now complaining of Army terror against themselves was clearly in reaction to the army's violent assault on the Awami league and the broader forces of Bengali nationalism.

These migrants, generally called Biharis because many came from India's Bihar province, spoke Urdu and were associated in the public mind with West Pakistanis.

ATROCITIES CITED

Atrocities were committed against them in a number of towns after the army was unleashed in Dacca, but before the army could fan out over the province.

At a recreation camp near the Indian border for a small trickle of returned refugees, three Canadian parliamentarians were told by returnees last week that they had fled to India in fear of the army, which was shooting and burning through their villages.

A government press release on the Canadian visit quoted the returnees as telling the parliamentarians they "had fled across the border out of fear and panic created by miscreants and Indian propaganda."

The army calls anyone who opposes it a "miscreant."

[From the New York Times, July 20, 1971]

PAKISTAN WILL TRY BENGALI LEADER SOON

LONDON.—President Mohammad Yahya Khan of Pakistan said in an interview published here today that Sheik Mujibur Rahman, the East Bengali leader, would be put on trial "very soon."

The trial would be by a military court and in secret, he said. He did not give the precise charge, but he said it would carry the death penalty—subject to confirmation by himself as President.

The interview appeared in The Financial Times of London.

Sheik Mujib headed the Awami League, which won virtually every East Pakistani seat in last winter's national elections. Sheik Mujib regarded the result as a mandate to seek a large degree of autonomy for the East.

ACTION BY ARMY

But the Yahya Khan Government, dominated by West Pakistani army officers, thought the Awami League was planning to declare independence, as some of its leaders were urging. The army flew in to occupy the East, killed thousands and arrested Sheik Mujib.

President Yahya's decision to hold the trial will be regretted by British officials and others who have been hoping for some political solution in East Pakistan. Their feeling is that the Government can only hope to achieve a settlement now by freeing Sheik Mujib and dealing with him.

In the interview, General Yahya said Sheik Mujib would be allowed a lawyer—but only a Pakistani one. He was once successfully defended against conspiracy charges by a British barrister.

President Yahya was highly critical of Britain in the interview, and especially of the Foreign Secretary, Sir Alec Douglas-Home. Sir Alec had said that Britain will not renew aid to Pakistan until there is a political settlement.

WITHDRAWAL CONSIDERED

The President said the British Government had fallen for the "cruel, crude propaganda of India." He said his Government was considering withdrawing from the Commonwealth in retaliation.

He contrasted Britain with the United States, which he said has caused Pakistan "no embarrassment."

YAHYA THREATENS WAR

There was a stern warning to India in the interview. General Yahya said he knew there were 24 camps in India to train Bengali guerrillas. If India stepped up her activities, for example by helping to establish a guerrilla base area in East Pakistan, he said his Government would treat that as an attack.

"I shall declare a general war," the President said—"and let the world take note of it."

This comment fits with recent official American reports on the Pakistani mood. These reports have treated very seriously the possibility of war between India and Pakistan.

General Yahya said that he was ready to let United Nations observers into East Pakistan to "supervise the return of the refugees." Their function, he said, would be to reassure the 6 million to 7 million refugees now in India that they can safely return. He said observers could watch particular villages to make sure returning refugees suffered no penalties.

But that solution, the President said, would depend on Indian cooperation. He said Indian troops "would have to stop the shelling and mortaring" from across the border.

[From The Washington Post, July 20, 1971]

HOUSE FOREIGN AFFAIRS COMES ALIVE

The House Foreign Affairs Committee, which has been a rubber stamp for the Executive branch for so long that many people are not aware that it exists, came alive with style the other day and actually pronounced thoughtful judgments of its own on two pressing issues of the day.

Marking up the foreign aid bill, the committee denied administration requests for $117 million in military aid for Greece, and $118 million in economic aid for Pakistan. With the support of Foreign Affairs, both issues have a good chance of carrying on the House floor; Senate approval is possible, too. Without the support of Foreign Affairs, both issues would be already dead.

It is hard to decide on which issue the administration had a flabbier case. Greece has moved not closer to but farther from restoration of constitutional rule. Its armed forces, riddled by political intrigue, have unquestionably become less fit to discharge their NATO missions. Diplomatic reality argues for correct American relations with Athens but certainly not for bestowing the special favor—exploited by the junta as exactly that—of military aid. In another Mideast crisis in which the United States, apart from NATO, might need Greek bases, the junta presumably would use the request to bargain for more arms. The committee left the President authority to respond to such "overriding requirements."

Pakistan's claim on American economic aid is insupportable while its government blocks a return to normal conditions in East Pakistan. Reporting yesterday from Dacca, The Washington Post's Lee Lescaze described "a frightened" land. "Murder is commonplace," he wrote, "men are arrested and never seen again, guerrillas snipe at the army and millions of people have been uprooted." In these conditions, economic aid would not only be interpreted as evidence that Washington condones Pakistani army terror, it would actually be used to finance it. If, as we suspect, the administration came under some extra obligation to Pakistan for its services in arranging the Kissinger mission to Peking, then Washington should make clear that it cannot discharge that obligation until progress in East Pakistan is made.

The two Foreign Affairs votes may be less important for their substance, however, than for what they reveal about the committee itself. For the startling fact is that the committee is starting to shed its old role as the Executive's patsy and to take on a new role as the public's representative. Some members, to be sure, have long itched for such a change. As well as lamenting that the committee was not performing its constitutional mandate to oversee Executive conduct of foreign affairs, they squirmed in envy at the importance which an exercise of independence had brought to its Senate counterpart, the Foreign Relations Committee.

Two things account for the stirrings of change. First, as a result of a decision by House Democrats to limit each member to one legislative subcommittee chairmanship, two Foreign Affairs subcommittee chairmanships came open this year; attrition opened up two more. The four men elevated to the posts, by virtue of their seniority, all turned out to be intelligent and concerned activists: Donald Fraser, John Culver, Lee Hamilton and Benjamin Rosenthal (whose hearings on Greece provided the stuff of the full committee's Greek vote). A Democratic caucus decision to let subcommittee chairmen hire their own staff helped too.

These reforms might have had little effect, however, had not Chairman Thomas E. Morgan determined to unleash his restless colleagues. A small-town doctor known chiefly in the past for rallying the House troops for foreign aid, Dr. Morgan restricted his committee's ambit for years out of party and personal loyalty to President Johnson and House Speaker McCormick. The installation, in turn, of a Republican President and a less demanding Speaker seems to have had a liberating effect on Dr. Morgan. Evidently he now is ready to prescribe—and to practice—the critical attention which the country's foreign affairs require.

[From the Washington Post, July 20, 1971]

No Solution Seen for Crisis in Hungry, War-Torn Pakistan

(By Lee Lescaze)

DACCA.—It is hard to estimate how many hundreds of thousands have died here: It is hard to understand what brought the butchery and terror: But it is perhaps most difficult to forsee how East Pakistan's present crisis can end.

"The trouble with any happy solution you can think of," one longtime resident said recently, "is that it won't work."

East Pakistan's economy, fragile at best, has been shattered. Its politics are now governed by the strength men gain when they pick up guns; its people live in fear and the dead are outnumbered by millions of displaced persons.

"It is bad now, but is will get worse," a Bengali official said. His pessimism is widely shared.

Some Bengalis cynically wish for famine, despairing of other goads to turn the majority of East Pakistan's 75 million into active opponents of the West Pakistan army that rules here in what one foreigner describes as "an out-and-out colonial administration."

STARVING CROWDS

Naturally enough, those who look forward to a food crisis are wealthy enough so that they will not go hungry themselves. New hundreds of thousands might die, they know, but if starving crowds attacked army camps the military might be forced to withdraw to West Pakistan. This, after all, is a land where, close to 500,000 people died in a cyclone last November and the middle class paid little attention. It is also a land where 500,000 people are born every 87 days.

In normal times East Pakisan has a food deficit: There is always some malnutrition here and whether men want it or not, starvation this fall is very possible.

In 1943, hundreds of thousands died of hunger in East Pakistan, not because there was no food, but because the government distribution system broke down. "There is now less food on hand than in 1943 and distribution has been more badly disrupted," one well-informed source said.

SMALL RICE CROP

At best, Maj. Gen. Rao Farman Ali Khan says, the rice crop will be about 2 million tons short of normal this year. Normal crops have to be augmented by roughly 1.5 million tons of imported food grain, so this year's demand for imports will be close to 3.5 million tons.

However, more than 60 per cent of the foodgrains used to be moved by the Chittagong-Dacca railroad and that has been cut for three months as a result of sabotage by the Mukti Faui (liberation army) which, with help from India, is fighting a low-level guerrilla war against the army.

Even if the military is able to move adequate supplies of foodgrains into the interior from the ports of Chittagong and Khulna, people may have no money to buy them.

Less than 40 per cent of the work force has returned for fear of being killed by the army or liberation army—or because their jobs no longer exist. Almost all rural works projects which provided the landless peasants with employment between planting and harvest seasons have stopped.

RUPEE EXCHANGE

In addition, millions of rupees went to India with the almost 7 million refugees who have fled across the border. Peasants were further impoverished when the government, in an attempt to punish rebel elements and preserve the value of the rupee, declared a three-day period in which all 100 and 500 rupee notes had to be exchanged at banks for smaller bills.

Many rural people were afraid to visit banks to turn in this large bills and now hold their savings in worthless paper.

Pakistan's major export crop is no better off than rice. In June, jute mills were operating at 20 per cent normal capacity. This year's crop will be at least 1.5 million bales below normal and that means East Pakistan's jute farmers will earn about $300,000 less.

In the endgame with disaster always being played here, it is no help for the future that jute is a dying product in the world market. Synthetics are replacing jute as packing and bagging materials.

One jute manufacturer hesitates to put the future of jute as a valuable crop beyond 20 years. "What crop can the people grow then, instead of jute?" he was asked.

"By then there'll be enough of them so they'll need all the land for rice to try to feed themselves."

POPULATION DOUBLING

East Pakistan's population will double in 23 years to 150 million people living in a land the size of North Carolina. If maximum birth control targets are met, it will double in 27 years, but birth control here is a joke.

East Pakistan's civil war that began March 25 is being fought against this backdrop of economic disaster, but both sides are still confident that all problems can be overcome if only their opponents would give up—or be killed. They all seem to be wrong.

"We got where we are thanks to maximum stupidity on all sides," one well-informed source says. It seems unlikely to him and many others that even maximum intelligence can rescue East Pakistan from years of agony.

For the Bengali nationalists who won last December's election (the first in Pakistan's 23 years of independence), the solution seems simple. If the West Pakistan army withdraws they will establish an independent Bangla Desh (Bengal nation) and all will be well.

Even if the army did go back to West Pakistan where almost all its officers and men come from, there would be little for the political heirs to inherit. The Bengali nationalists' election victory and subsequent suppression has torn apart the patchwork structure that was East Pakistan.

Whichever way the wheel turns, a new bloodbath seems likely.

If East Pakistan were turned over to the Bengalis now, they would have to try to rule with much of their local leadership dead at army hands in recent months and with thousands of Bengalis eager to settle scores with the army collaborators now riding high.

"There was a chance that the Bengalis could control things here if (President) Yahya Khan had let them in March," one foreign observer says. "That chance is gone." The Bengalis' first targets would be the roughly 1.5 million non-Bengali Muslims generally called Biharis, who have largely helped the army impose its reign of terror.

BIHARIS AND BENGALS

Biharis were being killed by Bengalis in many towns before the army moved out from its cantonments in April and turned the tide against the Bengalis.

In this complicated society, not only racial and religious differences lead to killing. In addition to the Biharis there are some extremely orthodox Bengali Muslims who support the army out of conviction that their religion will suffer if East Pakistan should become independent and thereby open normal commercial and diplomatic relations with the Muslims' archenemy—India.

There are also social groups (dols) within the Bengali community which often have little love for one another and there is the overriding pressure of an excessive population living off East Pakistan's one resource—its land.

"If you dig to the bottom of every quarrel here," one man remarks, "you'll find a piece of land."

REBEL SABOTAGE

The liberation army guerrillas have cut several roads, assassinated dozens of collaborators and are able to explode an average of two small bombs nightly in Dacca. Their greatest recent coups have been hacksawing down a high-tension pylon that knocked out Dacca's electric power for several hours and blowing down another pylon that blacked out the town of Comilla. But the guerrillas are far from being able to challenge the army directly and sabotage will be a long route to making the army's position here untenable.

While the Bengalis see a military withdrawal as the answer, the army believes it can control East Pakistan if India stops aiding the guerrillas.

Many army officers, in Alice-in-Wonderland fashion, say they believe that all armed opposition here comes from Indian infiltrators.

Officers talk of their good relations with the Bengalis as they walk down streets and Bengalis cross to the other side to avoid them.

Most speak optimistically of being able to return to West Pakistan in a few months. (The Pakistan government says the situation here is already normal.)

INDIA'S ROLE

If the Army is not going to quit short of economic disaster here, or in West Pakistan which is selling only 35 per cent of its normal volume of retail products in East Pakistan, neither is the liberation army being pressed very hard.

India borders East Pakistan on three sides and happily gives sanctuary to the guerrillas—plus guns and training.

The three divisions here, roughly 60,000 West Pakistani soldiers, are spread very thin. They guard only one out of every four or five bridges and culverts.

They don't operate off the main roads with rare exceptions and they never operate at night.

But, if the guerrillas can't win, the army can't succeed in subduing the people of East Pakistan and India—as all evidence indicates—will not invade, what's going to happen?

"Everyone's in a corner here," one Bengali remarked. "There is no justice, no law, nothing but guns." The peasant is caught between the guns and it seems most likely that he will gradually be forced to choose sides.

There is a street of burned out houses in Dacca which has been renamed Tikka Khan street in honor of the military governor of East Pakistan who carried out the military occupation of this land. It seems likely that the street will be renamed again.

U.N. OBSERVER BODY AGREED TO BY YAHYA

(By Neville Maxwell)

ISLAMABAD, WEST PAKISTAN.—President Yahya Khan is prepared to have "an international body of United Nations' observers in East Pakistan to supervise the return of the refugees" from India.

He said during a two-hour interview that the observers' task would be first to satisfy themselves that it was safe for the refugees to return to East Pakistan, and then to visit the refugee camps in India and assure the refugees that it was safe to go back.

Yahya said the U.N. observers would also have to watch over and assist in the return of the refugees to their villages, making sure that they suffered no penalties or harassment.

First, however, Indians "would have to stop the shelling and mortaring" which Pakistan claims now occurs in many border areas. He said that Prime Minister Gandhi "must assist me in getting the refugees back."

Yahya said he had welcomed the several offers of mediation between Pakistan and India recently made by third governments. One of these, he disclosed, had proposed 10 days ago that he and Mrs. Gandhi meet to discuss exclusively the refugee problem: "I agreed," he said; "The lady said no."

Yahya asserted that 24 camps for the training of Bengali guerrillas had been established on the Indian side of the border—"We know all of them. I can name them for you." The involvement of India was quite open, he claimed, and Indian arms and ammunition were being captured.

He said that any attempt by India to seize an area of East Pakistan as a rebel base area would prompt him to "declare a general war—and let the world take note of it."

The president went on, "Pakistan would not be alone," presumably a reference to support from China.

Yahya said that Sheikh Mujibur Rahman, the East Pakistani leader, would be tried "very soon," and that his defense lawyer would be a Pakistani, not a foreigner. The trial would be in a military court, it would be in camera, and the charges could bring the death penalty.

INCOME FOR OLDER AMERICANS

Mr. MONDALE. Mr. President, the House has recently passed legislation which could mark an historic turning point in Federal policy toward older Americans. H.R. 1 recognizes the need to establish a minimum income above the poverty level for retired citizens. Many Senators have worked in recent years for improvements in the quality of life for senior Americans, and as a member of the Senate Special Committee on Aging, I applaud this section of the bill, which would provide a Federal guaranteed minimum income to replace welfare for the elderly. I look forward to early Senate action on this provision.

I point out that in March and April of this year, the chairman and the ranking minority member of the Senate Special Committee on Aging introduced older Americans minimum income legislation which I cosponsored. The Senator from Idaho (Mr. CHURCH) and the Senator from Vermont (Mr. PROUTY) introduced Senate bills 1645 and 1384, respectively, with bipartisan support, to abolish old-age assistance through welfare, and to implement through social security the principle that no retired member of this affluent society should have to live in poverty. S. 1645 and S. 1384 contain important provisions which should be adopted, to broaden and improve the elderly minimum income provisions of H.R. 1.

I believe that the Nation is coming to recognize the horror of poverty in a wealthy country. The President has proposed a family assistance plan to provide an income floor for a majority of persons now below the poverty level.

There are serious problems in developing this legislation, but the principle is critically important.

But most assuredly, older Americans, who have contributed a lifetime of work to this society, who have endured the depression and World War II, most of whom contributed to social security for years in anticipation of a dignified retirement, should not be humiliated in their latter years by lack of a minimum adequate income. It is clear that inflation, rising property taxes, and increasing medical costs can deprive millions of of senior Americans of a decent retirement life, if there is no compensating income protection.

Approximately 30 percent of older Americans live below the poverty line, almost 6 million Americans. Senator CHURCH points out that nearly 3 million eligible individuals do not apply for old age assistance, because of the demeaning features of the existing system. In Minnesota, the average monthly social security payment to retired workers was only $114 monthly or $1,368 annually, and we know that less than 20 percent of all social security recipients have any outside income. The poverty level for older persons is figured at around $1,800 for individuals and $2,400 for a couple, yet only 20 percent of Minnesotans over 65 sought welfare relief under old age assistance. The system is obviously not meeting the need.

Senate bills 1645 and 1384 would provide annual income floors for older Americans—$1,800 for retired individuals and $2,400 for retired couples. This legislation would provide supplementary social security payments for all older citizens below the poverty level, and would take more than 2 million older Americans off welfare rolls.

The legislation aiso provides revenue sharing in the best sense. It would free nearly $700 million of State and local revenue now used for welfare payments in old-age assistance. These costs would be met out of Federal general revenues.

At the same time, administration would be simplified. Older citizens with low incomes would be provided an efficient, single-step service through the 700 local social security offices. The inconvenience and unfortunate connotations associated with additional applications to welfare offices would be ended.

Senator CHURCH's bill contains additional assistance for low-income seniors. It provides an increase of the minimum benefit to $120 for beneficiaries with substantial service.

The Church bill also provides a general benefit increase, but with a new provision which gives a greater percentage increase to beneficiaries with low incomes. The usual across-the-board percentage increases provide less for those with lower benefits who need the most. The Church plan would weigh the increases to bring needed relief to those with lower incomes. Under S. 1645, or a 20-percent increase; individuals receiving $185 monthly would be raised to $210, or 14 percent.

I also urge favorable Senate action on my own social security amendments at this session, in the effort to improve the quality of retirement life. In S. 1268 I have proposed that social security benefits be based on a recipient's 10 highest earning years, in order to protect retirement earnings from reductions caused by years of unemployment or recession. For example, workers have no control over loss of income or layoffs due to the present recession, but it costs them retirement income.

I have also proposed, in Senate bill

1266, that the retirement test income be raised to $2,400 annually. This would provide further income security by allowing those beneficiaries who wished to work to earn 50 percent more annually under the regulations, before losing any social security benefits.

The 92d Congress has the opportunity to end poverty among older Americans. The United States has not kept pace with other industrialized Western nations in recent years in efforts to assist the elderly. During the last decade, Sweden, West Germany, and France have outstripped us in average amounts spent per capita in support for the elderly. In addition, these and other Western countries have spent significantly larger percentages of gross national product to aid older citizens, in some cases doubling our effort. We cannot be content knowing that some 6 million older Americans live in poverty. I urge the Senate to act favorably on the pending minimum income legislation for older Americans.

DRUG ABUSE AMONG SERVICEMEN

Mr. SCHWEIKER. Mr. President, today I was privileged to present a statement on drug abuse among our servicemen to the Subcommittee on Health and Hospitals of the Senate Veterans' Affairs Committee. The able chairman of this subcommittee, the Senator from California (Mr. CRANSTON), has been a leader in veterans legislation efforts.

In my statement, I discussed a number of my views and feelings about our drug abuse problems and some of our legislative proposals to correct them. I ask unanimous consent that my statement be printed in the RECORD.

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

STATEMENT OF SENATOR RICHARD S. SCHWEIKER

It is a privilege to present before today's hearing of the Health and Hospitals Subcommittee of the Veterans Affairs Committee my views on the crucial subject of rehabilitation and treatment of servicemen afflicted with drug addiction. I was privileged to serve in the last Congress on the Veterans' Affairs Subcommittee of the Committee on Labor and Public Welfare under the outstanding leadership of the Chairman of this subcommittee (Mr. Cranston), and am pleased he is continuing his same innovative and imaginative approach on the new full Veterans Affairs Committee. In addition, I am honored to serve with the distinguished chairman of the Subcommittee on Alcoholism and Narcotics (Mr. Hughes), who has provided important leadership in the entire field of narcotics and alcoholism rehabilitation.

Earlier this year, I introduced my own bill S. 1174, the "Veterans Drug Rehabilitation Act of 1971" to amend the veterans' benefits eligibility requirements to permit drug abuse treatment and rehabilitation at veterans medical facilities for servicemen discharged under conditions less than honorable for reasons of drug abuse. My bill simply amended the section of the U.S. Code that required an honorable discharge for veterans benefits eligibility and waived this requirement for drug abuse medical and rehabilitation treatment where the reason for the less than honorable discharge was drug abuse.

The bill under consideration, S. 2108, introduced by Senator Cranston, is a comprehensive veterans drug and alcohol rehabilitation and treatment measure, which includes the principle of VA drug abuse treatment for all veterans, and I heartily endorse the bill, and am privileged to be a cosponsor of it.

At this point, I would also like to point out my co-sponsorship and strong support of Senator Cranston's amendment number 252 to his bill, to provide for "absolute medical confidentiality" for information divulged by any veteran in a medical conference during the treatment and rehabilitation process, unless the veteran is a danger to himself and others.

In my view, medical confidentiality lies at the heart of our drug rehabilitation programs among servicemen, whether in or out of active duty service. Whatever the reasons for the shocking increases of drug use, abuse, and addiction among servicemen, the fact remains that we have today a most serious problem verging on crisis proportions. Testimony before our Alcoholism and Narcotics subcommittee indicates that one factor involved in drug use among servicemen in Vietnam, where the problem is the most severe, is the cheap cost and easy availability of heroin and other addictive drugs. However, back in the United States, heroin is neither readily available or cheap, and returning veterans to maintain their habit must inevitably fall prey to the vicious pushers in our society who have wrecked so many lives. In order to prevent a single serviceman from being pushed into a life of crime and drug addiction, we must take every possible step to encourage them to identify themselves now and seek treatment, so that they can be law-abiding and productive members of society.

Therefore, I feel we must remove every form of threat of criminal, and Uniform Code of Military Justice jurisdiction, which could hinder rehabilitation treatment. If a serviceman or veteran is at all concerned that information he reveals in his medical conferences could be turned against him in a criminal prosecution, this could be a serious deterrent to his seeking help in the first place. We cannot afford to have a single serviceman go into civilian society as a drug addict because of this fear.

I agree with Senator Cranston that our military drug programs must have exactly the opposite effect: we must insure that all servicemen know that they will be protected from criminal self-incrimination during each and every phase of their drug rehabilitation program. To allow any less, is to signal less than a full-scale commitment to end drug dependency among our servicemen and our veterans.

It should be made clear that this form of amnesty is granted only to information disclosed in the course of medical treatment and counselling. A serviceman will still be liable for criminal action for any illegal acts which are discovered through other routine sources. The point of amnesty in the drug program is, however, that no information revealed through the drug program will be held against the individual. This is the only way to obtain full participation by all servicemen using drugs, and to help prevent the discharge of drug addicts into civilian life.

Drug addiction in society is a dangerous cancer. It leads to the breakup of families, it leads to violent street crime by addicts who need immediate cash to supply their habit, and it leads to weakness in our national character and moral fiber. We cannot afford to allow this problem to grow more serious, but must make the investment now in money, manpower, and programs, at the federal, state, and local level, to successfully combat it and to develop comprehensive rehabilitation programs.

President Nixon deserves considerable credit for putting the resources and prestige of the Federal government behind this drug rehabilitation priority. I am proud to cosponsor a number of important Administration proposals in this area, such as the proposal to create a Special Action Office for Drug Abuse Prevention in the Executive Office, and the bill to amend the Narcotics Addict Rehabilitation Act of 1966 to authorize programs to "control" addiction, such as the methadone maintenance program.

In addition, as a member of the Subcommittee on Alcoholism and Narcotics, I also am endorsing the comprehensive bill offered by Senator Hughes, the "Federal Drug Abuse and Drug Dependence Prevention, Treatment and Rehabilitation Act of 1971," which provides important programs for State assistance, creates model drug prevention, treatment, and research programs, encourages community oriented services and programs, and requires the U.S. Civil Service Commission to develop a federal civilian employee drug program. In addition, the bill creates two additional governmental bodies to provide needed assistance and expertise in this field: a National Institute on Drug Abuse and Drug Dependence in the Department of Health, Education and Welfare, and a National Advisory Council on Drug Abuse and Drug Prevention.

Mr. Chairman, I am endorsing and cosponsoring these various bills and programs because of my firm conviction that no one plan, target, mode of action, or suggestion will suffice to provide the comprehensive, broad effort that is neecssary to combat drug abuse. Republicans and Democrats alike must unite in a bi-partisan effort throughout the country to produce the most efficient, effective, and influential program. No level of society, no group, no community must be left out. In both military and civilian sectors, we have an enormous job to do right now, and I commend the members of this committee, members of Congress, and members of the Administration, and the President for joining together for this important task.

"THE NEW HAMPSHIRE IDEA" FOR PARTNERSHIP OF THE UNIVERSITY AND ITS COMMUNITY

Mr. McINTYRE. Mr. President, universities and other institutions of learning are engaged in a very challenging effort to seek new directions, through a process of questioning the assumptions that have guided them until recently.

This can be a painful and difficult undertaking, but a necessary one if such institutions are to renew their capacity to function in the public interest by serving the long-range needs of our society.

I was most impressed by a call for universities to cooperate with their communities, given by Dr. Thomas Bonner, the new President of the University of New Hampshire, in his commencement address to the graduating class of Keene State College in Keene, N.H., on May 23, 1971. His recommendations for new programs whereby students may serve the community while advancing their studies deserve wide consideration. I therefore ask unanimous consent that the text of his address be printed in the RECORD.

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

COMMENCEMENT ADDRESS, KEENE STATE COLLEGE, MAY 23, 1971

President Redfern, members of the Board of Trustees, distinguished guests, parents, friends, and, above all, members of the Class of 1971:

What a futuristic ring that has—the Class of 1971—for those of us who graduated in 1941 or 1931 or 1901! And yet there is something reassuring and familar about it. For more than five hundred years the scholars of

the Western World have combined high purpose and seriousness with ceremonial color and a sense of joyousness in marking significant milestones in their academic communities. The commencement of each new class of scholar-citizens, like the one before us, has always been an occasion for both rejoicing and critical reexamination of the purposes and direction of an academic community.

We meet this afternoon in a time of troubles for this College, this University, and for higher education in the state and nation. After the waves of disruption and violence, the killings and the closings, of last spring we have lived through a year of dwindling public confidence and trust in higher education. On every hand this spring one senses and feels the mood of crisis and uncertainty about the future. Scarcely a college or a university in the country has not felt the financial pinch of reduced appropriations or the decline of public and alumni support. In the long history of higher education in this country there has never been a time when the public faith in higher education has flickered so low as it is now.

The public's indictment of its colleges and universities is well known. They are sanctuaries for rebellious rowdies whose life style infects their own sons and daughters; they protect faculty members who do not teach or whose ideas insult those who pay their salaries; they are led by administrators who are at best amiable and ineffective, at worst who connive with campus rebels. Not only does the public not understand, it does not trust what is happening in our colleges and universities. They have lost their ancient faith in higher education.

Now, how did this happen and why? Violence, I believe, is the key. So long as campus protest was restrained and peaceful the public was uncomfortable but forbearing. Some recognized the justice behind the students' concern over racial justice, the war in Vietnam, or educational reform on the campus. But discomfort turned swiftly to anger at the senseless violence and disruptions caused by a few but defended by many. To some, colleges and universities now seem adrift without direction or compass and need to be controlled by those outside who *can* restore order and purpose to the campus.

This erosion of confidence in our colleges and universities must stop. We must do a far better job of explaining the real strengths of our universities and the vital contribution they make to the mainstream of public life in every part of the nation. We must enlist the support of all friends of higher education in restoring faith in our educational institutions. Beyond this, we must make it clear that disruptions and violence will not be tolerated on the campus, that they are as alien to academic traditions as they are to civil processes. In some remarks earlier in the week I proposed a new social contract on the campus in which students and faculty members would practice restraint, self-discipline, and common sense in exchange for a significant voice in decision-making and the continued protection of the freedoms to teach and to learn.

Above all, we on the campus must remember that institutions exist to serve others and not our own needs alone. As a land-grant university, the University of New Hampshire has a long history of efforts to improve the lives of the people of this state. Scores of programs at Keene and throughout the University System are aimed at furthering the economic and cultural development of the state, conserving land and water resources, and sharing useful knowledge with the people, businesses, and governments of New Hampshire, as well as providing direct educational opportunities to thousands of the state's citizens.

I should like to propose today that, building on that historical base of cooperation and understanding, the state and the University face forward in a new partnership to build an even stronger University and a better state in which to live. Just as Wisconsin blazed the way nearly a century ago with the "Wisconsin Idea" of university service to a government and people coping with 19th century problems, I suggest "The New Hampshire Idea" for a university-people partnership in facing 20th century problems. As I envision it, the plan might include such features as these:

1. *A life-long system of higher education available throughout the state.* One of the major new directions for higher education in the 1970's will be a new stress on the variety and length of educational experiences available to all students of all ages. Much more than in the past, higher education in a complex society will include opportunities for advanced technical education, informal types of education, and instruction in community leadership. A great variety of credit and non-credit, graduate and undergraduate, day and evening courses will extend over periods ranging from a few weeks to a year, two years, four years, or even longer. The standards for traditional programs will not be lowered but a new kind of educational opportunity at the university level will be made available to every citizen, young and old, who can profit from it. Credit by examination, including the awarding of degrees for private study will become more frequent. Cooperative education, alternating periods of work and study (which began, incidentally, at the University of Cincinnati) will become far more common. Young people will be given more options to defer college attendance and to take time out from college to get service and work experience, while older persons will have career opportunities available to them through part-time or regular study in later years.

As the Carnegie Commission on Higher Education reported recently—and I subscribe to this fully from my own experience—"Society will gain if work and study are mixed throughout a lifetime, thus reducing the sense of sharply compartmentalized roles of isolated students versus workers and of youth versus isolated age. The sense of isolation will be reduced if more students are also workers and if more workers can also be students; if the ages mixed on the job and in the classroom are like a more normally structured type of community; and if all members of the community value both study and work and have a better chance to understand the flow of life from youth to age."

Such a coordinated system of higher education in spreading opportunities to clusters of population all over a state of this size could make New Hampshire first in the nation in educational service and greatly strengthen the mix of programs and ages throughout the University.

2. *A much strengthened program of University service to the people and businesses of the State.* To students, the modern university often seems like a medieval cathedral—a place of the highest ideals and motives surrounded by the most abject poverty and deprived humanity. The contrast between ideals and practice, between the university's lofty commitments to truth and justice versus its indifference to its neighbors and those who support the university, has posed a conflict for some of the most sensitive of our students and faculty members of the past decade.

I know that the record of this College and this University has been better than most and the achievements in pollution control, counsel to business, aid to schools, and assistance to government have been impressive. But there is much that remains to be done and a closer partnership between the State University and the state as a whole cannot fail to benefit both. At Cincinnati, a College of Community Services has now been inaugurated to coordinate and expand the many programs with which the University is involved in the community. In the decade of the 1970's I expect to see New Hampshire and its University linked together in scores of new ways so that UNH can fulfill an ancient vision of the land-grant university that it be not only a "university *in* the state" but a "university *of* the state," uplifting the whole state and becoming a center of enlightenment and leadership for all its citizens.

3. *The rehumanization of the university environment.* Universities have become too large, often too impersonal and organized along bureaucratic lines, to be the "communities of scholars" that remain the ideal of many faculty members. We must become far more imaginative in finding ways to decentralize the structures of learning in a large university. One of the important appeals of New Hampshire to me is that it is still of a size where people and problems can be dealt with in a personal way. The central underlying problem for many of our large universities is how to deal in a humane and responsive way with the thousands of individual human beings who are part of the university system. I am personally convinced that much of the student protest of the 1960's was rooted in the lack of close and meaningful relationships between students and caring adults that could give dignity and a sense of belonging to those who have left adolescence behind but are not yet adults. Through reform of undergraduates education, through bringing more adults directly into formal responsibility for the educational process, through greater flexibility in the formal structure of classes and grades, and through moving students away from the high-density classrooms and other areas of the central campus to places where they can be dealt with more often as individuals, I believe that we can begin to establish more of the kind of relationships that are needed.

Though the problems of size are less acute at Keene and Plymouth and at the Merrimac Valley branch—and even Durham by comparison with most state university campuses is small—we must begin to plan now for a university for the 21st century. Certainly we know now what the impact of sudden growth has been elsewhere and it would be mindless to repeat those mistakes. It will be a real challenge, with the help of our state and local leaders, to build an expanded university system providing more educational opportunities at more levels for the citizens of New Hampshire without creating institutions of unmanageable and inhuman size.

I am suggesting nothing less here today than that we dare the impossible dream—a university and a state working closely together to make both greater. After the trials and troubles, the anger and the disruptions, of recent years, I am proposing that New Hampshire lead the way to national reconciliation and understanding. For disorder and aimless militancy on the campus let us substitute tough, hard-headed efforts to improve those things in society which we do not like; in place of anger at the universities let the public support efforts at responsible change on the campuses. Our public colleges and universities are rooted in society and are accountable to it; they are society's instrument for improving itself; they are the producers of educated manpower and the principal guardian of man's values and knowledge about himself. A wise public knows that it cannot harm its colleges and universities without harming itself. As I said in Portsmouth on Tuesday—I have a vision of campus and state working closely together, of parents and children together again in a common cause, of faculty and students, town and gown, morning and afternoon newspapers—all working in support of a great

university and truly helping to make this a better State.

The university I foresee for the decade of the 70's and beyond, then, will foster a new reverence for learning in a humanized setting, will see learning as a life-long enterprise in partnership with the community which it serves, and will abhor violence even as it abhors indifference to student needs.

For you who graduate here today, if you are like your peers around the country, you have sympathized with many of the objectives of protest movements in recent years but have condemned their methods. You understand that has given rise to the frustration and rage that have swept some campuses but you understand, too, that the remedies used have largely failed. You have probably been impatient with parents and others who have criticized what is happening on the campuses but you know also that the campus is not a privileged sanctuary immune from outside pressures or control. You, the members of this Class of 1971, have a golden opportunity to begin the process of healing and reconciliation. The goals of those whom you respect on this campus and those whom you will respect when you leave it will be remarkably similar: to build a better, more decent, more just society, and to improve the quality of our individual lives.

You can be the bridge between the bewildered campus of the late 60's and the world outside whose support those of us who remain on the campus will need in the critical years ahead. You can be in the vanguard of the movement to reunite our youth with the other generation in the common cause of making a better world.

I salute you on your achievements at this College and wish you Godspeed—as you now "commence" your new lives.

THOMAS N. BONNER.

SKYROCKETING COSTS OF MEDICAL CARE

Mr. SAXBE. Mr. President, I invite the attention of Senators to further press accounts of the problems endemic to our health system today. The three-part series which has appeared in the Washington Post offers an indepth analysis of our ailing health industry—with special emphasis on the skyrocketing costs of medical care, the maldistribution of doctors, and the need for preventive medicine. I ask unanimous consent that the articles be printed in the RECORD.

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

THE FIGHT TO HEAL THE HEALTH INDUSTRY

(By Stuart Auerbach)

THE MAJOR BILLS

Here are the provisions of the major health care reform bills currently before Congress:

The Nixon administration plan would require private health insurance coverage for all workers and their families which meet federal minimum standards. In addition, low income families would be covered by a federal insurance program that is not as complete as the requirements for private coverage. It would encourage prepaid group practice as a way to reform the system.

The administration estimates that the employer-employee insurance would cost $7 billion more than present expenditures. The family program for the poor would cost $3 billion, with about $1.8 billion saved because of the discontinuation of Medicaid.

Sen. Edward M. Kennedy's health security bill would establish a government-run national health insurance program that would provide virtually complete medical care for all U.S. residents. It would be financed by taxes on employees, and employers and general revenues. Money would go first to prepaid group practice plans and the plan would emphasize strict quality controls.

Kennedy estimates it will cost $57 billion, the administration says it will cost $77 billion. Kennedy says most of the money is already being spent by Americans for inefficient and ineffective health care.

The American Medical Association's Medicredit would give tax credits for the purchase of health insurance and the federal government would buy the insurance for the poor. Included is coverage for catastrophic illness. Its cost is estimated at $14.5 billion.

Sen. Russell B. Long's catastrophic health insurance program would supplement private coverage. Benefits would begin after 60 days hospitalization or 2,000 in doctors' bills. It would be paid for by the federal government, and its cost is estimated at $2.5 billion.

The health insurance industry's national health care bill would provide federal aid for state insurance programs for the poor and high risk cases and set federal minimum standards for health policies. It would cost an estimated $2.4 billion.

Lyle Mattox, a Chicago carpenter, spent his life savings paying for 15 days of hospital care. His medical expenses forced him on the welfare rolls.

James Rieger, who works in a clothing manufacturing plant, owed a Cleveland hospital close to $20,000 after his wife almost died while giving birth. His health insurance covered only $350 of the bill, and he had to declare bankruptcy.

Leonard Kunken, who sells health insurance, found his company's best policy paid no more than $40,000 of medical expenses for his son Ken, who broke his neck and severed his spinal cord while playing football. Kunken estimates his yearly medical bill will be about $100,000.

These are true examples illustrating one part of the nation's health crisis—the inability of both rich and poor to pay for their medical care.

More than a dozen bills have been introduced in Congress in attempts to solve all or part of the health problem. But no more than five of them have any chance of gaining serious consideration.

The bills differ widely in their cost and their effect on American medicine. The American Medical Association's Medicredit, for example, merely sets up a way to finance health care without attempting to reform the way medicine is practiced.

The cradle-to-grave national health insurance system supported by organized labor, on the other hand, would radically change medical practice in the country by emphasizing prepaid group practice. The government would pay virtually all medical bills.

While pushing some reforms—notably encouraging prepaid plans (called health maintenance organization)—the administration bill is mainly aimed at making it easier for Americans to pay for health care.

Plans that appear most likely to pass provide some form of federal financing for "catastrophic" illness—the extreme sickness, like Ken Kunken's, that no private insurance policies cover.

Two key members of Congress—Sen. Russell B. Long (D-La.), chairman of the Senate Finance Committee, and Rep. Wilbur Mills (D-Ark.), chairman of the House Ways and Means Committee support this plan. It is also part of the AMA and the administration bills.

But paying for health care is only part of the problem.

The health crisis, most experts agree, includes a shortage of doctors and other medical personnel; their concentration in business sections of cities and the suburbs; their absence from urban slums and rural areas; no assurance of quality medical care; a higher rate of disease and death in the U.S. than other industrialized western countries; a fragmented non-system of health care, and spiraling costs that have increased 50 per cent since 1960 to a 31 per cent rise in the cost-of-living index.

Up to now, federal programs have just added to the inflationary pressures by pouring more money into medical care without attempting to make the nation's $70 billion-a-year health industry more efficient.

Both the administration bill and the cradle-to-grave national health insurance plan, sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich.), attempt more than the others to tackle some of these other problems.

But the thing that affects Americans most directly is the high cost of medical care.

Rich and poor alike become financially strapped by hospital charges that average about $150 a day here and doctor bills that have risen at twice the rate of the already inflated consumer price index.

In an effort to drum up wide support for his national health insurance bill, Kennedy took his Senate health subcommittee across the country, listening to complaints from people who either couldn't get medical care or who couldn't afford the care they got.

The hearings developed testimony from people such as Mattox, Rieger and Kunken—middle and upper middle class Americans driven to the wall by high medical costs.

Rieger, for example, had health insurance through the Cleveland clothing manufacturer where he worked. But it only covered $350 in maternity benefits. (Hospital and doctors' bills for a normal birth average more then $900.)

Mrs. Rieger's birth was far from normal. Her heart stopped during delivery, then she caught pneumonia and her lungs collapsed. She spent two months in the intensive care unit of Cleveland Metropolitan General Hospital, a city operated facility. The baby, two months premature, also spent two months in the infant intensive care unit. The total bill was $20,000.

"All my insurance paid was $350," Rieger told the subcommittee. "Times were hard enough as it was. There was nothing else I could do but go into bankruptcy."

The hospital, he says, wanted him to borrow the money from a finance company. He said he'd try to pay part of the bill from his $120 a week take-home pay "because they saved my wife's life and my baby's life."

Mattox, 52, couldn't get medical insurance because of his history of high blood pressure. While in the emergency room at St. Elizabeth's Hospital in Chicago because he didn't feel well, Mattox suffered a coronary occlusion—a blockage of the blood vessels leading to the heart.

He was hospitalized for 15 days at a cost of $1,500 plus $150 in doctors bills.

"My wife withdrew all of our savings (12 years worth while raising two children) and paid those two bills," he said.

Now he is on welfare and the state-federal Medicaid program is paying his medical bills.

He is trying to start work again. But if he gets sick again, Mattox will have to go back on welfare.

Kunken is a special case—a man who never thought a medical tragedy would floor him. A moderately well-to-do insurance salesman, he lives in Oceanside, L.I., a suburb of New York. He bought his company's major medical insurance policy for his family—the best one offered.

But when his 20 year old son Ken, a junior at Cornell University's engineering school broke his neck playing 150-pound football, the policy benefits melted away under medical bills that ran $6,500 a month.

Ken is undergoing rehabilitation treatment in New York; even though he can't move any muscles below his neck, his mind remains sharp and keen.

How would the leading health reform programs proposed in Congress help James Rieger, Lyle Mattox and Leonard Kunken?

Proponents of the five plans most likely of passage were asked how their bills would help those specific cases. They supplied the answers to The Washington Post.

The major plans are the cradle-to-grave health insurance bill, the American Medical Association's Medi-credit, the administration's bill, the health care act proposed by the insurance industry and Sen. Long's catastrophic insurance bill.

Here is how they would work in the case of James Rieger:

The administration bill would have paid at least $17,200 of his $20,000 medical bill. His employer would have had to pay as much as 75 per cent of his health insurance coverage, which would offer more complete maternity benefits.

The catastrophic bill would not have covered the Rieger case because mother and infant were not hospitalized long enough.

The Kennedy-Griffith bill would cover 100 per cent of all costs.

Medicredit would cover the total costs except for $50 deductible on the hospital bill. These costs would be deducted from the Rieger family income tax payments.

The Health Care Act would cover $19,000 of the bill, leaving Rieger to pay $1,000. This would be under the group coverage supplied by the clothing manufacturer which would have to meet new minimum standards.

Here's how the plans would work in the case of Lyle Mattox:

The administration bill would cover at least $1,087.50 of his bill if, as a self-employed person, he had bought health insurance coverage that would be available to him.

Catastrophic bill would not have covered him because his hospitalization was too short. The Long bill requires hospitalization of at least 60 days or a doctors' bill of more than $2,000.

The Kennedy-Griffith bill would cover all costs.

Medicredit would give deductions on the amount of income tax owed for all but $250 of the bill.

The Health Care Act would have covered all but $110 of Mattox's bill. He would have been eligible for a special pool coverage.

Here's how the plan would work in the case of Ken Kunken:

The administration bill would pay $50,000 of the first year's expenses and at least $2,000 a year after that.

The catastrophic bill would cover all expenses after $2,000.

The Kennedy-Griffith bill would cover all costs.

Medicredit would provide tax deductions for all but $250 of the expenses of the first 60 days of hospitalization. Beyond that, the family would have to pay $4,625 of the estimated expenses.

The Health Care Act would not require insurance plans to include coverage for an unmarried son over age 18, but some plans may include him. If so, he would receive full coverage except for $1,000.

It seems obvious that some health care reform measures will pass Congress before the 1972 election.

Those people, like Kennedy, who feel the system needs a total overhaul are hoping the reform will go beyond mere tinkering with the financing of doctor bills.

But, looking at past history, it appears unlikely that major revisions will be made. A 1932 government report, reprinted by HEW last year, concluded:

"The problem of providing satisfactory medical service to all the people of the United States at costs which they can meet is a pressing one.

"At the present time, many persons do not receive service which is adequate either in quantity or quality, and the costs of service are inequitably distributed. The result is a tremendous amount of preventable physical pain and mental anguish, needless deaths, economic inefficiency and social waste.

"Furthermore, the conditions are largely unnecessary. The United States has the economic resources, the organizing ability and the technical experience to solve this program."

The same lines could be written now, almost 40 years later.

(Next: An examination of HMOs—prepaid group practice plans.)

PREPAID HEALTH CARE COMES INTO ITS OWN

(By Stuart Auerbach)

Betty had a slight summer cold. Nothing special, just the normal childhood sniffles with a minor sore throat.

Many parents wouldn't bother bringing Betty to a doctor. But her father didn't hesitate. He took her to the Group Health Association here for a checkup. The visit didn't cost him anything; GHA is a pre-paid group practice plan, and he pays by the year whether he goes to the doctor or not.

This idea is currently the darling of people trying to reform medical practice in the country. Even the Nixon administration, under the less controversial name of Health Maintenance Organization, has made it a cornerstone of its health reform effort.

HMOs, or pre-paid group practice plans, are supposed to provide better health care—with an emphasis on preventive medicine—at a lower cost.

This is true, its proponents say, even when parents bring in patients such as Betty for minor ailments. Actually, the doctor was glad to see Betty. The checkup didn't take long and it gave him a chance to catch any possible major illness early, when it is easier to treat.

In Betty's case, the doctor noted that she wheezed when she coughed, indicating that she may be developing allergies.

That was duly placed on her medical record. If the wheezing persists, doctors will begin treating her for allergies.

In 1970, GHA doctors saw patients about a half-million times. But the 75,000 members only spent a total of 43,500 days in the hospital.

This is about half the rate of hospitalization of a similar group of patients here treated by private doctors under the traditional fee-for-service form of medicine.

The same trend has emerged among members of the Kaiser-Permanente health plan, which serves about 2.1 million people in Hawaii, California, Oregon, Colorado, Washington and Ohio. Kaiser patients have far lower hospitalization rates than patients covered by standard health insurance policies.

This is a key factor in keeping medical costs down. At rates that can go as high as $150 a day here, hospitals are far more expensive than out-patient treatment.

This is borne out by studies of another pre-paid plan, the Group Health Cooperative of Puget Sound, Wash., where Dr. Frank Newman reported that the average member of his plan paid $143 a year for medical care compared to a national average of $226.

"We like to believe that the reason for this lower hospital experience is our preventive medicine program," says Frank C. Watters, GHA's executive director.

This includes diabetes, cancer and glaucoma screening tests for adults and a strong immunization program for children. Members get periodic physical examinations.

"We do GI (Gastro-Intestinal) series here," says Watters. "A solo practitioner would put someone in the hospital for a GI series."

It's not always the doctors' fault for the needless hospitalization of patients. Most private health insurance policies cover tests done while a patient is in a hospital, but fail to cover the same tests done in a doctor's office at a fraction of the cost.

For years, the words "prepaid group practice" couldn't be spoken in polite medical circles.

GHA, fighting both the American Medical Association and the District of Columbia's insurance commissioner, had to go to the U.S. Supreme Court before it won the full right to operate 34 years ago. Even now, its doctors sometime have problems getting licensed in Virginia—a medically conservative state.

But for the most part things have changed. Prepaid group practice is the common thread in most of the proposals before Congress to reform the nation's ailing health care system.

The Nixon administration, which first adopted the idea under the name of Health Maintenance Organizations to cut the costs of medicaid and medicare, now consider HMOs the key force in its effort to remold American medical practice.

The cradle-to-grave national health insurance bill sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich.) also looks toward pre-paid groups as the main way to bring better medical care at a lower cost.

The American Hospital Association's Ameriplan, not yet introduced in Congress, focuses on a hospital-based health care system that can easily be converted to prepaid groups.

And while the AMA isn't in love with the concept, it doesn't oppose the idea, either. Its House of Delegates urged the government last month to go slow before spending large sums to start HMOs across the country.

The sudden interest in pre-paid groups developed as a means to control the spiraling costs of medical care—increasing at a rate 20 per cent higher than the national cost-of-living index.

Besides decreasing, the rate of hospitalization, experts say the pre-paid group practice use the doctor's time more efficiently by giving him para-medical assistants, and makes it easier for a patient to get comprehensive care because a number of specialists are working together.

The solo practice of medicine, President Nixon said in his special health message in February, gives doctors "no economic incentive . . . to concentrate on keeping people healthy.

"A fixed price contract for comprehensive care reverses this illogical incentive. Under this arrangement (HMOs), income grows not with the number of days a patient is sick but with the number of days he is well."

It may save money, but does pre-paid group practice actually mean better medical care for its members?

Two days spent visiting GHA's main clinic at 2121 Pennsylvania Ave. NW indicated a real concern by doctors for the health of their patients. Care was swift, but not rushed. Examination appeared complete, in many instances more complete than most doctors give.

For instance, Dr. Philip C. Brunschuyler took a smear of pus and sent it to the laboratory for tests when he treated a little boy with an infected thumb. He also took a smear when treating a girl with a sore throat.

A little girl who complained on Friday of a burning sensation when urinating had a urine specimen taken the next day to make sure she didn't have a kidney infection. On the next Monday, she was told to return for another test.

The doctors seemed to know their patients, despite claims by detractors that pre-paid group practice breeds impersonal medicine. Indeed, many patients have their own doctors within the group which they see regularly, except for emergencies.

CITY-COUNTRY HOSPITAL CONFEDERATION AIDS RURAL CARE

(By Stuart Auerbach)

PHOENIX, ARIZ.—On a Thursday morning this spring, Mrs. Alvin Reidhead gave birth to premature triplets in the small hospital at Holbrook, 200 miles from here.

As births of premature triplets go, the delivery was routine. But the infants were all high-risk babies—weighing less than the 5½ pounds the doctors feel is necessary for survival.

All three Reidhead triplets—Vikki, Nikki and Ricki—survived, thanks to a unique hospital network that provided them with the newest, most sophisticated care available anywhere.

They were born in the 25-bed Holbrook Hospital under the care of Dr. Robert Joseph Haley Jr., an old-time general practitioner who has helped deliver three sets of triplets in his lifetime.

But he had a backup in this case that went far beyond what is available to most GPs practicing in remote, small-town hospitals.

For Holbrook Hospital is part of Samaritan Health Service, a confederation of nine Arizona hospitals stretching from the booming suburbs of Phoenix to the rim of the Grand Canyon, 250 miles from here.

Good Samaritan Hospital in downtown Phoenix, a leading medical center, is the focus of this two-year-old experiment to find new ways of providing medical care to both rural and urban residents of one of the nation's fastest-growing states.

The experiment is being watched with growing interest by hospital officials and health planners across the country who see it as a way to insure that the hospital remains the center of health care delivery.

It is the prototype of Ameriplan, the American Hospital Association's program to reform health care in the country.

Under Ameriplan, hospitals would change from institutions that only care for people who arrive at their doors to ones that reach out into the community to find the sick and that run programs of preventive medicine.

They would emphasize out-patient care as well as in-hospital treatment. And they could be easily converted to the prepaid group practice-health maintenance organization concept that is so popular with health reformers.

"It's a direction in which the voluntary hospital and private medical systems can go to save themselves," says Stephen M. Morris, president of Samaritan Health Service. He is also president-elect of the AHA and an architect of Ameriplan.

"I think if we continue to go the way we are now," he adds, "we're going to lose the whole ball game. The public is simply not satisfied with either our financing mechanism or our delivery mechanism."

Ameriplan would establish a national network of hospital-based corporations that would provide medical care to all residents of a given area in much the same way that Samaritan Health Service helps hospitals in outlying communities such as Holbrook.

For example, when the Reidhead triplets were born, Samaritan Health Service mobilized its full facilities to keep them alive.

Mary Flemons, the head nurse at Holbrook Hospital, had just returned from a refresher course at Good Samaritan and was up to date on the care of high-risk new-borns.

To bolster her, Joanne Junasz, a pediatric nurse at Good Samaritan, drove to Holbrook with extra supplies. And the health corporation rushed three Isolettes—baby-sized incubators—from Phoenix to Holbrook.

Meanwhile, Dr. Haley at Holbrook conferred twice daily by phone with experts in the care of the newborn at Good Samaritan.

The triplets thrived on the round-the-clock care they received at Holbrook. But the hospital's small staff was physically overtaxed; doctors and nurses there couldn't maintain the care the infants needed and still treat their other patients.

So the Reidhead triplets were flown to Good Samaritan in the health system's ambulance plane. They stayed there until they gained enough weight and strength to go home.

Samaritan Health Service has done more than just take care of cases too complicated for the smaller hospitals. Indeed, a good part of consortium's job has been keeping these hospitals supplied with doctors and nurses.

One man, David W. Graef, spends much of his time recruiting doctors for the outlying hospitals.

"Some Friday nights when there are no doctors I get one by Saturday. I call everybody I know who has the weekend off," says Graef.

The big problem is the isolation of the small towns. And when the doctors like it, the wives usually don't.

"I'm convinced if they'd stay there a while, they'd love it," says Graef, who has even tried advertising for doctors in conservation magazines.

The problem of finding doctors to locate in small towns is a national one, with vast stretches of rural America without medical help. In many towns, the only physician is elderly and unable to find a replacement so he can retire.

Morris thinks a hospital-based network, such as Samaritan Health Service, could help solve the problem of getting more doctors for rural America.

"I kept two hospitals open in northern Arizona by being able to move doctors there and relieve them when needed," he says.

Samaritan Health Service also improves the ability of the small hospitals to practice sophisticated, quality medicine.

Now they can offer medical tests that are impossible to perform in a small hospital laboratory. A car now makes a circuit of each hospital daily and picks up samples to be tested in the Good Samaritan laboratory. The results are telephoned back to the individual hospitals.

Dieticians from the health service's headquarters here travel to the smaller hospitals and help them plan their meals. Other experts help set up better billing systems and community relations campaigns—services that the small hospitals couldn't afford on their own.

And all the doctors and nurses at the outlying hospitals can take refresher courses at Good Samaritan, in much the same way that Mrs. Flemons from Holbrook had done before the birth of the Reidhead triplets.

Bringing sophisticated medical care to the vast, sparsely populated regions of Arizona is only one part of Samaritan Health Service's activities.

The consortium also has taken three hospitals in the suburbs of Phoenix, one of the fastest growing areas of the nation, under its wing.

Doctors at these small suburban hospitals also have the benefit of backup from the specialists at Good Samaritan. For example, they can get the complicated analysis of blood gas levels done in minutes through Good Samaritan's laboratories, and experts at Good Samaritan can diagnose from electrocardiographs transmitted from one hospital to the other over telephone lines.

"It's helped upgrade the quality of medical care—at least in my hospital," says Raymond L. Tate, administrator of the 62-bed Northwest Hospital in nearby Glendale.

"Major benefits have ensued to the small hospitals. The strengths of Good Samaritan have been made available to us."

Meanwhile the corporation is saving money by centralizing training, purchasing, insurance coverage and administrative functions.

Morris says that the 1970 budget for all the hospitals together was $40 million. If the nine hospitals had been operating separately, he says, their total budgets would have been $44 million—10 per cent higher.

Furthermore, he says, costs at his hospitals are rising slower than the national average. In 1969, the first year of the health service's operation, its bills increased 8 per cent compared to the national average of 12 per cent. In 1970, the Samaritan Health Service increase was 9 per cent; the national average for hospitals, 15 per cent.

Although the idea of a coordinated network of hospitals had been in Morris' mind for years, Samaritan Health Service got its start in the spring of 1968 when Southside Hospital, in a nearby suburb, was in such dire financial shape that Good Samaritan bought it at a bankruptcy sale.

Northwest Hospital, also in financial trouble, asked to join the system next.

Other hospitals asked to join in; Samaritan Health Service officials say they have not solicited other hospitals to join.

While health experts from all over the country come here to study Samaritan Health Service, local doctors and hospital officials have greeted the experiment with some reserve.

At a local hospital administrator meeting, says Tate, "I don't get a lot of praise or support. They just say, 'Don't rock the boat. Don't rock the boat'."

Morris has alienated many Arizona doctors, who are especially conservative, by saying publicly that Samaritan Health Service's concept will end the traditional fee-for-service practice of medicine for a single doctor.

The system also lost some medical allies who feared that too many of the strengths of Good Samaritan were being drained to help the smaller hospitals. "This hurt," says Nelson.

While Samaritan Health Service continues to gain strength here, other hospitals around the country are trying their own versions of the idea.

George Washington University Medical Center in Washington, for example, has taken a section of the city and promised to provide full medical care for anyone who lives there.

And in Chicago, Rush-Presbyterian-St. Lukes Medical Center announced last month that it is forming a unified health care system that will tie 20 community hospitals to it.

The plan includes the reactivation of Rush Medical College and the use of Presbyterian Hospital as the backup facility for the community hospitals. The network will cover 1 million to 1½ million residents of Chicago.

Morris says these experiments are important.

"If we can demonstrate to Congress that the private sector can deliver health care, the public will accept," he says, "I think that Congress will give us a chance."

SOME OBSERVATIONS ON THE SITUATION IN THE MIDDLE EAST

Mr. PASTORE. Mr. President, the headlines of this morning's Washington Post, covering Jordan's move against the Palestinian guerrillas, makes very timely some deep-through observations on the Middle East that have come to my office today.

They are voiced by Mr. Max Grant, a leading industrialist of Rhode Island, a prominent philanthropist, a stanch American, and a valued personal friend.

His observations reflect the deep concern that so many Americans have for the troubled area of the Middle East and I ask unanimous consent that Mr.

Grant's observations be printed in the RECORD.

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

THE ANSWER TO THE MIDEAST CRISES—A UNITED EFFORT AGAINST A COMMON ENEMY

(By Max L. Grant)

The situation in the Middle East must be peacefully resolved if a world catastrophe is to be avoided.

It can be! There is an answer!

The question is not who is right but what is the right thing to do.

For their own survival, as well as the peace of the world, the participants involved in the Mideast must unitedly realize that they have a common enemy—the guerrilla or saboteur.

The curse in the East and the curse throughout the world is the guerrilla or saboteur who relegates unto himself and that is pious and righteous, but does not live that way himself, nor has he the ability to create such a society.

Destruction is easy, but we can only live through construction.

Let the world face its common enemy which, fortunately, is such a small entity in our vast society.

When we eliminate this cancer, the body politic will be restored to healthful existence.

War does not solve problems. It creates more hatreds, more misunderstandings, more problems, more wars and more guerrillas.

Even if victorious, what does any nation win?

If Russia is victorious, the Arab guerrillas will sabotage all the assets of the Arab nations, including oil and cotton, and Russia will be faced with a Vietnam situation many times worse than ours—and is likely to lose what it now has in Siberia because China is waiting to take it.

If the Arab nations should win, what have they won?

The guerrillas will arrogate to themselves all the credit for the victory and take over the governments to the detriment of the Arab people.

If the Israelis should win, what have they won?

They will be faced by hostile neighbors on every border.

Peace eliminates hatred, misunderstandings, problems and guerrillas.

There is a new order: the youth of the world. Whether Arabs, Israelis, Americans or Russians, they have a right to condemn their elders who try to solve the world's problems by their old method, war, at the cost of the youth and the wealth of the world.

If the nations involved in the Mideast would spend for construction what they spend in preparation for destruction, they could solve the critical problems they now face, and win back the youth of the world for constructive purposes and a constructive society.

It is within the power of either the United States or Russia to encourage the terms of a just peace.

It is easier for both the United States and Russia to jointly accomplish this necessary salvation of our civilization.

Nasser's death makes a united effort imperative!

There is evidence that prior to his death, Nasser regarded as the real enemy of the Arab countries the so-called guerrillas or saboteurs—and that they would be the victors temporarily in the event of a war.

The permanent victims would be the Arab nations.

There is also undisputed evidence that the guerrillas are being financed and encouraged by Red China, who like the guerrillas, has everything to gain by involving the United States and Russia in the Mideast crisis.

The responsible heads of the Arab governments would become their prey and their victims.

In a peaceful solution there is glory enough for both the United States and Russia.

In war there is destruction for either of the two nations that fails to live up to its responsibility and opportunity.

"SAVE THE SNAKE"

Mr. PACKWOOD. Mr. President, earlier this week I placed in the RECORD many letters of support for S. 717 from various conservation, fishing and other organizations across the Nation.

Today I am pleased to ask unanimous consent to have printed in the RECORD, copy of a resolution adopted by the International Longshoremen's and Warehousemen's Union Federated Auxiliaries on June 24, 1971, at that organization's convention.

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

RESOLUTION—SUPPORT SENATE BILL NO. 717

Whereas, the proliferation of dams throughout the country without regard to full and proper consideration of all the economic and environmental results has caused and can be the cause of further damage to our country, and

Whereas, the proposed Mountain Sheep and Pleasant Valley sites, approved by the Federal Power Commission last February should be delayed five years to enable power study and consideration,

Therefore, be it resolved that we support Senator Robert Packwood's bill, S 717 and be it

Further resolved: that copies of this Resolution be sent to Interior Secretary Rogers Morton and to Senator Packwood.

Mr. PACKWOOD. Mr. President, I have also received copy of an editorial by Sherrye Henry of WCBS-TV, channel 2. New York City, given on July 6, 1971, at 6:55 p.m. I ask unanimous consent for the text of that editorial to be printed at this time in the RECORD.

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

WCBS-TV EDITORIAL ON HELL'S CANYON

This is the Snake River. Far from New York, it rushes in wild majesty between the borders of Oregon and Idaho, deep in Hell's Canyon. The canyon itself, a freak of geology, is deeper even than the Grand Canyon—the entire Teton Mountain Range could be dropped into it with room to spare. The canyon walls, carved with man's earliest markings, are an archeological treasure. And the Indians who lived here, the explorers, fur traders, prospectors and visitors who passed through, have for centuries been stunned by its untamed beauty.

But Hell's Canyon, now, is doomed. Man's insatiable appetite for power wants a dam on the Snake River which will turn the charging white waters into a placid 58-mile lake. The Canyon walls will be submerged to a death of several hundred feet, and with them will go the impressive pines and the wildflowers. All this in the name of progress—and power.

The utility companies say the power is needed for further industrial expansion in the northwest. They say the lake, by opening up tourist recreation would enhance rather than impair the river, which should not be left an idle resource.

Improve this natural wonderland? Impossible. An idle resource? Not for the salmon that run its waters, or the wildlife that roam its banks in the most amazing variety found in North America.

The Department of the Interior could save this canyon by designating the Snake a "wild and scenic river." Or Congress could act on Senator Robert Packwood's bill. The Oregon Republican wants to ban the dams and preserve the river as it is.

The Snake River in Hell's Canyon is far from New York. Why should we care? Well, care we must. Just as a national outcry was required to save the Florida Everglades, so, it seems now, only national support will save Hell's Canyon.

And the conflict between the increasing need for power plants and the increasing concern for the environment is one we have here too.

In order to make decisions between the two, what we need is a reasonable set of priorities. In the case of the Snake River, the highest priority clearly belongs to the environment.

Mr. PACKWOOD. Mr. President, it is very gratifying to me, as I know it must be to the other cosponsors of the Hells Canyon-Snake National River bill, to see this kind of support demonstrated to save the Middle Snake River and Hells Canyon. I only wish I could share with you the stacks of letters I have received from around the Nation in support of S. 717.

THE PENTAGON PAPERS

Mr. MONDALE. Mr. President, the Pentagon papers have already produced a growing body of analysis, interpretation, and counterinterpretation.

They will be—and rightly so—the subject of a national debate on the making of our foreign policy for decades to come.

Charles Bailey, Washington Bureau chief for the Minneapolis Tribune has made a concise and lucid contribution to this effort in a series of analytical articles describing the secret study and assessing its significance for the future.

As a correspondent who has covered the war with distinction both in Vietnam and in Washington, Mr. Bailey's articles should be standard reading for all of us concerned with this disturbing chapter in American history.

I recommend the articles to all my colleagues and ask unanimous consent that they be printed in the RECORD.

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

VIETNAM: THE SECRET PAPERS—I

WASHINGTON, D.C.—The publication of a secret Defense Department study on the roots of U.S. involvement in Vietnam—along with a mass of equally secret documents on the subject—has stirred new controversy in the already-bitter national debate over the war.

The report and documents, obtained several months ago by The New York Times, have been only partially revealed to date. The federal government obtained a court order last week temporarily halting their publication after three installments had been printed by the Times. Whether more of the material will be published depends on the outcome of continuing court actions, although some other portions of the secret Pentagon study are now beginning to appear elsewhere and eventual disclosure of the entire study seems likely.

The material—in effect a 2.5-million-word archive on American foreign and military policy relating to Indochina for the last two decades—is far from complete. Prepared by Defense Department researchers under special instructions by former Defense Secretary Robert McNamara in 1967 and 1968, it includes almost no records of deliberations, arguments and decisions by President Lyndon B. Johnson himself.

In addition, the Minneapolis Tribune learned Saturday, then-Secretary of State Dean Rusk—perhaps the most important of President Johnson's Vietnam policy advisers—refused in 1957 to give the authors of the secret study access to a number of key State Department files on the subject.

Nevertheless, what has been revealed provides a wealth of new factual information and new insights on the course of American policy-making during the critical period of the mid-1960's, when an already-existing U.S. commitment to the defense of South Vietnam was vastly expanded into direct American participation in what has since become the nation's longest full-scale war.

Since the Times began publication of the material, the basic significance of the documents themselves has been obscured by the furor over their publication, government efforts to find out who "leaked" the top-secret material to the newspaper and the court actions to stop further publication. Issues of press freedom, censorship and the government's right to prevent publication of secret material have monopolized the headlines.

But the real importance of the secret Pentagon archive lies in what it contains—and in its implications for future American policy and policy-making.

The documents published by the Times reveal, among other things, that:

There was secret U.S. involvement earlier, and to a greater degree, in the war in Indochina than has ever before been confirmed. This is made clear even without the publication of documents covering the administrations of presidents Harry S. Truman, Dwight D. Eisenhower and John F. Kennedy, all of whom played a role in shaping the situation inherited by Johnson when he was suddenly thrust into the presidency in November 1963.

There was broad acceptance at top levels in the Johnson administration of the inevitability of deep and direct U.S. involvement in Vietnam—long before this was discussed with Congress, let alone with the public.

There was deliberate adoption, in secret, of a "provocation" strategy in 1964—a strategy that was consciously designed to give the United States an excuse to move in more directly and deeply against North Vietnam.

There was an implicit, and sometimes explicit, assumption by U.S. policymakers that American ground troops might have to be sent in to salvage the U.S. commitment—at a time when Johnson was telling presidential campaign audiences that "American boys" should not be sent to fight a war that "Asian boys" should fight.

There was repeated ignoring of sometimes dire warnings from a number of U.S. officials—in both Washington and Saigon, South Vietnam, and including some all-out "hawks"—about the risks involved, about the limited chances of success, and about the likelihood that what were then perceived as limited steps could in fact turn into open-ended total commitments.

There is evidence that the rationale for our involvement in Vietnam was not what officials proclaimed it to be. The preservation of a "free" South Vietnam was not—despite repeated public statements by the President and others—the final determining factor. Instead, the secret documents show that U.S. policy was rooted, in the end, on a "domino" theory of containing Communist China and on considerations of American power, prestige and credibility of which Vietnam was no more than a symbol.

The secret record, even allowing for its substantial gaps, makes clear that the United States did not—as some opponents of the war have charged—"blunder" into its Vietnam involvement. On the contrary, the documents show that the highest officials were constantly aware that steps they were taking could lead to much greater involvement—and that some of them warned with considerable accuracy what it could all lead to.

The documents, for all the gaps they leave in the record, offer compelling new evidence that the nation's highest officials, including the President, deliberately kept Congress and the public in the dark—and on occasion misled them—about plans for greater U.S. involvement in Vietnam.

Beyond these factual revelations, the secret documents raise some broad basic questions about the way the American government operates—and about the distribution of decision-making power in our society. Here are some of them:

Does a government ever have the right, under any circumstances, to lie to its citizens?

What can a democratic government keep secret? Indeed, can it properly keep anything secret from its citizens?

How much control—if any—can be exerted by Congress or the public over a president's power to engage the nation in secret military ventures? And how much control can a president—any president—effectively exert over the military?

Is there any way to assure that a president will hear—and will listen to—dissenting views within his high councils?

And, finally, perhaps the most ominous question raised by the publication of the secret Vietnam documents is this: can Americans believe what their president and their government tell them?

VIETNAM: THE SECRET PAPERS—II

(By Charles W. Bailey)

WASHINGTON, D.C.—The secret documents on U.S. Vietnam policy revealed last week that President Lyndon B. Johnson, in his first year in office, responded to continuing deterioration inside South Vietnam by first secretly planning and then putting into effect—also secretly in some cases—a steadily escalating series of military actions against North Vietnam.

This is the over-all pattern revealed in the documents cited in the New York Times account of a Defense Department study of Vietnam-related events in Washington and Saigon, South Vietnam, during 1964—the year Johnson won overwhelming election to the presidency in a campaign in which he stressed his determination not to get the United States into a major Asian war.

The United States was, of course, already deeply involved in Indochina when Johnson took office on Nov. 22, 1963. Three previous administrations—those of Presidents Harry S. Truman, Dwight D. Eisenhower and John F. Kennedy—had each progressively stepped up the American commitment there.

JOHNSON REAFFIRMED COMMITMENT

Johnson lost no time in making clear his determination to continue the U.S. effort in South Vietnam. In his first speech to Congress on Nov. 27, 1963, he said flatly: "This nation will keep its commitments, from South Vietnam to Berlin." And on Dec. 6 he said: "We are heavily committed in South Vietnam, with 18,000 of our fellow citizens there, and we should not go to bed any night without asking whether we have done everything that we could do that day to win the struggle there and bring victory to our group."

But if Johnson had any illusions about the difficulty of that task, they should quickly have been dispelled. On Dec. 21, he received a long report from Defense Secretary Robert McNamara. The report, printed in full last week by the Times, offered McNamara's assessment following a trip to Saigon. The picture he painted was bleak:

"The situation is very disturbing. Current trends, unless reversed in the next 2–3 months, will lead to neutralization at best and more than likely to a Communist-controlled state.

"The new government is the greatest source of concern. It is indecisive and drifting . . . The (U.S.) country team is the second major weakness . . .

"Viet Cong progress has been great since the (anti-Diem) coup, with my best guess being that the situation has in fact been deteriorating in the countryside since July to a far greater extent than we realized . . .

"Infiltration of men and equipment continues using (A) land corridors through Laos and Cambodia; (B) the Mekong River waterways from Cambodia; (C) some possible entry from the sea and the tip of the (Mekong River) delta." McNamara added at another point: "The whole waterway system is so vast . . . that effective policing may be impossible."

MC NAMARA URGED DEEPER INVOLVEMENT

McNamara capped his gloomy recital, however, by urging more rather than less U.S. involvement. "My appraisal may be overly pessimistic," he wrote the new president. "We should watch the situation very carefully, running scared, hoping for the best, but preparing for more forceful moves if the situation does not show early signs of improvement."

McNamara's report was typical of statements of U.S. policy-makers throughout the ensuing year, as revealed in the documents printed last week: continuing gloom about the situation in South Vietnam—and continuing proposals for ever-increasing U.S. military action to turn the situation around.

The defense secretary's immediate proposals in his December report were: Begin aerial mapping of the Laos-Cambodia border by U.S. U–2 aircraft; expand "Operation Hardnose," described as a series of "limited but remarkably effective operations" on the Laos side of the South Vietnamese border to monitor Communist movements, and prepare a program of "sabotage and psychological operations against North Vietnam."

These latter actions, code-named "Operation 34A," began in February 1964. Marine Maj. Gen. Victor Krulak, who headed a special group on them within the Joint Chiefs of Staff, described them as "destructive undertakings" to produce "substantial destruction, economic loss and harassment" in North Vietnam. They were carried out by South Vietnamese and other Asian personnel landed or air-dropped into North Vietnam.

This kind of thing had been going, on according to the Times account, since the Eisenhower administration. But now there was a significant change: instead of being managed by the Central Intelligence Agency (CIA), the new 34A operations were directed by Gen. Paul Harkins, chief of the U.S. Military Assistance Command in Saigon—and thus they came under control of the armed services.

TONKIN GULF PATROLS STARTED

Another new clandestine operation was started in this period. Called "De Soto patrols," it consisted of sending U.S. Navy destroyers into the Gulf of Tonkin off North Vietnam—primarily as a show of force, but also to collect intelligence on North Vietnamese radar stations and coastal defenses, for use by 34A raiders or possibly later by bombers. These missions began in February 1964.

A third operation, already underway, was beefed up. This involved bombing raids in Laos by U.S.-furnished T28 planes piloted by Laotian air force pilots or CIA fliers working covertly in Laos. These raids were supported by reconnaissance flights by U.S. Air Force and U.S. Navy jet aircraft.

But even before all these operations could be cranked up, the secret documents reveal, U.S. military chiefs in Washington were pushing for tougher and more far-reaching military moves.

The Joint Chiefs of Staff, then headed by Gen. Maxwell D. Taylor, sounded no uncertain trumpet. In a Jan. 22, 1964, memo to McNamara, they began by saying that previous National Security Council "action" memoranda—not published by the Times—made clear "the resolve of the President to ensure victory over the externally directed and supported Communist insurgency in South Vietnam." They went on to say that "the United States must be prepared to put aside many of the self-imposed restrictions which now limit our efforts, and to undertake bolder actions which may embody greater risks."

JOINT CHIEFS HELD TO "DOMINO THEORY"

The chiefs went on to argue that the loss of South Vietnam would mean the collapse of Laos, Thailand and Cambodia as well. Then, in an argument that the secret documents show was eventually welded into high national policy, the military chiefs laid down a sweeping version of the "domino theory" of Communist expansionism:

"In broader sense, the failure of our programs in South Vietnam would have heavy influence on the judgments of Burma, India, Indonesia, Malaysia, Japan, Taiwan, the Republic of Korea, and the Republic of the Philippines with respect to U.S. durability, resolution, and trustworthiness . . . It is not unreasonable to conclude that there would be a corresponding unfavorable effect upon our image in Africa and in Latin America."

South Vietnam, the generals said, is in "a pivotal position in our world-wide confrontation with the Communists," and the struggle there must be won—though they warned "it would be unrealistic to believe that a complete suppression of the insurgency can take place in one or even two years." They noted that it had taken the British "approximately ten years" to do a similar job in Malaya.

The generals argued that "self-imposed restrictions" on U.S. activities in Vietnam—including "avoiding the direct use of U.S. combat forces"—not only were making the job harder but "may well now be conveying signals of irresolution to our enemies." They called for "a reversal of attitude and the adoption of a more aggressive program."

The key, they added, was to stop North Vietnamese support of the South Vietnamese insurgents. Speaking of the new program of clandestine action, they said "it would be idle to conclude that these efforts will have a decisive effect on the Communist determination to support the insurgency, and it is our view that we must therefore be prepared to undertake a much higher level of activity."

GENERALS SOUGHT MORE CONTROL

The generals proposed that the U.S. Military commander in Vietnam should be given "responsibilities for the total U.S. program in Vietnam"—a move that would presumably have displaced the American Ambassador from his traditional role as top American in any foreign country—and should also have "complete responsibility for conduct of the program against North Vietnam"—a proposal that on its face would have lessened presidential and civilian control over such operations.

The chiefs also recommended providing U.S. arms, equipment and advice for the bombing of North Vietnam by South Vietnamese, mining North Vietnam's sea approaches; conducting "large-scale commando raids" against the north; and providing "U.S. forces as necessary" for combat support in South Vietnam and also for "direct actions against North Vietnam."

Johnson wasn't ready for this kind of action yet, though he did on Feb. 20 order a step-up in "contingency planning for pressures against North Vietnam," according to the Times account.

One reason for the increasing focus on North Vietnam was a widespread recognition among top U.S. officials that the situation in South Vietnam itself was getting worse. McNamara went back to Saigon for another look in March, and his report to Johnson on March 16—another of the secret documents now published—said, "The situation has unquestionably been growing worse."

He reported that "about 40 percent of the territory" of the country was under Viet Cong "control or predominant influence," with the insurgents in control of up to 90 percent of some key and populous provinces around Saigon.

McNamara also induced another catalogue of troubles:

"Large groups of the population are now showing signs of apathy and indifference . . . The ARVN (army) and paramilitary desertion rates, and particularly the latter are high and increasing . . . Draft-dodging is high while the Viet Cong are recruiting energetically and effectively . . .

"In the last 90 days the weakening of the government's position has been particularly noticeable . . . The political control structure extending from Saigon downward into the hamlets disappeared following the November coup. . . .

Again, however, such evidence did not suggest to McNamara that the United States should pull out. Indeed, he agreed with the joint chiefs that more action should be taken against North Vietnam, although he opposed "an overt extension of operations into the North" for the time being because of the weakness of the "base" in the south.

But McNamara had no basic argument with the joint chiefs. In fact he incorporated into his March 16 memo to the President the "domino" theory advanced to him by the chiefs on Jan. 22.

Without an "independent non-Communist South Vietnam," he wrote, "almost all of Southeast Asia will probably fall under Communist dominance (all of Vietnam, Laos, and Cambodia), accommodate to communism so as to remove effective U.S. and anti-Communist influence (Burma), or fall under the domination of forces not now explicitly Communist but likely then to become so (Indonesia taking over Malaysia).

"Thailand might hold for a period with our help, but would be under grave pressure. Even the Philippines would become shaky, and the threat to India to the west, Australia and New Zealand to the south, and Taiwan, Korea and Japan to the north and east would be greatly increased."

M'NAMARA URGED ESCALATION READINESS

McNamara proposed to the President that "we should start preparation" so as to be able "to mount new and significant pressures against North Vietnam." The United States should be ready, he said, to start on 72-hour notice a series of border-control and "retaliatory" actions, including South Vietnamese air raids on the north, and on 30-day notice a program of "graduated overt military pressure" to include bombing by U.S. as well as South Vietnamese planes.

Thus, in the space of three months, McNamara's December proposals had in large part been overtaken and supplanted by the stronger steps urged by the joint chiefs.

On March 17, Johnson himself approved McNamara's new proposals. A National Security Council action memorandum, the usual document for recording presidential decision, was issued that day, incorporating not only the substance but also a good deal of the wording of the defense secretary's paper—including McNamara's refinement of the joint chiefs' language setting out the domino theory, which thus was welded into U.S. foreign policy substantially as drafted by the military.

As before, Johnson's approval of McNamara's proposals was a cautious one—in effect saying, "go ahead and get ready but don't do anything now." He cabled Ambassador Lodge in Saigon that "judgment is reserved for the present on overt military actions . . . Our planning for actions against the north is on a contingency basis at present, and immediate problem in this area is to develop the strongest possible military and political base for possible later action."

BASIS FOR ACTION PREPARED IN ADVANCE

Unknown to Congress or the public, work on developing such a "military and political base" had already started in Washington. This is significant because it makes clear that Johnson's later request for a congressional resolution was not, as the administration said at the time, the result of the North Vietnamese attack on U.S. Navy destroyers in the Tonkin Gulf, but that it had been in preparation for some time and was simply put forward at an opportune moment.

As early as February 1964, according to the secret study, there was discussion in the State Department about seeking a congressional resolution to give the President authority for deeper U.S. military involvement against North Vietnam. The Times report cites a Feb. 13 letter from Walt Rostow, then chairman of the State Department's policy-planning council, to Secretary of State Dean Rusk "on the desirability of the President's requesting a congressional resolution drawing a line at the borders of South Vietnam."

Discussions of such a resolution continued into the spring. According to the study, it was mentioned as a prerequisite to a series of military and diplomatic actions proposed on May 23 in a detailed scenario for escalation of action against the north. Two days later, Assistant Secretary of State William P. Bundy drafted the proposed resolution. The draft—one of the documents now published—included this language:

". . . If the President determines the necessity thereof, the United States is prepared, upon the request of the government of South Vietnam or the government of Laos, to use all measures, including the commitment of armed forces, to assist that government in the defense of its independence or territorial integrity against aggression or subversion supported, controlled or directed from any Communist country."

RUSK URGED SEEKING CONGRESS RESOLUTION

The proposed resolution was further discussed at a meeting in Honolulu, Hawaii, on June 1 and 2. Participants included Rusk, McNamara, Bundy, Taylor, Lodge and Gen. William C. Westmoreland, who was then taking over the Vietnam command from Harkins.

According to a memo of record made by Bundy after the meeting, Rusk and McNamara both argued for seeking the resolution. Rusk said events could force the calling up of reserves, always a touchy matter in Congress, and added that public opinion in the United States on Southeast Asia policy was "badly divided" and that McNamara said it might become necessary to commit "as many as seven divisions" of U.S. troops "as the action unfolded."

For the time being, however, the resolution was kept on the shelf. So were the ambitious and detailed military plans which had been developed for bombing North Vietnam—plans developed in response to Johnson's March 17 decision to prepare for retaliatory strikes on 72-hour notice and full-scale air raids on 30-day notice.

One of the gaps in the documentation as reported by the Times is the absence of any record of Johnson's decisions when on June 3 the Honolulu conferees met with him back in Washington. But the Defense Department study says that "noncommitting military actions" proposed by the Honolulu participants were approved—including the shipment of supplies and equipment to forward

bases, one of them in Thailand, to support the possible subsequent move of army units to Vietnam.

JOHNSON SOUGHT CIA VIEW ON "DOMINOS"

There are indications also, in the study, that Mr. Johnson had some doubts at this point about the validity of the "domino" theory. According to the published account, he submitted a formal inquiry to the CIA within a few days after the June 3 White House meeting.

The question he asked was this: "Would the rest of Southeast Asia necessarily fall if Laos and South Vietnam came under North Vietnamese control?" The CIA's answer, in effect, challenged the domino argument, which by then had been written into national policy by the March 17 Security Council action memo. In the first of several instances in the newly revealed documents in which the intelligence community offered dissenting views on Vietnam-related issues, the CIA reply said:

"With the possible exception of Cambodia, it is likely that no nation in the area would quickly succumb to communism as a result of the fall of Laos and South Vietnam. Furthermore, a continuation of the spread of communism in the area would not be inexorable, and any spread which did occur would take time—time in which the total situation might change in any number of ways unfavorable to the Communist cause."

The CIA reply conceded, according to the Times account, that the loss of South Vietnam and Laos would be "profoundly damaging to the U.S. position in the Far East" and would raise Chinese prestige at the expense of the Soviet Union. But the CIA said that as long as the United States could retain its island bases—Guam, Okinawa, the Philippines and Japan—it would have enough military leverage to deter China and North Vietnam from overt aggression against the rest of Southeast Asia.

There were other restraining influences felt in Washington. Johnson was beginning to think about his own campaign for election to a full term in the White House—a campaign pitting him against an archetypal "hawk," Barry Goldwater.

RESOLUTION'S PITFALLS WERE LISTED

There was also concern about the possible difficulties of winning congressional and public approval of the proposed resolution. At an inter-agency meeting on June 10, the study says, "five basic 'disagreeable questions' were identified for which the administration would have to provide convincing answers to assure public support." The questions, according to the study, were:

"(1) Does this imply a blank check for the President to go to war in Southeast Asia? (2) What kinds of force could he employ under this resolution? (3) What change in the situation (if any) requires this now? (4) Can't our objectives be obtained by means other than U.S. military force? (5) Does Southeast Asia mean enough to U.S. national interests?"

Despite these problems, some officials still wanted to seek the congressional action. But on June 15, the study says, Rusk and McNamara were informed by McGeorge Bundy, White House national security assistant, that Mr. Johnson had decided to wait again before moving.

Then, however, at midsummer, events again began to overtake whatever restraints the President had felt against more overt military action against North Vietnam.

During July, South Vietnamese naval commandos raided two North Vietnamese islands in the Gulf of Tonkin as part of the growing "34A" program.

On Aug. 2, the U.S. destroyer Maddox—on a "De Soto patrol in the Tonkin Gulf—was attacked by North Vietnamese torpedo boats. The next night, Aug. 3, there were two more "34A" raids by South Vietnamese PT boats against the North Vietnamese coast. And on the night of Aug. 4 the Maddox and another U.S. destroyer sent to reinforce it—the Turner Joy—were again attacked by North Vietnamese PT boats.

STUDY LEAVES TONKIN INCIDENTS UNCLEAR

The secret Pentagon study does nothing to settle the long-standing controversy around the Tonkin Gulf incidents. It remains unclear, for example, whether the North Vietnamese attacks on the U.S. ships were provoked by the separate "34A" raids that preceded them.

But whatever their motivation, the North Vietnamese attacks on U.S. ships led President Johnson suddenly to set in motion the military and political steps that he had deferred for several months.

Within 24 hours after the second North Vietnamese attack on the U.S. ships, Johnson had ordered retaliatory U.S. bombing attacks against selected North Vietnamese military targets. He announced them while they were still under way, just before midnight on Aug. 4, Washington time, telling a nationwide TV and radio audience that they were "limited and fitting" response. "We still seek no wider war," he said.

The next day McNamara announced that a Navy attack carrier group had been ordered into the Indochina area; that U.S. interceptor and fighter-bomber aircraft had been ordered into South Vietnam; that other planes had been moved to Thailand; that other U.S.-based squadrons had been moved into the Pacific; and that "selected Army and Marine forces have been alerted and readied for movement."

At the same time, Johnson sent a special message to Congress asking for passage of a resolution expressing the support of Congress "for all necessary action to protect our armed forces and to assist nations covered by the SEATO (Southeast Asia Treaty Organization) treaty." As finally drafted, the resolution was worded differently from Bundy's spring draft—but it provided the same kind of authority. Two days later it passed 88 to 2 in the Senate and 416 to 0 in the House.

The action was a watershed in the history of U.S. involvement in Vietnam. Johnson had broad authority to attack North Vietnam; almost none of the "disagreeable questions" had been asked in the atmosphere of crisis; and the military planners were moving hard and fast.

VIETNAM: THE SECRET PAPERS—III

WASHINGTON, D.C.—The Johnson administration used the Tonkin Gulf incidents of August 1964—when U.S. Navy ships were attacked by North Vietnamese torpedo boats—as the lever to get from Congress a broadly worded resolution authorizing the president to take "all necessary action."

But the secret Pentagon study and documents revealed last week by the New York Times show that Johnson didn't use that authority immediately. Instead, with the presidential campaign under way, he withheld approval of further U.S. action against North Vietnam—despite the continued urging of military and civilian advisers.

The secret documents accompanying the reports of the study, however, reveal that preparations for later escalation were being made at a rapid rate. The documents also suggest—but do not prove conclusively—that the President made up his mind relatively early in the fall to start bombing of North Vietnam after Jan. 1, 1965.

The over-all picture revealed by the secret papers is one of continuing—and growing—military pressure on Johnson to take the next step and authorize direct U.S. air attacks on North Vietnam. At the same time however, the president is revealed as holding to the cautious, step-by-step course he had set earlier in the election year when he repeatedly delayed asking Congress for war-making powers.

After the hard, fast air strikes against North Vietnamese targets following the Tonkin incident, there was a lull in U.S. and U.S.-directed South Vietnamese action against the North. The president was preaching restraint to campaign audiences.

PREPARATIONS FOR ACTION SPEED UP

Even as he was speaking, however, some U.S. troop units already had received "alert" orders and were hastily preparing for possible movement to Southeast Asia. And in Washington, Saigon and Honolulu, military leaders were urging stepped-up actions.

Gen. Maxwell D. Taylor, who had recently become ambassador to South Vietnam after serving as chairman of the Joint Chiefs of Staff, cabled Washington with his first "mission report" on Aug. 10.

Taylor said the U.S. objective in South Vietnam must be to "do everything possible to bolster" the Saigon government—and at the same time "be prepared to implement contingency plans against North Vietnam with optimum readiness by Jan. 1, 1965."

In Washington, two key administration planners—Assistant Secretary of State William Bundy and Assistant Secretary of Defense John McNaughton—drew up another set of proposals. Their memo, also among the secret Pentagon papers, proposed:

A two-week lull following the Tonkin reprisals.

Then a stepped-up resumption of the various covert operations which had been going on during 1964—the "34A" commando raids against the North by South Vietnamese; the "De Soto" patrols by U.S. Navy ships off the North Vietnamese coast; and some limited cross-border air strikes from South Vietnam into Laos.

Preparations for more specific "tit-for-tat" reprisals against Viet Cong or North Vietnamese actions that might occur.

A new phase of "more serious pressures" to begin in January 1965. These would be "systematic military action against the DRV (North Vietnam)" and "we should probably be thinking of a contingency date, as suggested by Ambassador Taylor, of Jan. 1, 1965."

BOMBING TARGETS SUGGESTED

Possible types of actions suggested by Bundy and McNaughton would begin with bombing of Communist infiltration routes and facilities—a group of targets starting "with clear military installations near the borders" which "can be extended almost at will northward, to inflict progressive damage that would have a meaningful cumulative effect and would always be keyed to one rationale."

Next would come "action in the DRV against selected military-related targets"—as opposed to wholly military ones. The memo suggested the bombing of petroleum facilities and the mining of Haiphong Harbor as "spectacular actions" in this category.

Their paper went to Taylor, among others, for comment. In his reply he again proposed bold action in the long run—but again sounded a cautious note for the immediate future. His cable, speaking for U.S. Commander Gen. William Westmoreland as well, said, "We should be slow to get too deeply involved" in larger actions "until we have a better feel of the equality of our ally . . . We should not get involved militarily with North Vietnam and possibly Red China if our base in South Vietnam is insecure."

Taylor suggested a delay to give the South Vietnamese government a chance to build up sufficient South Vietnamese ground forces to meet possible North Vietnamese reaction to any stepped-up U.S. military moves—"and thus avoid the possible requirement for a major U.S. ground force commitment."

He suggested using the next five months "for developing a posture of maximum readiness for a deliberate escalation of pressure against North Vietnam, using Jan. 1, 1965, as a target D-Day. We must always recognize,

however, that events may force us to advance D-Day to a considerably earlier date."

He defined such a "deliberate escalation of pressure" as "a carefully orchestrated bombing attack on North Vietnam directed primarily at infiltration and other military targets."

COMMANDERS OPPOSE DELAY

U.S. military commanders had some quick and emphatic comments on the Bundy-McNaughton and Taylor papers. Adm. U. S. Grant Sharp, the Pacific commander-in-chief, opposed even the two-week lull suggested by Bundy and McNaughton: "Pressures against the other side once initiated should not be relaxed by any actions or lack of them which would destroy the benefits of the rewarding steps previously taken . . . The proposed two weeks suspension of operations is not in consonance with desire to get the message to Hanoi and Peiping."

Sharp also argued against the Bundy-McNaughton argument that U.S. action should seek "maximum results" at "minimum risks." He said "Action to produce improvements in morale in RVN (South Vietnam) must entail risk. Temptation toward zero action and zero risk must be avoided."

The Joint Chiefs, in an Aug. 26 memo to Defense Secretary Robert McNamara which is also among the secret documents, also proposed tougher action. They disagreed with their former boss, Taylor, on the need to "get better feel of our ally" before making more commitments: "An accelerated program of actions with respect to the DRV is essential to prevent a collapse of the U.S. position in Southeast Asia."

The chiefs wanted stepped-up action against Communist supply lines through Laos and Cambodia, "hot-pursuit" operations into Communist Cambodian sanctuaries, and "increased pressure on North Vietnam through military action."

CONTINUED PRESSURE URGED

This, however, would not be enough, according to the chiefs' secret memo—and they went on to propose what became a central and controversial theme of administration planning, the so-called "provocation strategy." Here is the way the Joint Chiefs put it:

"The Joint Chiefs believe that more direct and forceful actions than these will, in all probability, be necessary. In anticipation of a pattern of further successful VC and Pathet Lao (PL) actions in RVN and Laos, and in order to increase pressure on the DRV, the U.S. program should also provide for prompt and calculated responses to such VC-PL action in the form of air strikes and other operations against appropriate military targets in the DRV."

Such "responses," they added, "must be greater than the provocation in degree, and not necessarily limited to response in kind against similar targets."

The "provocation" idea was picked up in a Sept. 3 "proposed plan of action" written by McNaughton. He noted the coming election—"during the next two months, because of the lack of 'rebuttal time' before election to justify particular actions which may be distorted to the American public, we must act with special care"—but he went on to restate the Joint Chiefs' theme more explicitly.

McNaughton proposed an "orchestration" of new moves designed to be "likely at some point to provoke a military DRV response . . . The provoked response should be likely to provide good grounds for us to escalate if we wished . . . The timing and crescendo should be under our control, with the scenario capable of being turned off at any time."

He thus in effect proposed new military actions that would not only hurt North Vietnam but could also provoke a North Vietnamese response that itself would give the United States an excuse to escalate the war further.

SITUATION WAS HEADING "DOWNWARD"

McNaughton's Sept. 3 memo is significant for this first explicit statement of the provocation strategy. It is also important in the Vietnam chronology, however, because it is the first of the recently revealed secret documents to admit that the United States might be forced out of Vietnam without victory. Noting, as had others, that the situation in South Vietnam was "deteriorating" and heading "downward," he said:

"The objective of the United States is to reverse the present downward trend. Failing that, the alternative objective is to emerge from the situation with as good an image as possible in U.S., allied and enemy eyes."

He said the United States must keep "alert" so that if "worst comes to worst and South Vietnam disintegrates or their behavior becomes abominable," it could " 'disown' South Vietnam hopefully leaving the image of 'a patient who died despite the extraordinary efforts of a good doctor.' "

McNaughton's premonitions of possible future disaster were not, for the moment, a major consideration of top policymakers. But the provocation scheme was, according to another of the secret papers—a formal memorandum summarizing the recommendations made at a Sept. 7 White House meeting of President Johnson and his principal advisers—Secretary of State Dean Rusk, McNamara, Taylor and Gen. Earle Wheeler the new chairman of the Joint Chiefs. The memo, written by William Bundy, put it in these words:

"The main further question is the extent to which we should add elements . . . that would tend deliberately to provoke a DRV reaction, and consequent retaliation by us . . .

"We believe that such deliberately provocative elements should not be added in the immediate future while the GVN is still struggling to its feet. By early October, however, we may recommend such actions depending on GVN progress and Communist reaction in the meantime, especially to U.S. naval patrols."

On Sept. 10, according to another of the secret papers, Johnson formalized his acceptance of this approach—one involving caution short-term actions but leaving the way open for much more later.

The final paragraph of this presidential "action memorandum," written by McGeorge Bundy, White House national security aide and brother of William Bundy, led the authors of the secret Pentagon study on Vietnam to the conclusion that President Johnson decided on Sept. 7 to start bombing of North Vietnam after the election.

After listing short-term actions to be taken and restating the need to improve the situation inside South Vietnam, the memo concludes:

"These decisions are governed by a prevailing judgment that the first order of business at present is to take actions which will help strengthen the fabric of the government of South Vietnam; to the extent that the situation permits, such action should precede larger decisions."

But, the memo added, "if such larger decisions are required at any time by a change in the situation, they will be taken."

This last sentence was taken by the authors of the secret study to mean that Johnson had agreed in effect that bombing of the north should start after Jan. 1, 1965. Others argue that the language did not mean that much—that real "decisions" would still have to be made by the president. The issue is left unresolved by the secret documents, particularly in the absence of the full file of presidential papers on the period.

What is clear, however, even from the incomplete document file, is that although the president delayed a bombing decision at the September meeting, the bulk of his influential policy-making machinery was now moving steadily and with increasing momentum toward precisely that act—and more.

Three months after that September White House meeting, U.S. planes were bombing North Vietnam. And six months after Johnson's promise of "larger decisions," American ground troops were landing in South Vietnam in force.

VIETNAM: THE SECRET PAPERS—IV

WASHINGTON, D.C.—In late 1964, U.S. policy on Vietnam began to shift decisively—from a limited, though growing, commitment to help the government of South Vietnam, to an all-out American war against North Vietnam, with massive numbers of U.S. ground troops committed to battle on the Asian mainland.

The secret Defense Department study and documents published last week by the New York Times show how this shift took shape—gradually but inexorably—over a period of months, and how it was completed long before the American public fully realized what had happened.

The secret documents make clear what many analysts have long suspected: To a considerable degree, President Lyndon B. Johnson sought to conceal the impact and soft-pedal the implications of his actions by withholding announcement of some of his most important decisions.

One key document in the massive archive—a National Security Council "action memorandum" issued April 6, 1965, formalizing his decision to send more than 20,000 additional troops to Vietnam and to broaden their combat role—spells out this policy explicitly:

"The President desires that . . . premature publicity be avoided by all possible precautions. The actions themselves should be taken as rapidly as practicable, but in ways that should minimize any appearance of sudden changes in policy . . . The President's desire is that these movements and changes should be understood as being gradual and wholly consistent with existing policy."

MAJOR WATERSHED IN U.S. POLICY

That April decision—changing the mission of U.S. troops in South Vietnam from a purely defensive role to one allowing some offensive action—emerges in the secret Pentagon papers as a major watershed in American policy.

But the elements that went into that new policy were several:

A rising crescendo of Communist terror attacks against U.S. personnel and bases in South Vietnam.

Months of successive government crises and chaos in South Vietnam, including a series of military coups and near-coups that produced near anarchy for weeks on end.

Continuing and growing pressure by U.S. military leaders—and most civilian policymakers as well—for ever-tougher military action against North Vietnam.

An underlying shift in the rationale of American policy—from a limited commitment to help preserve the independence of a small country to an effort to preserve U.S. power and prestige in a regional and worldwide struggle with Communist nations.

These four strains are intermingled in the story illuminated by the secret documents, and they are shown by the Pentagon study to have interacted more or less continually, with each feeding the others to produce in the end a half-million-man American expeditionary force in Southeast Asia.

For example, the surprise Viet Cong attack on U.S. planes and facilities at the Bien Hoa airbase near Saigon on Nov. 1, 1964, touched off a flurry of military proposals for heavy American reprisals against North Vietnam. The joint chiefs of staff, calling the Bien Hoa strike "a change of the ground rules," proposed immediate major U.S. air attacks on North Vietnam—including strikes by B52 bombers of the Strategic Air Command against Phuc Yen airfield near Hanoi.

STUDY CALLED FOR BOMBING THE NORTH

Johnson, with the presidential election only two days off, said no. But he did order the preparation of yet another broad survey of possible U.S. courses of action—and every one of the options presented to him after a month-long study called for bombing the north in greater or lesser degree.

According to the secret documents, this process also produced the first signs of a realization by U.S. policymakers that they might have to abandon their earlier aim of stabilizing South Vietnam. There was increasing evidence of disintegration in the Saigon government. Ambassador Maxwell Taylor, for example, said that the United States should use promises to bomb the north as a lever to force reforms in Saigon—but he warned that it might not work. The study says Defense Secretary Robert McNamara replied that bombing "at least would buy time—probably years."

President Johnson on Dec. 1 made what the Pentagon study calls a "tentative decision" to bomb the north, but, the documents say, he gave a final approval only to the first and less ambitious part of a two-phase program proposed by his top advisers.

But before this first phase—dubbed "Barrel Roll" by military planners—could be started, things began to fall apart in Saigon as a succession of ambitious military leaders began efforts to overthrow the shaky civilian government. The secret documents record a stormy meeting at which Taylor told a number of the generals, "You have made a real mess. We cannot carry you forever if you do things like this."

At this point new Viet Cong terror attacks added to the sense of impending collapse in Saigon. On Christmas Eve of 1964 terrorists blew up a U.S. officers' billet in Saigon, killing two and wounding 58 Americans. In a six-day battle near Binh Gia, Viet Cong forces all but wiped out two South Vietnamese marine battalions.

RUSK APPEARED TO HAVE DOUBTS

These fresh disasters were reflected almost at once in the continuing flow of policy proposals revealed in the secret archive. On Jan. 6, 1965, in a memo to Secretary of State Dean Rusk, Assistant Secretary William Bundy said that bombing North Vietnam held only "some faint hope of really improving the Vietnamese situation." However, he went on to assert that it would "put us in a much stronger position to hold the next line of defense, namely Thailand" and even if negotiations resulted in an eventual Communist takeover in South Vietnam, "we would still have appeared to Asians to have done a lot more about it."

Rusk himself appears to have had some doubts. In one of the few papers from his files to be published in the Pentagon study, he cabled Taylor on Jan. 11 "to avoid actions that would further commit the United States to any particular form of political solution" in Saigon.

McNamara, according to the Pentagon study, agreed with his principal Vietnam assistant, John McNaughton, that the U.S. objective in South Vietnam was "not to help a 'friend' but to contain China." Both are said to have favored air strikes against the north to pursue this aim.

Once again political turmoil in Saigon and terrorist strikes by the Viet Cong intervened. Gen. Nguyen Khanh, head of the government, ousted his civilian premier only to become himself the target of plots by other generals. And the Viet Cong on Feb. 6 struck two more U.S. installations at Pleiku killing 9 Americans and wounding 76.

The Pleiku attack provided a major turning point in U.S. policy. Within 14 hours Johnson had approved a direct American air attack against the north. The retaliatory strike called "Flaming Dart" was the first since the one-time bombing that followed the Tonkin Gulf incident the previous August. Three days after Pleiku, the Viet Cong attacked another U.S. installation; again a retaliatory U.S. strike was ordered by Johnson.

ADVISER URGED SUSTAINED REPRISALS

But the effect of Pleiku extended far beyond mere reprisal strikes. McGeorge Bundy, the president's national security adviser, was in South Vietnam at the time. On his way home, he recommended—in a secret memorandum published by the New York Times—"a policy of sustained reprisal" rather than continuation of isolated tit-for-tat strikes. Such action, he said, would be worthwhile "even if it fails to turn the tide, as it may" because "it will set a higher price for the future upon all adventures of guerilla warfare, and if should therefore somewhat increase our ability to deter such adventures."

Thus Bundy, like his brother William in the State Department and like McNamara and McNaughton at the Pentagon, was now arguing that broader U.S. interests—and not merely the security of South Vietnam—required strong American action against North Vietnam.

Johnson approved a sustained bombing campaign against the north, this one dubbed "Rolling Thunder" by the Pentagon, on Feb. 13. The raids began on March 2.

Almost as soon as they started, U.S. military leaders were warning that they were not enough and would not do the job unless stepped up. On March 21, Adm. U. S. Grant Sharp, Pacific commander-in-chief, proposed a "radar busting day" to cripple North Vietnamese air defenses and a sustained "LOC Cut" campaign to knock out Communist lines of communication and supply to the south. Gen. John McConnell, chief of staff of the Air Force, went further, according to the secret study proposing a "short and violent" 28-day bombing campaign to destroy 94 major targets in North Vietnam.

JOHNSON GAVE GROUND SLOWLY

Johnson, still giving ground slowly, said no to such proposals. But the secret documents make clear that his policy advisers were already further down the road: They were now talking about putting U.S. combat troops into South Vietnam.

McNaughton, in a March 24 memo to McNamara, concluded that the situation in South Vietnam probably could not be "bottomed out" without "extreme measures against the DRV (North Vietnam) and/or without deployment of large numbers of U.S. and other combat troops inside SVN (South Vietnam)."

In this paper, McNaughton also further refined his own definition of U.S. aims. In a judgment that was personal, but which appears from the secret archive to have reflected the growing conviction of many policymakers, he defined them as, "70 percent to avoid a humiliating U.S. defeat . . . 20 percent to keep SVN (and the adjacent) territory from Chinese hands . . . 10 percent to permit the people of South Vietnam to enjoy a better, freer way of life."

By late March, the major thrust of administration debate was over ground troops. Gen. William Westmoreland, U.S. Vietnam commander, asked on March 26 for the equivalent of two U.S. divisions, including 17 infantry maneuver battalions, and proposed sending a division into the South Vietnamese central highlands to "defeat" the Viet Cong there. The joint chiefs discussed with McNamara on March 29 a plan to send three divisions to South Vietnam.

When Johnson convened another top-level strategy meeting at the White House on April 1, "the principal concern . . . was the prospect of major deployment of U.S. and third-country combat forces to SVN," the Pentagon study says There was another exacerbating factor, too: On March 29 Viet Cong terrorists had blown up the American Embassy in a daring Saigon daylight raid.

CRUCIAL CHANGE MADE IN U.S. ROLE

The April 1–2 meetings were perhaps the most critical of all Johnson's 1964–65 decision sessions, and the newly revealed documents have made it into the most controversial as well. At this session, the secret papers show, the President made a crucial change in the mission of U.S. forces in Vietnam, as well as deciding to commit major ground combat units to the war—but he also gave orders to keep the decisions and the ensuing actions secret.

The evidence is contained in the National Security Council memo issued April 6, which recorded his decision to send two more Marine battalions and 18,000 to 20,000 additional "support forces" into South Vietnam. (Some of the latter, as it turned out, were to prepare bases and otherwise pave the way for even larger numbers of GIs who came later.)

The memo also recorded the President's approval of "a change of mission for all Marine battalions deployed to Vietnam to permit their more active use"—a shift that freed the Marines from purely defensive "security" duty and allowed U.S. commanders to send them onto the offense for the first time.

None of this was to be revealed, however, as the last paragraph of the formal decision memo made clear. Johnson, it said, wanted "all possible precautions" to avoid "premature publicity"; the "appearance of sudden changes in policy" should be minimized; and the changes and movements were to be depicted as "wholly consistent with existing policy." It was not until June 8, when a State Department spokesman inadvertently broke this embargo by saying that U.S. troops "would be available for combat support," that the public knew of the changes.

From April on, the Vietnam scenario merely unfolded according to plans put forward by the military. Spurred by a series of new South Vietnamese defeats, Westmoreland in June asked for 44 battalions of U.S. troops—upwards of 200,000 men.

AUTHORITY GIVEN TO COMMIT TROOPS

On June 26, Westmoreland received authority to commit those troops already in Vietnam to battle when he thought it necessary—an even broader authority than that granted in April, and "as close to a free hand as (he) was likely to get," the study says.

On July 17, in another unpublished order reported by the Pentagon study, Johnson approved the dispatch of 34 battalions of GIs to Vietnam. He wasn't ready to talk about it, though; indeed, the White House continued to show extreme sensitivity to any talk about massive troop movements.

Vice-President Hubert H. Humphrey was one of those who felt the sting of White House disapproval on this score. In the advance text of a speech he was to deliver at the National Governor's Conference in Minneapolis on July 27, he said the President was making decisions that would "touch the lives of hundreds of thousands of American families." The decisions, he added in his prepared text, "could mean the expenditure of great resources—of money, material and, yes, of human life."

Humphrey was stopped en route from Washington to Minneapolis to be informed by a telephone call from McGeorge Bundy that he had gone beyond the President's ground rules. When he delivered the speech, "hundreds of thousands" became merely "thousands"; the other reference to cost in money and "human life" disappeared completely.

A day later, at a televised press conference, Johnson announced that he was sending 50,000 more men to Vietnam, and said that "additional forces will be needed later and they will be sent as requested." He told a

questioner that "it does not imply any change of policy whatever."

Strictly speaking, Johnson was telling the truth. The "change of policy" had occurred not that day but on many other days over a period of months, and the announcement merely revealed what the secret documents make clear had in fact been decided earlier.

VIETNAM/THE SECRET PAPERS—V

WASHINGTON, D.C.—It is difficult to assess accurately the full significance of the secret Defense Department archive on U.S. Vietnam policy which was revealed last week by publication in several newspapers.

It provides only a documentary record—and an incomplete one at that—and it includes virtually no information on the informal and oral exchanges between the president and his key advisers which played so large a part in Lyndon Johnson's Vietnam decision-making.

But even with these shortcomings, a careful study of the documents themselves—avoiding the subjective and purely personal judgments made by both the Pentagon analysts and the journalists who reported on their study—provides the material for some over-all conclusions.

Four successive presidents and their advisers accepted two basic assumptions about Vietnam:

First, they believed that preventing a Communist takeover in South Vietnam was vital to the worldwide position of the United States. The "domino theory"—that the fall of South Vietnam would inevitably set in motion a succession of Communist takeovers in the rest of Southeast Asia and would in fact have repercussions around the world—was taken for granted by almost all U.S. policymakers, despite periodic and sometimes eloquent dissents.

Second, they assumed that the United States possessed enough power and influence, and enough will to use it, to deal with a relatively minor Asian power like North Vietnam.

CIA WARNINGS WERE IGNORED

It is easy now, in the light of bitter experience and with the aid of perfect hindsight, to say that the presidents involved should have paid more attention to the dissents. But the secret documents make plain that the basic assumptions held by nearly all public officials—and most editorialists and scholars as well—simply blanked out dissent. They heard, but they weren't listening.

It was there to hear, but it was at best an intermittent sound. One note came from the government's "intelligence community," especially the Central Intelligence Agency (CIA)—which repeatedly warned that bombing alone was unlikely to have a decisive effect on either North Vietnam's will or the strength of insurgents in South Vietnam.

Perhaps the most searching dissent came from George W. Ball, undersecretary of state, just before President Johnson's final decision to send thousands of U.S. combat troops to South Vietnam. In a memo to the president on July 1, 1965, he said flatly:

"The South Vietnamese are losing the war to the Viet Cong. No one can assure you that we can beat the Viet Cong or even force them to the conference table on our terms, no matter how many hundred thousand white, foreign (U.S.) troops we deploy. No one has demonstrated that a white ground force of whatever size can win a guerrilla war—which is at the same time a civil war between Asians—in jungle terrain in the midst of a population that refuses cooperation to the white forces . . ." But Ball's was almost a lone voice. More typical was that of Walt W. Rostow, then a State Department official, who wrote in a memo to Dean Rusk in May 1965 that "there is no reason we cannot win as clear a victory in South Vietnam as in Greece, Malaya and the Philippines." Victory, he said, "is nearer our grasp than we may think."

Six months earlier Rostow had argued in another memo to Rusk that "at this stage in history we are the greatest power in the world—if we behave like it."

HINDSIGHT REVEALS FAULTY JUDGMENTS

In the narrower focus of South Vietnam itself, the documentary record makes clear that were other judgments that turned out—again in hindsight—to have been faulty:

First, it was assumed that the government of South Vietnam, first under Ngo Dinh Diem and then under a revolving-door series of other leaders, had the inherent will and capability to defend itself, with some help, against the Communist-supported Viet Cong insurgency.

Second, when successive South Vietnamese governments showed weakness, inefficiency and corruption, it was assumed that these faults could be corrected with U.S. aid, advice, exhortation and—if necessary—pressure.

Third, when South Vietnamese will and capability was eventually perceived to be fatally flawed, U.S. leaders sought to substitute major applications of American military power for South Vietnamese determination. And when the Saigon government began to crumble openly, in 1964 and 1965, U.S. leaders fell back on other rationales for our involvement.

It is quite clear, even given the gaps in the secret documentary record and the incompleteness of its disclosure to date, that Lyndon Johnson didn't "get us into Vietnam." Like his predecessors, he merely walked farther into the quagmire; what he and his advisers did seemed to them simply a logical extension of existing policy and commitment.

JOHNSON DID NOT EXPECT MAJOR WAR

It is also clear from the documents that Johnson and his chief advisers hoped and believed throughout the crucial years of deepening U.S. involvement that at some point—after some one of the many escalatory American actions—Hanoi would decide that its objective was no longer worth its cost. Again, hindsight permits a verdict that this estimate was wrong; but the documents make clear that neither Johnson nor his predecessors expected the process would result in the major land war that eventually occurred.

The documents—as opposed to the interpretation put on them by both the Pentagon analysts and the New York Times articles reporting their study—do not depict Johnson as a man moving relentlessly toward ever-deeper military involvement in South Vietnam.

On the contrary, the documentary picture shows the president as slow, cautious, skeptical of military advice and promises and reluctant to get more deeply involved. He is seen as having made his really big decisions—to start sustained bombing of the north, to introduce major U.S. ground forces—only after repeated delays and usually after several times rejecting the suggestions.

For example, the documents do not support the suggestion of the Pentagon analysts and the New York Times accounts of their study that Johnson decided as early as September 1964 to start bombing North Vietnam in early 1965. On the contrary, the secret papers demonstrate that on at least three occasions after September he delayed making that decision.

But the documents do prove that Johnson sought—with considerable success—to muffle the impact of his actions by concealing them or being evasive about them in public.

PREMATURE PUBLICITY WAS FEARED

The most compelling evidence of this, in the secret papers thus far disclosed, lies in the cold print of the final paragraph of the memorandum formalizing the president's decision to broaden the mission of U.S. troops already in South Vietnam and to send 20,000 more men there. In that paragraph, he ordered "all possible precautions" against "premature publicity" and said that the changes should be portrayed as "gradual and wholly consistent with existing policy"—which they were not.

Publication of the documents, with specific dates of presidential action, also makes clear that on several occasions Johnson sought to dismiss as "speculation" reports of actions he had or was about to take.

The documents make plain—again contrary to some published interpretations—that many of the so-called recommendations by high advisers were "contingency plans"—options prepared for and put before the president to guide him in reaching an actual decision. Preparation of such plans is one of the principal duties of military and diplomatic staffs; they would have been derelict in their duty if they had not prepared them throughout the period.

But a study of these contingency plans also makes clear a larger truth about the workings of government: That such plans tend to be self-fulfilling—that is, what begins as merely a set of options, no one of them necessarily recommended for adoption, tends to evolve into firm proposals simply through the momentum of the bureaucratic process. This in turn tends to prevent the fullest restudy of basic policy tenets before major decisions are made.

U.S. DIDN'T "BLUNDER" INTO THE WAR

Finally, for whatever it is worth in terms of lessons learned, the Pentagon archive demonstrates clearly that the United States did not "blunder" or "stumble blindly" into the Vietnam War.

Again and again the secret documents reveal U.S. leaders were aware that their step-by-step involvement in Vietnam could lead to more—even though they hoped and believed there would be an end to the progression before it went as far as full-scale war.

In a separate essay written some time ago, Leslie H. Gelb, the man who directed the secret study in 1967 and 1968, put it this way:

"Our presidents and most of those who influenced their decisions did not stumble step by step into Vietnam . . . Vietnam was indeed a quagmire, but most of our leaders knew it.

"Nevertheless, our presidents persevered. Given international compulsions to 'keep our word' and 'save face,' domestic prohibitions against 'losing,' and their personal stakes, our leaders 'did what was necessary', did it about the way they wanted, were prepared to pay the costs, and plowed on with a mixture of hope and doom. They 'saw' no acceptable alternative.'

This summation, by the man who directed the compilation of the vast secret archive on the war, may well stand as the best assessment of its significance.

SOUTHERN LOUISIANA AREA RATE PROCEEDING

Mr. TOWER. Mr. President, on July 16, 1971, the Federal Power Commission issued its opinion and order in the southern Louisiana area rate proceeding.

This was a landmark decision for three reasons.

First, the ceiling rates for natural gas produced in this area were increased by over 30 percent. The southern Louisiana area is one of our most prolific gas producing areas. By setting these significantly higher ceiling rates, the Commission implicitly recognized that their previous rate had been unrealistically low.

Second, the Commission approved and incorporated into this decision a settlement plan which had been proposed by a group of 55 distributor utilities and supported by the overwhelming majority of consumer, pipeline and producer interests. This was the first time such a settlement agreement had been incorporated into an area rate decision. This constituted implicit recognition by the Commission of the value of unfettered negotiation by private interests.

This should encourage future agreements as a means of settling area rate disputes. The settlement method is an efficient means of resolving such a dispute since it could keep the dispute out of the FPC altogether. Thus, the delays and expenses inherent in a normal regulatory proceeding could be avoided.

Third, the settlement agreement which was incorporated into this decision contained imaginative provisions which could result in substantial additional economic incentives to the producer in this area. These incentives are based on the ability and willingness of the producer to discover and commit new reserves of natural gas for interstate sale.

The Federal Power Commission should be praised for this bold and imaginative decision. In it, the Commission attempted a solution which more nearly approximated the free market.

This decision was prompted by the Commission's stated recognition of the critical shortages of natural gas presently facing the Nation and the need to stimulate exploration for new reserves of gas to meet this shortage. It is estimated that the southern Louisiana area covered by the decision contains the largest reserves of undiscovered gas in the Nation. So, the Commission acted wisely in attempting to provide greater exploratory incentives to the producers in this particular area.

Although I praise the Commission for this decision, I still believe that the free market mechanism is the best method for determining the proper prices for natural gas.

There are certain inherent defects in price regulation by a governmental agency which result in unrealistically low prices and uncertainty in these prices.

For example, price setting by a regulatory agency is by design a slow process. The proceedings established by law are purposefully deliberate in order to assure ample opportunity for notice, a fair and impartial trial and review of the decision. That these procedures are slow is illustrated by this decision. The FPC began this area rate hearing on May 10, 1961. And, in all probability this decision is not final yet because of the likelihood of further court review of this decision.

In setting area rates, the Commission receives testimony pertaining to the cost of locating and producing natural gas. The statistics relating to any one year require at least a year to compile and publish. If one adds to this time the several years required by the normal rate proceeding, it is obvious that the statistics upon which rates are based can be completely outdated by the time they take effect. Since costs have been generally rising over the past 17 years of FPC regulation, the years of delay consumed in the normal hearing and court review virtually assures that the prices set by the FPC will be unrealistically low.

The probability of subsequent court review points up another inherent defect in regulatory price setting.

Subsequent court decisions in this case could result in these prices being lowered by court order. This has happened in many previous FPC area rate hearings. This in turn could result in the producer being forced to refund a portion of the revenues received from sales of gas at the prices permitted by this decision.

Thus, the final result of this decision remains uncertain in the minds of producers as to the actual price he will receive for his gas.

And, uncertainty leads to a reluctance to commit the large sums of risk capital necessary to explore for new reserves of natural gas.

These two defects in price regulation have contributed substantially to a steady decline in exploration for new reserves of gas. Consequently, many potential customers are being denied supplies of this ideal, nonpolluting fuel. In Chicago, for example, over 16,000 requests for gas service were denied by Columbia Gas Co. in the past year due to a lack of sufficient producing reserves at the company's disposal.

Thus, over the long term, the consumer has not benefited by the regulation of the price of natural gas.

Instead of a plentiful supply of a relatively inexpensive fuel, the consumer has been denied the full use of this clean-burning energy resource. At a time when the Nation is becoming increasingly conscious of the need to keep the environment clean, potential consumers of gas are forced to use higher pollutant fuels.

I believe that the Federal Power Commission should not regulate the price of this valuable commodity.

In order to remedy this situation, I introduced S. 637 on February 8. If enacted, the bill would deregulate the pricing of new reserves of natural gas committed to interstate commerce. The bill would be a step in the right direction.

I am now developing legislation which would deregulate all pricing of natural gas by the Federal Power Commission, and I hope to introduce that legislation soon.

We must restore this vitally important function to the free market so that we can be assured of adequate supplies of this clean energy source to meet the growing demand of the Nation's consumers.

EXTENSION SERVICES HELP SMALL RURAL BUSINESSES

Mr. HUMPHREY. Mr. President, one of the major purposes of rural community development is attained when Main Street cash registers ring more often and more merrily. Expanded business activity, and more business profits, in Countryside, U.S.A., is both an aim and a contributor to helping rural America to provide broader job and other economic opportunities and thereby improve the population distribution pattern in this country.

Along with the venture capital and long-term investments that would be provided by the Farm and Rural Development Credit Act that several Senators recently introduced—S. 223—the small rural businessman needs and deserves a more ready access to what in higher corporate circles is called technology transfers and improved management techniques.

In at least one State—Missouri—a part of this need is being filled by the cooperative Federal-State Extension Service. So that people outside of Missouri and outside the Extension Service may know of this worthwhile activity, I ask unanimous consent to have printed in the RECORD, the article entitled "Missouri Extension Helps Small Rural Businesses" from the Extension Service Review of May 1971.

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

MISSOURI EXTENSION HELPS SMALL RURAL BUSINESSES

(By Richard Fenwick and Ervin Dauenhauer)

Extension services traditionally have been oriented to farm, family, and youth programs. And Extension efforts have been expanded to include farm suppliers and specialized nonfarm groups involved in the distribution of agricultural products. Community development, food and fiber, industry, labor, and environmental quality programs are not new to Extension.

But despite all of these programs, one large group of deserving people has been generally neglected—the small, main-street businessman in our rural communities.

Who helps the barbers, the owners of the "Ma 'n Pa" stores, the drug store and service station managers, the bankers, and the retail and service firms of all types and sizes?

These are the people who need help the most and can afford it the least. Even if they recognize the need for continuing education, in many cases they do not know where to go for help.

They cannot take time off from their business to attend daytime sessions or courses on a university campus. And they cannot afford high enrollment fees necessarily imposed by non-Extension sources.

Can they be helped? Certainly! Should they be helped? Absolutely! Are they being helped? They are in Missouri.

The University of Missouri-Columbia Extension Division and the Agricultural Economics Department have recognized the need for business management training in the rural areas of the State.

Missouri has more than 50,000 small business firms, exclusive of those in the metropolitan centers of St. Louis, Kansas City, St. Joseph, and Springfield. As indicated by requests to local University Extension Centers, these firms are attempting to take advantage of opportunities for developing and improving skills in management decision-making and customer service.

The Extension Division and Agricultural Economics Department established the position of "Extension Economist-Business Management" in September 1969. The purpose was: "To improve the managerial knowledge and skills of persons responsible for management of the small business firms, in the towns and rural areas of the State of Missouri."

A questionnaire was prepared to determine the needs of small businessmen for training and education in the business management area. It was completed by representative groups of businessmen and Extension agents.

On the basis of the questionnaires, two noncredit short courses were initially estab-

lished: Financial Management and Basic Supervision.

The financial management course was designed to introduce basic financial management principles to non-financial and non-accounting people managing small, rural businesses.

Its aim is to provide the small business manager with sufficient knowledge of basic financial tools to enable him to apply them in the day-to-day management of his business and to help him arrive at management decisions that make financial sense.

The course was developed for six 2½ hour classes. Course content includes financial statements, cash flow, earning power of the business, cash budgets, ratio analysis, controlling accounts receivable and investories, breakeven analysis, and capital budgeting.

The primary instructor for the financial management course is Richard Fenwick, who is half-time Extension economist, agribusiness management.

The second priority indicated by the questionnaires was for training in the area of basic supervision. An abbreviated course consisting of 18 hours of instruction—six 3-hour sessions—was developed.

The purpose of this course is to discuss some of the factors involved in establishing and maintaining good supervisor-subordinate relations and to develop some techniques for training and retraining competent and willing workers.

It covers such areas as: the role of the supervisor, developing good employees, motivations, communications, work assignment, and controlling and coordinating the work force. The course is designed to satisfy the needs of either the first-line supervisor or the small business manager-supervisor.

Whenever possible, we separate small manufacturers from the retail and service groups. This allows us to concentrate more fully on the specific problems of our clientele groups.

Because class participants cannot or will not travel any substantial distance, we are not able to teach specialized groups of main-street or agribusiness people. Consequently, the financial management and supervision courses are somewhat general. In the future, we hope to work with specialized groups.

A third course in business management has been developed in retail merchandising. This started as a one-session addition to a financial management course. It was readily accepted and conducted in other communities as a one-session workshop.

We expanded it to two sessions and are now offering it on a trial basis as a three-session course. The course covers some of the principles and techniques involved in salesmanship advertising, and displaying of merchandise. The primary emphasis is on improving the profit picture by creating repeat business.

The first session is designed to be of benefit to managers, supervisors, and sales clerks alike and is open to all interested persons. The latter sessions are geared more to management and supervision.

The instructor for this course and the supervision course is Ervin Dauenhauer, Extension business management specialist.

The first business management course—Basic Supervision—was launched in January 1970. A mixed group of main-street businessmen, agribusinessmen, small manufacturers, and local government employees "graduated" in February.

The first financial management class also began in January, and a class of 15 received certificates of completion. The first merchandising class started in May.

During 1970, we conducted classes in 30 communities for a total of 791 participants. There were 73 sessions in financial management; 43 in supervision; and 12 in merchandising.

By the end of the year, the schedule was filled through spring 1971 and commitments had been made as far ahead as November.

The business management courses are set up by the area Extension specialists. We have worked through continuing education programers, area directors and associate directors, industrial Extension agents, business management specialists, and farm management specialists.

Planning conferences are held with local business groups to establish specific course content and to schedule classes. The course instructor and local Extension specialist are generally members of the planning committee for the short courses.

The courses are conducted in cooperation with the Small Business Administration, which furnishes us with both lecture and supporting material. We are presently using 26 SBA publications as handout material for the three courses.

There is a great thirst throughout the State for business management programs and it is not likely that it will ever be completely satisfied. "Graduates" of the classes already talk of additional courses and more advanced followup courses.

We have gone back into one community with a second business management course and four other communities are scheduled for additional courses.

Of course, the business management section is just one source to satisfy the need. Business management assistance is provided to specialized nonfarm groups by other members of the Extension team.

The University of Missouri-Columbia has specialists dealing primarily with the farm-supply firms, with logistics and the transportation industry, with supermarkets, and with restaurant management.

Numerous courses are conducted through the School of Business and Public Administration, the Sociology Department, and the School of Journalism. Courses are conducted by the other three campuses of the University of Missouri at Rolla, St. Louis, and Kansas City. And courses are offered by the many other educational institutions throughout the State and by private industry and business groups.

We feel, however, that the small main-street businessman and the small manufacturer will continue to depend on the Extension Division as the primary source of management education.

THE CRUCIAL NEED FOR INTERNATIONAL VERIFICATION OF PRISONERS BEING HELD BY THE ENEMY

Mr. DOLE. Mr. President, last week I was visited by two very dedicated and hard-working women whose sons are among the more than 1,600 American fighting men being held as prisoners of war and listed as missing in action in Southeast Asia. Both Mrs. Lewis Hallberg and Mrs. Margaret Hopper have been active in many organizations and efforts to secure information about and release of their sons and other POW's and MIA's, and they both demonstrate the same tireless devotion to their cause that is the hallmark of all the parents, wives and other families of our prisoners and missing men.

Mrs. Hallberg and Mrs. Hopper were in Washington to discuss the status of their sons and the other men with Members of Congress and officials in the Departments of Defense and State. Their visit happened to coincide with the regular weekly meeting of the Senate Republican policy committee, and the committee invited them to tell their sons' stories to the Senators in attendance that day.

The story of Mrs. Hopper's son, Sgt. David Demmon, is particularly timely in that it highlights a point too often overlooked in discussions of POW's and MIA's. That there is a vast discrepancy between North Vietnamese and Vietcong accounts of the men they hold captive and our knowledge of the men actually in their hands. Mrs. Hopper's son was missing for 5½ years, without being acknowledged by either the Vietcong or the North Vietnamese, before his captivity was verified by eyewitness account as late as last November. Of course, it is impossible to guess the exact number of men who are in Sergeant Demmon's position, but there is reason to believe there may be more than 90, possibly among them Mrs. Hallberg's son, who is listed among the missing.

The Senators who heard and spoke with Mrs. Hallberg and Mrs. Hopper expressed universal appreciation for their gracious and earnestly expressed views. For the benefit of those who might wish to know the full details of Mrs. Hopper's son's story, I ask unanimous consent that an article by Sp5c. Tom Bailey from the July 1971, edition of Soldiers magazine entitled "PW or MIA: Kidnapped Without Ransom," be printed in the RECORD at the conclusion of my remarks.

Sergeant Demmon's case demonstrates the crucial need that in our discussions of possible exchange and release of prisoners, we must insist on a full and internationally verified account of all our men who we believe have fallen into the enemy's hands over the past 7 years. Hopefully, insistence on this point will assure the maximum possible opportunity for the return of all Americans being held by the enemy, not only in North Vietnam, but in South Vietnam, Laos, and Cambodia as well.

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

PW OR MIA—KIDNAPPED WITHOUT RANSOM

(By Sp5 Tom Bailey)

Missing. His plane went down in the delta. There's still a chance he's alive. But we just don't know . . .

The words seared Mrs. Margaret Hopper's mind. Her only son David was gone. It was June 9, 1965 in rural Pennsylvania when the call came while she was visiting a friend.

Desperate for strength and guidance, Mrs. Hopper took the first flight back to her suburban Los Angeles home to be near her daughter and son-in-law. Nerves shattered, Mrs. Hopper drew within herself to ponder the tragedy.

The following weeks were filled with grief, desperation and reflection. With the help of family and friends she slowly pulled her thoughts together. Time and time again she raced over the words: Missing. Missing.

She was torn with remembrances of David: The boy just out of high school working his way to Europe on a Swedish freighter. Graduation day at Santa Monica Junior College. The draft notice. Aerial photography training which he liked so well at Fort Huachuca. Orders to Vietnam. And finally the phone call. Missing. Not PW. Not even MIA. Just missing. "I fell apart. What does a mother do when she hears that her son is gone and

she doesn't know where?" Mrs. Hopper pondered. "It's like having a child kidnapped only you don't know what the ransom is."

SSG (a SP4 when captured) David Demmon had been in Vietnam less than 6 months when his Mohawk airplane disappeared in the jungle. He wasn't fond of war. But he loved aerial photography. He was good at it. He didn't have a particular liking for Vietnam. But he loved the people—especially the children.

"In fact, shortly before he went down he was making an effort to adopt a child," said Mrs. Hopper (her last name is different from David's because she remarried). "He wrote me that he had found her on the beach and that she didn't know to whom she belonged. He was setting aside out of his pay a certain amount to help provide for his little girl and find a place for her to live."

For 5½ years all Mrs. Hopper had were those reflections. Although she remained in constant contact with her casualty officer she learned nothing of her son's fate. But she continued to hope. She wrote letters, spoke to anyone who might have helped and traveled across the United States and to Europe in hopes of learning about her son.

Then in January of this year an officer from The Adjutant General's office called: "Mrs. Hopper, I have some good news about David."

"And then he told me that David had been seen alive in captivity as late as last November. I don't know if I was laughing or crying. I'd asked God for a miracle and I think I got one. Now I need another," she said. "I need to get him out."

She hasn't heard another word about David since that call. But it had been many miles over a long hard road to get even that much.

YEARS OF WAITING

The long wait has made the ordeal doubly difficult for Mrs. Hopper. "David was one of the early ones," she explained. "He and the other man in the plane have been missing longer than any man in the Army."

When David was first reported missing, the Government was asking relatives of PWs/MIAs to remain silent while diplomatic negotiations were underway. In mid 1969, the PW/MIA problem became a public issue. The families were encouraged to meet, get acquainted and discuss their mutual problem. Mrs. Sybil Stockdale (her husband a PW) decided that something more was needed. She began organizing the families and later became the first president of the National League of Families.

"So we got together and started working," Mrs. Hopper said. "Then I read in the paper where some ladies from Dallas had gone to Paris to seek information about their husbands. That was in 1969."

By the time Mrs. Hopper finished reading the story of those women she knew what she was going to do. She called the Dallas newspaper which ran the article and from there was put in contact with Murphy Martin, a local television employee who sponsored the trip. "Mr. Martin told me to cable the North Vietnamese delegation in Paris at their residence and tell them what day I would be in Paris," she said. "But to cable them right before I left so they wouldn't have time to answer me."

It was a long shot, she knew that. Mentally as well as physically it would be exhausting. She expected no publicity, encouragement or sponsorship. For a lady weighing a mere 100 pounds it would be a monumental task—strongarming her way into the homes of a people we were fighting.

GATEWAY IN PARIS

So with her sister for moral support, Mrs. Hopper struck out for Paris. "I went via Canada and spent a few days in Montreal," she said. "So my cablegram went from Montreal to Paris. I told them in the cable that I would be there on a Friday morning and would like to see them at earliest convenience—I didn't say their earliest convenience or mine."

She arrived in Paris on a Thursday evening and by 8:30 the next morning was standing in front of the walled North Vietnamese delegation residence. The street was empty except for a lone policeman on the corner. "Not knowing how long we were going to stay I dismissed the cab and rang the bell." The gate was opened by an English-speaking Caucasian. "I just said to him, 'I'm Mrs. Hopper and I'm expected,' " she said. "It sort of surprised him and he asked me if I had an appointment and I said, 'No, but I'm expected.' "

With this, the gateman asked Mrs. Hopper to wait and left the gate, apparently to find someone who might know what was going on. "But he left the gate open about a foot so I just walked in," she said. "I pretended to assume that he meant for me to wait inside—because I had made up my mind that if I ever got that gate open it wasn't going to close without me entering."

At that moment the gateman was joined by a second man who said he spoke only French. And it seemed an impasse had been reached when suddenly an English-speaking Vietnamese man appeared. "I told him who I was and why I was there and he asked if I could make an appointment and come back," she said. "I said I could but that I was going to be in Paris such a short time . . . So then he suggested that we come back later in the day. And I said in that event we'd just have to wait because it's too far back to the hotel."

The Vietnamese man disappeared momentarily, then returned with another Vietnamese. "This man also spoke English and was very courteous to us," said Mrs. Hopper. "He was obviously someone in authority because the moment he became courteous, everyone right down the line changed."

To this last man Mrs. Hopper gave the information she had about David and the circumstances surrouding his final flight. "The moment he saw David's serial number he knew he was Army and said, 'Mrs. Hopper, you've come to the wrong place. But I will see that the other delegation gets this information.'

"Well, this told me very plainly that the North Vietnamese are not going to take the responsibility for those men imprisoned in the South by the Viet Cong," she continued. "So we must pressure the Viet Cong. And the Pathet Lao. We can't just concentrate on the North."

The confrontation had taken place in the compound outside the residence. "I didn't want to be invited in because the wives who had gone there before and gone in had been filled with a lot of propaganda which I didn't want to go through," she explained. "But there was a little table setting there and I asked if I could sit down."

The Vietnamese man finally asked for Mrs. Hopper's address and as she sat at the table writing it he watched over her shoulder. "Mrs. Hopper, I thought you were from Canada!" he exclaimed, seeing her California address.

"My sister and I didn't dare look at each other because we knew right away that the only reason he saw us was because he thought we were from Canada," she said. "And I said, 'Oh no, I just cabled en route to Paris.' "

With that, Mrs. Hopper asked if someone would call a cab.

APPEAL TO NLF

For the next 3 days she rested. "I just felt that I needed a little rest" before tackling the National Liberation Front delegation.

It was on the following Tuesday morning, again quite early, that Mrs. Hopper arrived at the NLF residence. "There wasn't even a car on the street when we drove up," she recalled. "But as we were getting out of the cab a car did drive up across the street and a man got out. He was tall, dashing, a poetic type." This man, Mrs. Hopper said, obviously had an appointment at the residence but reached the gate after she and her sister did.

She rang the bell, showed the gateman a card with Madame Binh's name on it and told him she wanted to see Madame Binh. The gateman wasn't impressed and refused to open up. About this time, however, the tall, dashing fellow reached the fence and immediately the attendant opened the gate.

"So when the gateman opened the gate we just walked in with this stranger," she said. "But by the time we got in we had caused enough confusion that someone in the house heard it and a Vietnamese man came out.

"We were all just inside the gate," she continued. "The gateman was angry with my sister and me because we had come in and the man who came out of the house was a little upset too so I handed him the card with Madame Binh's name on it.

"About this time the man who we walked in the gate with asked in English, 'What's the problem?' " she continued. "And I told him that I wanted to talk to Madame Binh about my son who is missing in Vietnam; and nobody here seems to be able to understand me."

The tall man spoke to the Vietnamese, then turned to Mrs. Hopper: "He tells me the problem is that they have no interpreter."

"I was obviously distressed," she said. "Then this stranger said he could spare us a little time. So he interpreted for us. We left the information and they told us they would see what they could do."

After returning to the United States Mrs. Hopper followed up with letters to Madame Binh. "I've tried to appeal to her in every way I know—as representative of a state, as a mother," she said. "I've never had any response."

In fact, the only response Mrs. Hopper has ever received from any foreign government came from Prime Minister Palme of Sweden. That came as a result of a visit by wives of PWs seeking information about their husbands.

"The prime minister had a list divided into three parts—those who had never been captured, those who had died and those who were now prisoners of war," she explained. "He sent me a cablegram a day or two before the list broke in the news. David was on the list of those never captured in North Vietnam.

"I cabled him back that very day and asked if he would try to find out if David were a prisoner of the Viet Cong," she continued. "I've never heard from that. But that was before Christmas last year. And it was shortly after Christmas that I got the official news from the Army that David was alive in captivity last November." (In April 1971 David's status was officially changed by the Army from "missing" to "captured"—*Editor.*)

FRUSTRATING YEARS

Those instances are only the high points of a frustrating and lonely 5 years for Mrs. Hopper. She's been to Washington several times seeking information about her son. She writes and phones members of the military and Congress constantly. Only a few months ago she wrote every senator asking for help. She is also on the speakers' list of a local citizen's group working for the release of PWs and MIAs.

"I'm a widow and live alone," she explained. "It's pretty important for me to keep busy. And I never have enough time to do all that I feel I should.

"I'm human enough to put my own son first but he's certainly not my only concern. There are a lot of men over there. And even when David comes home I'll continue to

work until they all get out," she vows, "until we get some accounting for these men."

ORGANIZATIONS HELP

Mrs. Hopper, of course, is a member of the National League of Families, headquartered in Washington. But she is even more active in the local group called Concern for Prisoners of War which has its main office in San Diego. "People offer to speak for us. They make donations. We have office space donated and equipment loaned to us. We have printed material—bumper stickers, posters, letters. A lot of people don't like to write letters but they'll sign one."

She doesn't do office work but she speaks frequently, sometimes to small professional groups of 30 or 40, sometimes to school assemblies of 1,500 or more.

"The first time I spoke on the prisoner of war subject I was very nervous," she admitted. "And I'm still nervous because it's so close to me. But it doesn't matter.

"It comes from my heart and sometimes I think the worse I am the better they like me," she continued. "It isn't easy for any of us (on the speakers' list) because it isn't easy to make public your personal feelings. I'm a private person and things that are close to me are very personal and I don't enjoy sharing them. But then I know it isn't easy—what those men are going through over there. So I tell my self if they can do that I can do this."

Mrs. Hopper's life revolves around her efforts to regain David. She makes no social engagements because they might interfere with her PW-MIA work. She writes constantly. She travels. She speaks at every opportunity.

But from time to time she looks up from her desk where she pens the many longhand letters, past the American flag tacked to the wall of her beach house—David's flag which was flown over the Capitol in Washington in tribute to him—past the long stretch of sand and finally to the Pacific. "You know, if they would just let us know whether the man is alive or not," she muses. "If they would just let him communicate with his family . . ." She looks and hopes to see David coming up that beach. "I can't say I don't look out there and think I'm looking clear across," she said. "Once I told them I'd go over there (to Vietnam) and look for David myself. They told me it wouldn't do any good, that I would only be jeopardizing David's life more as well as my own."

She looks at the sea and it gives her strength to go on even in the exhaustion and frustration of exploring countless dead ends. She looks and remembers the days that she and David walked along that sand talking about the sea, the beach, nature, God, flying. "He always loved walking out there on the sand, sort of communing with nature, I guess," she said. "He loved it just as he loved flying. He said that he somehow felt closer to God when he was flying.

"I'm not trying to make him a self-righteous saint," she said. "He certainly wasn't. He was an all-around man. A very masculine man. But he did have a strong faith. It takes a strong man to have that," she said. "And I feel that faith will see him through . . ."

"A SIMPLE COPPER BRACELET"

Everywhere Mrs. Margaret Hopper goes, regardless of the occasion, regardless of her dress, she wears a simple copper bracelet. Engraved on it is "Sgt. David Demmon, 6-9-65" (the date he was reported missing).

It is one of thousands of similar bracelets being worn by men and women across the United States. Each is engraved with the name of a PW or MIA and the date he was reported missing or captured.

They are manufactured by an organization of young people interested in the PW-MIA situation who decided to express their concern in this way.

"We are going to wear the bracelets until they open up those prison camps over there and we hear about our men," explained Mrs. Hopper. "I know many people don't even take them off at night. One girl has hers locked on.

"It has a special meaning to me, of course, because it's my son's bracelet," she continued. "But I don't have to be reminded. It has a very special meaning to many people who do have to be reminded.

"I get letters from people who don't know me, who don't even know my name, but write through the Concern for PWs or the bracelet manufacturer's office," she said. "I had one just the other day from San Francisco—the lady said that she would like to know something about David and what she could do to help.

"I had another letter from an 11-year-old girl. There's a man in Pennsylvania to whom I wrote when I got the news that David was alive because he's wearing David's bracelet and asked me to let him know. A lady in the middle west somewhere said she has a brother who is a PW.

"They have a great deal of meaning to people," she said. "It gives them a feeling of closeness."

Sometimes after she's put in 12 or 14 hours a day giving speeches, writing letters, talking on the phone, people ask Mrs. Hopper where she gets her strength.

"From the young women whose husbands are missing," she counters. "I think they have a lot to bear.

"Wives are in a pathetic situation," she explained. "They are neither married nor single. Most of them don't even know their marital situation—whether their husband is alive or dead. And they're trying to be both mother and father to young children.

"They don't fit anywhere," she continued. "The single people consider them married; the married people consider them single. They don't fit in socially.

"They're dedicating their lives to trying to find out something about their husbands," she said. "And I'm just glad David doesn't have a wife waiting here in that situation for him to worry about and to worry about him."

TRAGEDY IN PAKISTAN

Mr. CRANSTON. Mr. President, the tragedy in Pakistan worsens each day. Millions of people are homeless and hungry as a result of the unfortunate warfare that has erupted between East and West Pakistan.

Several Americans who have worked and lived in Pakistan inform me that the best way to end this situation is to make certain that our aid is funneled to that nation in a fair and equitable manner for the benefit of all those in need. To that end, I have cosponsored amendment No. 159, submitted by the Senator from Ohio (Mr. SAXBE) and the Senator from Idaho (Mr. CHURCH).

I ask unanimous consent to have printed in the RECORD a letter to the editor of the Los Angeles Times concerning the situation in Pakistan. The letter was written by a group of Asian studies scholars on the faculty of UCLA. It deserves our full attention.

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

UNIVERSITY OF CALIFORNIA,
Los Angeles, Calif., May 17, 1971.

The EDITOR,
Los Angeles Times.

DEAR SIR: We, the undersigned scholars of Asian Studies on the faculty of UCLA, write to express our profound sense of anguish and shock at the news we have read and personally received of the brutal and protracted massacres of Bengali civilians by West Pakistan's armed forces since March 25, 1971. From every creditable report we have seen it appears that General Yahya Khan's Army directed the full strength of its fire power at such bastions of "resistance" to his military dictatorship as the unarmed camp of Dacca University, where no less than five department chairmen were murdered, together with as yet unaccounted numbers of their research assistants, students, staff, and families.

Unless or until West Pakistan's regime permits the Red Cross or the United Nations, or some other impartial international agency, to send its representatives to the now ravaged region of East Pakistan (which the overwhelming majority of the Bengali-speaking populace now prefer to call the "Country of Bengal," *Bangla Desh*) it will be impossible accurately to assess the dimensions of this South Asian massacre. From what we already know, however, it seems painfully clear that whatever the precise total in Bengali dead, wounded, and terrorized may be, a new record in martial fire power mortality may possibly have been set by West Pakistan's forces during the past six weeks.

Since 1954 our Nation has supplied approximately two billion dollars worth of military "aid" to Pakistan, including tanks, planes, and artillery. That aid was offered to Pakistan when it became a member of SEATO, in order to "bolster" South Asia's Northern perimeter against possible Communist invasion. The only use, however, which Pakistan made of American military supplies prior to last month's massacre was during the Indo-Pak War over Kashmir in 1965. After the latter, our government placed an embargo on military shipments to Pakistan, but in October of 1970 that embargo was lifted, and we have now promised to ship another 300 armed personnel carriers, four maritime reconnaissance planes, six F–104 jet fighters, and seven B–57 bombers to West Pakistan's regime.

We most strongly urge our government, which has reimposed a limited embargo on arms shipments to Pakistan to extend and maintain a total embargo for the indefinite future, and further request that all economic aid which may directly or indirectly provide foreign exchange to General Khan's administration, which may be used to purchase military equipment elsewhere, be suspended at least until an impartial international Commission has been able to satisfy the American people that the slaughter of Bengali civilians has been halted, and that West Pakistani troops responsible for the Dacca and other Bangla Desh massacres have been withdrawn from that region.

We fear that there is little hope of our protests influencing the minds of West Pakistan's military leadership, but trust that by taking the course we recommend our nation will at least clear America's conscience of all stigma of possible continued support for the murder of Bengali civilians.

Sincerely,

Stanley A. Wolpert, Professor of Indian History; D. R. Sar Desai, Professor of Southeast Asian History; J. Richard Sisson, Professor of Indian Politics; Rupert Emerson, Visiting Professor of Asian Politics; Hans H. Baerwald, Professor of Japanese Politics; Fred G. Notehelfer, Professor of Japanese History; J. LeRoy Davidson, Professor of Indian Art; David M. Farquhar, Professor of Chinese History; Robert A. Wilson, Professor of Japanese History.

LOTTERIES FOR OUR LOSERS

Mr. HATFIELD. Mr. President, an Oregonian, Mr. Joseph A. Stein, recently

sent me a copy of a poem he had written regarding the draft. In light of the recent occurrences in Congress on this matter, I think them quite appropriate.

I ask unanimous consent that they be printed in the RECORD.

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

LOTTERIES FOR OUR LOSERS

Turn your face away
Young man, you ought to join the Army.
Don't you know our country needs you?
To fight—no, that's not right—to serve, not deferred for higher learning.
We need the bloom of manhood.
Male flowers, aged 18, on our altar:
Berlin, Pentagon, Vietnam (l. to r.) and all over.
"Today's Army Wants to Join You."
Tour Indochina's jungles. And Germany's.
Those people over there might trouble us.
We fear, red and black and yellow.
But, our country right or wrong.

Not deferred, not exempt, not bypassed, not anything, no 2A?
No.
Enlistments closed.
You cannot volunteer.
Black skins, say some, and poor and Indian must not go: they're underprivileged.
You rich boys, Stop, the White Affluent dare not elude us (except a few).
We have to have to have them, too, for balance: homogenize our cannon fodder.
Equality among the Grunts.
We spread that obligation far and wider. To serve.
Except for some: Old men in Congress; Sons of Certain People; Quakers, ministers, CO's; others for "the convenience of the Government."
Government—not youth—must be served; it's always so.
And, let's see, we exempt girls and women, they're too unequal to worship at our altar to (M - - s).
Like Yahweh we revere and fear his name, we dare not speak of war god.

We always draft them fair, we spread that obligation, anyhow, producing patriots.
When we grew up the draft was there
Wasn't it always?
We give our sons the best of worlds—we worked hard, you know.
Our gifts, the glossy, drossy, flossy wonders of technology. And fears.
And the draft (it's always fair).
Our noble purpose means that some will serve their country. With honor.
Others? Well, they are privileged, we think in secret heart. Lucky.
Draft lotteries are for losers.
No need to fight and die for freedom, to forfeit liberty and slave behind a gun.
Well, some are called, but not: Old Men in Congress, Girls, Special Skills, Sons of Certain People "For Convenience of Government."

It's guaranteed Selective Service
Officers, you may not speak of heroes past, that you volunteered, every man.
Legions of Arlington, mute witnesses of men who cared to serve and fight and die for noble causes as volunteers.
No, we need the draft, Our Country Right or Wrong.
Always we have had the draft—well, 30 years, plus three or four in other wars, to-wit: Between the States and WWI as Uncle rounds our Second Hundred Years.
Conscription, naughty word, from French Revolution. Madame Lafarge.
But we know No Other Way.
Volunteers are mercenaries, you know. Mercenaries?
Well, at slave wages they must sweat. So did
Yours truly in tender years, age 18, Greetings; and RSVP.
Who can price out eyes, a set of ears or testicles, weigh legs and muscles by the pound? Account for a life. Or half, lived courtesy of the VA?
No we can't abide your volunteers, our minds made up, we must draft men.
Draft them fair.
The august voice has thundered down, we need the draft, must have the draft, yes "because even without Vietnam this country will continue to have substantial manpower requirements . . ."
The well parsed script denies what's gone before: by 1969 one sixth of men in Service roles were draft bait slaves who bore the rifles eight from nine, in Vietnam and counted half the deaths and war-wounds. The Body Count.
Says New York Times, in perfect syntax
Liberal to the core, since
A.D. 1940
But we will draft them fair.
Our country's military paramount, the greatest ever. Invincible (In My Lai, Da Nang too).
Military Might is Made of Men. M's feed on
Conscripts, age 18—not Volunteers—but drafts them fair. Rome's legions had slaves, for Empire. And Glory.
Slave service is no ideal, but Necessary. We wait for
Days of Peace.
That's why our youth must serve our god M—s.
It's Absolutely Necessary; the Senate decided 55–42 (3 not voting).
It's Absolutely Necessary; the world is full of peril.
You bet we have a Free Society. Sure we press no one into service, for our country's needs. For any problems whatever.
Not cure pollution, clean our streets, un-foul the air, not cure disease, heal the sick, bury dead men, stop alcohol, pot, narcotics, Not fight crime and garbage.
Help your local police.
No, they all volunteer.
We wave the stars and stripes, and print on stickers for lapels and bumpers. (They sell well.)
We're red-hot-red-white-blue patriots. We know what's best, at least by 55–42, (not voting). We draft men fair. We fear God.
Selective Service, the rubric of M—s.
Our school commencements, what do they commence? A brilliant world. We have it Made for them, our sons. We worked HARD.
New Deal, Frontier, Great Society and Nixon's Age of Winding Down (on the ground)
It ever was the same: draft fair. Don't scare-talk us of
Great Complexities. You say our sons face Big Dilemmas, a world of Change and Big and Little Horrors?
Age 18.
Well, isn't that too bad! We did our levelest bestest you know.
Their scars in twenty years, will heal like ours. We draft them fair, for Mars.

RURAL ELECTRIC COOPERATIVES A MAJOR FORCE IN REVITALIZING RURAL AMERICA

Mr. HUMPHREY. Mr. President, America's consumer-owned rural electric cooperatives have justly gained nationwide recognition for the fine job they are doing of rural revitalization. All across Countryside, U.S.A., cash registers are beginning to ring more often and more merrily because rural electric cooperatives have been taking an active and effective interest in helping rural communities to build new industries, establish new and expanded businesses, improve utilization of local resources from farmland to scenic and recreational attractions, and develop the educational, rural housing, and community services and facilities.

I ask unanimous consent to have printed in the RECORD the reprint by the U.S. Department of Agriculture of an article in the May 28, 1971, Wall Street Journal.

It is a deserved recognition of sustained effort in the national interest. Congress last year in title IX of the Agriculture Act of 1970 stated:

> The Congress commits itself to a sound balance between rural and urban America. The Congress considers this balance so essential to the peace, prosperity, and welfare of all our citizens that the highest priority must be given to the revitalization and development of rural areas.

The rural electric cooperatives' efforts are making a major contribution to attainment of a sound balanced growth of America. The Rural Development Subcommittee of the Senate Committee on Agriculture and Forestry seeks through field hearings to see and hear and learn more of these efforts. Particularly we want to learn how the Congress can provide the assistance these worthwhile efforts so richly deserve.

In doing so we do not intend to forget that rural electrification itself is a major contributor to rural growth and that expansion and improvement requires adequate funds, investment in new and larger facilities and heavier lines.

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

RURAL ELECTRIC COOPS DIVERSIFY IN ATTEMPT TO KEEP MORE CUSTOMERS DOWN ON THE FARM

(By James C. Tanner)

LAFAYETTE, LA.—An aggressive new business is beginning to surface in small-town America. It is called a rural electric cooperative.

By name at least, the nonprofit consumer-owned co-ops known as rural electrics are oldtimers. Farmers started them in the 1930s with 2% loans from the Rural Electrification Administration. They drove the kerosene lamp from the countryside, only to find that more than bright lights were needed to keep people down on the farm.

But now the rural electrics are making a comeback—by shedding the farmer image and by becoming activists in their communities.

This new approach by the rural electrics has made a homeowner out of Rodney Savoy. The 23-year-old truckdriver from nearby Scott, La., had given up on getting a home loan until he attended one of the meetings on housing being held in this area by Southwest Louisiana Electric Membership Corp., or Slemco, of Lafayette. The co-op steered him to the Farmers Home Administration for financing and told him how to apply. Mr. Savoy now is building a three-bedroom brick house.

Thanks also to Slemco's efforts, a new school for mentally retarded children is being built in the little town of Iota. At the town's request, Slemco helped Iota make a pitch in the Louisiana legislature for the school.

BOOSTS PLANT, HANDLES HIRING

The Lafayette co-op gets considerable credit, too, for a yarn products plant under construction at Martinville. The plant will provide 1,000 jobs for the area, reports U. J. Gajan, general manager of Slemco. He should know. After helping St. Martinville get the new industry, he sent Slemco staffers to the town to screen job applicants for the plant.

Around the oil fields, rice paddies and crayfish and catfish farms of Cajunland—this French-speaking part of south Louisiana—Slemco is considered somewhat of a swinger. Its annual meeting of consumer-members draws more than 10,000 and is considered one of the biggest fetes of the year in Lafayette.

Slemco isn't a typical co-op. With 38,000 consumer members, it is one of the largest, if not the biggest, in the nation. But its change in emphasis to community development is being shared increasingly by the other rural electrics.

The co-ops are sponsoring and promoting, and in some cases building new houses, schools, parks, golf courses, swimming pools, hospitals, resorts and factories in the rural areas. Samplings of scores of the nation's 1,000 rural electrics indicate that at least three out of every 10 are involved in such nonpower projects in the regions they serve, and the trend appears to be snowballing.

"We've got to make the rural areas more palatable to stop the migration to the cities," says W. V. Thomas, general manager of the Wisconsin State association of rural electrics.

Growing evidence suggests the migration already has stopped and perhaps reversed. With new highways and the clean air of the countryside beckoning, more urbanites are moving to smaller towns and commuting to jobs in the cities. Many others are building weekend and vacation homes in the rural areas. "Everybody wants his five acres in the country," says a Texas co-op official.

Obviously, the rural electrics are beginning to benefit. Nationally, these co-ops have 6.5 million meters linked to their lines and are expected to add at least 150,000 more this year. More than half of the 20 million to 25 million people provided power by the co-ops, based on four persons per meter, already are "nonfarm" (electricity users who may live on the farm but don't make their living there), and seven out of eight new customers of the co-ops fall in this category.

The metamorphosis in membership rolls is reflected in part by the changing attitudes of the co-ops. "To say we took the lantern off the farm means nothing to most of our members now," says Ronald J. Knouse, manager of member and community services for Blue Ridge Electric Membership Corp., Lenoir, N.C. He notes that only 10% of Blue Ridge's customers derive most of their income from farming today, versus 90% 25 years ago.

Even so, the so-called investor-owned and municipal power companies are continuing to cut into the territories of the co-ops, leaving many of them only with still-sparsely settled regions. And many of the residents of these regions are among the nation's poorest.

UNIQUELY EQUIPPED CATALYSTS

An estimated 14 million impoverished Americans live in the rural areas. Some 50% of all rural housing is said to be substandard, compared with an estimated 14% in urban America. One South Carolina co-op surveyed just one of its counties and found that 40% of the 7,000 houses had no toilet facilities.

Armed with such evidence, South Carolina's rural electrics are launching "Stand Tall" programs throughout the State to develop jobs and job training and to provide housing, water and sewer systems, schools and recreation for the rural poor. "These are the people who would go on to the slums of the cities if not helped and become dope addicts," says a spokesman for the State's electric cooperatives.

The co-ops have their own interests at heart, of course, J. U. Gajan II, director of power sales for Slemco, notes that the co-ops can increase their electricity loads by improving the lot of their customers. "We're not really looking at it moneywise—it's hell to be poor—but if we can move someone from a $2 a month house to a $5 a month (electric bill) we're helped too," he says.

Whatever the motive, the rural electrics appear to be uniquely equipped to become catalysts for a turnaround in rural America. "The co-ops, usually the largest single business organizations in their communities, Cooperative Association. "Many millions of whole matter," says Robert D. Partridge, general manager of the National Rural Electric Cooperative Association. "Many millions of future Americans," he adds, "are going to have to have jobs and live in what are now rural areas. The cities can't absorb them, and the co-ops need these additional consumers to offset their loss of farm consumers."

A PUSH IN HOUSING

Other observers agree. "It's the greatest development idea beyond the city limits," says David A. Hamil administrator of the Rural Electrification Administration which still provides financing of around $345 million a year to the co-ops but only for power purposes. And Congressman Wright Patman of Texas told the co-ops at their recent Dallas convention: "Slowly we are making headway in this area but the rural electric cooperatives must still provide the nucleus of any new efforts to revitalize rural communities."

If anybody's unhappy about the co-ops' expanded activities, in fact, it's mainly the investor-owned utilities who don't get the benefit of low-cost government loans for their power facilities. Utility executives grumble that if they were able to get 2% loans, they, too would have more profits left over for community development activities.

The biggest push by the co-ops is in housing. Their national association lobbied through Congress a liberalization of lending policies as well as additional funds for the Farmers Home Administration. On the home front, the co-ops began vigorously rounding up home-buyer prospects to use up the $1.5 billion the Farmers Home Administration has available this fiscal year.

The result has been a flood of home-loan applications into understaffed FmHA offices. Mills J. Vautrot, assistant county supervisor for the FmHA office in Lafayette, says he is closing twice as many housing loans this year.

Many co-ops have begun helping process loan paperwork for the FHA. A North Carolina rural electric hired an additional man for this purpose. Some co-ops have put on, or at least assigned, as many as four staffers to handle FmHA loans. At Jackson, Ga., the co-op's "Power-Use Organization," wives of consumer-members of Central of Georgia Electric Membership Corp., has made housing its club project this year. "By financing homes for them, we can hold people in the country and keep the poor devils out of the city," says Robert F. Armstrong, manager of the Georgia co-op.

JUST A COINCIDENCE

Some co-ops are going even further on housing. Wisconsin's rural electrics set up a statewide housing cooperative that is using government grants and loans to construct homes for the rural poor. Similarly, at Wilburton, Okla., a nonprofit housing co-op recently established by Kiamichi Electric Cooperative is constructing more than 600 homes for low-income families. It is so coincidental, the co-op says, that the houses are all-electric.

But houses alone aren't enough, the co-ops figure. So they are pressing for some amenities, too.

In Texas, the rural electrics have helped establish several hundred water districts and are involved at the moment in developing LBJ State Park, named after the former President. In New Mexico, electric co-ops rode to the rescue of a narrow-gauge railway abandoned by the Denver & Rio Grande Western Railroad. A resulting two-State joint venture begun by New Mexico's rural electrics has salvaged a 67-mile stretch of scenic route in Colorado and New Mexico. It will be reopened this summer for tourists and narrow-gauge railroad buffs.

Clinton County Electric Cooperative at Breese, Ill., helped establish a junior college at nearby Centralia and then got behind community campaigns to improve medical facilities. One of the co-op's officers headed a financing drive that resulted in a new 100-bed hospital. Now he directs a group that's trying to bring in more doctors and nurses. The organization already has netted one new doctor with its campaign this year.

PLUGGING RURAL VIRGINIA

Jobs are important, too, and that's why the co-ops are hustling for new industries for their areas. Earl J. Shiflet, executive manager of Virginia's statewide association of electric cooperatives, now spends half his time making speeches in the cities to plug the industrial attractions of rural Virginia.

North Carolina's Blue Ridge Electric says it has brought nine industries to its area in the past 12 months. They include textile, woodworking, metalworking and furniture plants and provide 1,200 jobs.

At Medford, Wis., Taylor County Electric Cooperative puts up seed money to get new industries started. It's also keen on airport improvements, perhaps because its 68-year-old manager, Charles W. Berglund, Jr., got his pilot's license last November.

Georgia's statewide co-op association recently hired an industrial-development specialist who's trying to fill the State's empty buildings with new firms. "Cotton is dead," says a spokesman for the Georgia co-ops, "and there seem to be a lot of vacant warehouses."

Eastern Maine Electric Cooperative parlayed a vacant warehouse, its owns, into a thriving new industry for Calais, Maine. The industry, a shirt factory, did so well it has moved into its own new plant. Now the co-op is trying to get someone else to occupy the warehouse, and a winemaker and a paintbrush manufacturer have expressed interest. "This is the grass roots," says Robert V. Clark, manager of the co-op, adding: 'If it doesn't start here, it doesn't start."

DR. ROBERT N. BARR

Mr. HUMPHREY. Mr. President, the State of Minnesota and the people of the United States recently lost a longtime dedicated public servant in Dr. Robert N. Barr. Dr. Barr served for 32 years as a member of the Minnesota Department of Health as a specialist in the division of preventable diseases. He was known on the national scene for his support of Hill-Burton legislation. He also was instrumental in obtaining National Institutes of Health projects for the State of Minnesota. They were a demonstration and study for improving patient care and a demonstration for planning health care resources.

Dr. Barr had a great concern for the public health needs of our State, often pushing for public health legislation in the Minnesota Legislature.

The people of Minnesota greatly appreciate what Dr. Barr represented in the health field as well as the encouragement he gave others.

Dr. Barr worked his way through Macalester College between 1920 and 1924 by holding odd jobs, including selling newspapers. Many of his college classmates recall how he lived in the basement of a girl's dormitory and stoked the furnaces and did other janitorial services for board and room. He graduated from the University of Minnesota Medical School in 1930. He later earned his master's degree in public health from Johns Hopkins University. Dr. Barr lived and worked for the health and well-being ing of his fellowman.

I ask unanimous consent to have printed in the RECORD a tribute to Dr. Barr from the magazine, Minnesota's Health.

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

DR. BARR'S CONCERN EXTENDED BEYOND MINNESOTA BORDERS

Robert Neff Barr, M.D., spoke about public health as easily as most people say their names—not a surprising fact for a man whose entire professional life was devoted to the public health field.

Dr. Barr's 32-year association with the Minnesota Department of Health began in January, 1934, when the young physician was appointed as epidemiologist in the Division of Preventable Diseases. It ended abruptly December 26, 1970, with the executive officer's unexpected death. Dr. Barr was the State Board of Health's fifth secretary and executive officer.

Born in Baxter Springs, Kansas, on September 16, 1902, Dr. Barr came to Minnesota with his parents at a young age. His father, the Rev. Robert Lord Barr, was a Presbyterian clergyman. The younger Barr attended elementary schools at Bruno and Battle Lake, and graduated from high school in 1920 at Fergus Falls.

He entered Macalester College in St. Paul and was graduated in 1924 with a bachelor of arts degree in chemistry. After teaching high school physics and physical education for one year at Wheaton, he entered the University of Minnesota where he received his doctor of medicine degree in 1930.

Dr. Barr spent three years in private practice in Baker, Montana, before returning to the University of Minnesota to study internal medicine. When lack of finances caused him to leave the university, he joined the state health department. He later earned his masters of public health degree from Johns Hopkins University after a year's leave of absence from the department.

When World War II broke out, Dr. Barr, like many others in the state health department, went into his country's service. He joined the Army in 1942 and spent 33 months overseas in the Pacific theater, part of the time as commanding officer of the Sixth Medical Laboratory on Guadalcanal. It was there, Dr. Barr once remarked, that "I cooled on my ambitions to get into internal medicine and became enthusiastic about administration and public health. I never regretted my decision."

He returned to the state health department in 1946 to resume duties which started in 1934 as an epidemiologist and carried him through assignments as director of Indian health, director of rural health services, chief of departmental administration, and director of local health services. In 1949, Dr. Barr was named the first deputy executive officer and, on November 1, 1955, following the death of Dr. Albert J. Chesley, he was appointed secretary and executive officer by the State Board of Health.

As tools in his continual fight to upgrade Minnesota's public health programs, Dr. Barr employed his gift for forceful communication, backed by near-encyclopedic knowledge, common sense, and logic. Friends and associates recall that some chuckles were often mixed into Dr. Barr's discussions of public health. But, although friendly and outgoing, he never hesitated to speak bluntly when the state's health was concerned.

During the 1950s, for instance, he commented in cold fury regarding the state laws that permitted large housing developments with homes built close to one another and with no common sewer system. In some areas, individual septic tanks were so close together that the land became soaked with sewage.

In 1954, he charged that the Salk polio vaccine had been "oversold to the public." His fears were substantiated when some of the vaccine in another state turned out to be faulty and apparently caused some cases of polio. Still, he supported a Salk vaccine program under a close watch. Then, when the safer oral polio vaccine became available, he strongly supported its use.

Dr. Barr demonstrated a keen interest in hospital construction and in the Hill-Burton Program from its inception. He testified before Congress on numerous occasions relative to Hill-Burton's continuing need and accomplishments, and was chairman of the Association of State and Territorial Health Officers (ASTHO) committee on hospital and medical facilities planning and construction. Many of the hospital recommendations submitted for consideration at the Surgeon General's conferences throughout the years were instigated by Dr. Barr.

Long an advocate of improving patient care and of sound, long-range planning for health facilities and services, Dr. Barr encouraged two proposals, both of which were approved by the Division of Research Grants, National Institutes of Health, U.S. Public Health Service. *A Demonstration and Study for Improving Patient Care,* conducted in the state health department from 1956 to 1962, established patterns for studies of existing paramedical personnel and practices, regional refresher training, utilization of consultants and shared personnel, and other means of alleviating critical manpower shortages including various methods of recruitment. From 1962 to 1965, *A Demonstration for Planning Health Care Resources* promoted interest in area-wide planning and in establishing functional relationships among health care facilities.

Dr. Barr's deep concern for public health needs and for the well being of people extended beyond the borders of Minnesota. In 1958 he was responsible for bringing the World Health Organization to Minneapolis where 86 nations celebrated the organization's 10th anniversary. Four years later, he was instrumental in bringing to Minneapolis the Pan American Health Organization for its 16th quadrennial conference. As steering committee chairman for both these international meetings, Dr. Barr was responsible for the planning, development, and execution of all local arrangements and activities. The hospitality of local citizens did much to promote international friendship and to contribute to a greater understanding of our way of life.

Dr. Barr was a diplomat of the American Board of Preventive Medicine and Public Health, a fellow of the American College of Preventive Medicine, and held membership or office in numerous health-related organizations. He was a member of the ASTHO executive committee and served on several Advisory Committees to the Surgeon General, including those on Indian health, heart disease control, cancer control, and environmental radiation exposure.

In 1963, Dr. Barr received the Minneapolis Junior Chamber of Commerce's Francis E. Harrington Award for public health leadership and achievement. He also received the Minnesota State Medical Association's Distinguished Service Award and the ASTHO's Arthur T. McCormack Award in recognition of his public health leadership. In October, 1970, Dr. Barr was presented the Harold S. Diehl Award by the Alumni Association of the University of Minnesota Medical School for his service to the medical school, the medical profession, and the University of Minnesota.

He is survived by his wife, Lucy; a daughter, Mrs. Robert Gustafson; a sister, Mrs. C. S. Lucas; and two grandchildren.

ADDRESS BY ATTORNEY GENERAL MITCHELL

Mr. BYRD of Virginia. Mr. President, the Attorney General of the United States, John N. Mitchell addressed the American Bar Association meeting in London, England, last week.

His July 16 address was captioned "In Quest of Speedy Justice."

The Attorney General's remarks were directed at both attorneys and judges.

I ask unanimous consent that the text of Mr. Mitchell's excellent address be printed in the RECORD.

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

IN QUEST OF SPEEDY JUSTICE

(Address of John N. Mitchell, Attorney General of the United States)

In the novel, *Bleak House,* Charles Dickens built his story and his message around a civil case before the High Court of Chancery that had dragged on for generation. Two or three of the solicitors in the cause he wrote "have inherited it from their fathers who made a fortune by it . . ."

Innumerable children have been born into the cause; innumerable young people have been married into it; innumerable old people have died out of it.

This classic case of courtroom delay, as well as the whole theme of belabored justice that runs through *Bleak House,* come to mind again today—not here in England, whose courts are a model of swift justice, but in the United States. And because we are in Britain, the mother of the common law, we can look at our own problems with more perspective and compare our methods with those which have worked so well here.

In our own country, delay in civil cases has long been notorious. But now the infection has spread to criminal cases, where "speedy trial" is guaranteed in the Sixth Amendment to the Constitution. In our larger cities delays of five to six months between arrest and trial are normal. Cases of delay up to two years are not uncommon. It is not surprising that the New York jail riots in the fall of 1970 were blamed largely on trial delays—more than 40 percent of the inmates had waited at least a year to be tried.

In such desperate situations, there is a great temptation to subordinate the ends of justice to the urgent task of clearing the calendar. To keep cases from coming to trial, negotiated pleas have become the order of the day. One veteran defense counsel has said, "If every defendant refused to plead and demanded a trial, within a year the system would collapse."

Delay has also overtaken the trial period itself—the time in a Federal criminal proceeding has roughly doubled in the past decade.

But it is when we get to the post-trial stage that months can turn into years. It is no problem to cite cases in which the post-trial review has dragged on for a dozen years.

I submit that such a system of justice is in some respects a caricature of justice. It denies the very blessing it is supposed to confer.

Little wonder that the American public is concerned about its system of justice—while confidence in that system is indispensable to an ordered society.

Little wonder that, according to a recent poll, only 23 percent of the adult population think the American justice system is working well today.

Little wonder that many have adopted a cynical distrust of the courts—an attitude that cropped up as early as Shakespeare's time. In Part II of *Henry VI*, a mob goes to London for the now-familiar purpose of trying to stop the Government. You'll recall the lines of Dick the butcher: "The first thing we do, let's kill all the lawyers."

I think you'll agree with me that if this is the state of affairs today, it's time something were done about it.

Recommendations have come from many sources. One approach to assure speedy trials is simply to dismiss all criminal cases if they are not brought to trial in a given period, and this has actually been adopted in some courts. It has been proposed that a trial on a Federal offense shall be commenced within sixty days—excluding certain specified possible delays—and that otherwise the case shall be dismissed with prejudice.

This, in my view, is what might be called a non-solution. The purpose of the Sixth Amendment is, among other things, to assure a speedy trial—not to withhold the processes of justice altogether. Under this approach, innocent defendants are not vindicated and guilty defendants are not forced to recognize their wrongdoing. And, of course, in the case of the guilty person who is set free, the public pays the price in further crimes perpetrated both by the uncorrected criminal and by others who are emboldened by his example.

It takes no prophet to foresee that such an arbitrary solution would strengthen the defendant's hand in negotiating a guilty plea to an unreasonably lenient charge. In fact, under such circumstances the sudden rush of defendants to claim their right to trial, far from unclogging the courts, would overwhelm them.

Clearly, this solution attacks only the symptom of court delay, not the causes. In an effort to satisfy the Constitution's Sixth Amendment, it runs counter to the Constitution's very preamble—to "establish Justice." Carried to its logical conclusion, this approach would not only dismiss cases, it would dismiss the function of the courts. It says to us that no justice is better than slow justice. I will not say that this meat cleaver approach reflects the mind of Dick the butcher, but it does provide a classic example of throwing the baby out with the bathwater.

Such a solution is even less defensible when we observe the speed of justice in the British system, which is after all the source of the common law and our entire legal tradition. It is my understanding that criminal cases in Great Britain are generally brought to trial within 60 days of the defendant's arrest. The trials themselves are usually disposed of within a few days, and the most protracted trials are measured in days rather than in weeks or months. In the infrequent cases where appeals are filed, final disposition is usually made within three months.

I bring this up not to suggest that we adopt the British system as it is, because many of the conditions and problems in the two countries are different. For one thing, our system is complicated by separate state and Federal court jurisdictions. But I do suggest that we can learn from the British system, and that its success in providing speedy justice shows that the task can be achieved.

Another approach would provide bigger but not necessarily improved courts—more judges, more courtrooms, bigger staffs. Some or all of these steps have already been tried in many cities, including Washington, and they have generally been helpful.

But we have to recognize that these measures are a palliative, not a cure. These are just more buckets to bail out the boat, rather than plugging the hole.

There are also some other proposals that show promise of improving the courts.

One is to bring new efficiency to the judiciary through the use of trained administrators, computers to police the calendar and the cases, and the like.

Another is to reduce the volume of written language—the briefs, the transcripts, the opinions—that accompanies the judicial process in the United States, but not in Britain, and slows it through the mechanical needs of typing, printing and reproduction. More effort could be made to assure that appeals will be heard within 30 to 60 days, thus reducing the need for the printed briefs and transcripts which we now require. In fact, if appellate decisions were this prompt, many of the appeals ordinarily made for delaying purposes would never be brought in the first place.

Another proposal is to relieve the courts from hearing many types of cases, such as drunk arrests and other offenses that might be more appropriately dealt with by agencies outside the judicial process.

Still another is to reverse the tendency to take more and more of society's problems to the courts and thus to burden them with still more duties. Too often a quick solution is for the legislators to outlaw a particular practice and provide for criminal prosecution, when in fact the judiciary may be less equipped to handle the responsibility than an administrative agency.

Having enumerated these useful remedies, I have to say that if every one of them were adopted throughout the American court system, we would still have slow justice. I have cited them because I want to isolate the real subject of my remarks—the Hydra of excess proceduralisms, archaic formalisms, pretrial motions, post-trial motions, appeals, postponements, continuances, collateral attacks, which can have the effect of dragging justice to death and stealing the very life out of the law.

We face in the United States a situation where the discovery of guilt or innocence as a function of the courts is in danger of drowning in a sea of legalisms.

I refer to the overabundance of pretrial hearings designed mainly to deprive the jury of material and relevant evidence.

I refer to meticulous requirements that can only be characterized as ritual for its own sake.

I refer to the endless post-trial appeals so well described by the dean of American district attorneys, Frank S. Hogan of New York:

"Every conceivable aspect of the case, including things that were never thought of at the trial, will be argued and reargued to panels of state and Federal appellate judges whose appetite for reexamination seems inexhaustible. Indeed, it is possible to say that there is virtually no such thing as finality in a judgment of conviction."

Let me cite as an example a robbery case in which the suspect could only be arrested if he could be identified by the victim, but it was impossible to get the suspect in a lineup because there was yet no probable cause for his arrest. With commendable ingenuity, the sergeant in the case summoned both the suspect and the victim to the U.S. Attorneys office at the same time, without either of them knowing why. There were 10 or 12 people in the room when the victim arrived. He immediately recognized and made known his identification of the accused. Yet the conviction of the defendant was reversed by a higher court because a lawyer had not been present at the identification!

We see in such examples the flowering of whole generations of legalisms, one upon another, until a gulf of obscurity separates the law from the people. Many defense attorneys will raise every conceivable argument, however frivolous and long-drawn, either out of pure litigiousness, or to protect themselves against future charges of "ineffective assistance of counsel." And the courts often let them go to such unreasonable lengths, with consequent delay, for fear that the appellate courts will somehow find error, even in the most reasonable attempts to control excess litigiousness. I am reminded of the devastating cartoons in which Daumier satirized the courtroom affectations of his day.

In dissenting against one reversal of the type I have described, Chief Justice Warren Burger, then a member of an appellate court, had this to say:

"I suggest that the kind of nit-picking appellate review exhibited by reversal of this conviction may help explain why the public is losing confidence in the administration of justice. I suggest also that if we continue on this course we may well come to be known as a society incapable of defending itself—the impotent society."

Nor is it enough that direct appeals can keep a case going through the courts for years. A whole new Pandora's box of collateral attack has been opened. Years after a conviction has been affirmed on appeal, every aspect of a case is combed for possible charges of Constitutional violation, which can bring about a retrial and drag the case once again through the courts. There is no limit to the number of collateral attacks permitted. Some prisoners have filed as many as 40 or 50 petitions. Each time a petition is granted, the basic case is reopened in the original trial court. How can we expect the prosecution to produce proof over and over again, while witnesses disappear and memories falter?

Many of these petitions are brought in the very hope that the prosecution will have lost key evidence. Besides frustrating justice, this growing practice floods the courts with cases that were already tried. One District Attorney has said, "Our old cases come back in a great wave, threatening to engulf the gasping trial courts, already up to their chins in current business."

Worse, the competence of the lower courts is continually in question, with the result that they are losing their authority and the public is losing its confidence in them. In any other profession such inordinate backing and filling, such technical challenges years after the bridge had been built or the surgeon had operated, would be preposterous.

And the evil effect is not confined to the courts. What about the uncorrected prisoner who, as long as he believes he can be freed, will not acknowledge moral responsibility—the first step toward correction? When potential criminals are encouraged because they know there is slight chance of conviction, much less imprisonement, when the convicted felon never reaches the moment of truth and faces his own guilt, it is not just the courts that are affected by our present plague of courtroom gamesmanship, it is the whole criminal justice system.

With all this I do not advocate lessening the due process rights of the accused. The spread of standard practices to assure these rights among all courts has been a decided advancement in American justice.

I am speaking of the distortion of these practices for the purpose of thwarting justice. And how far we have traveled along that road may be seen by comparing the court conditions I have described with those here in Britain, where justice is speedy, where the case backlog is manageable, and where appeal is the exception rather than the rule. A capsule comparison of the two

criminal justice systems was made by Lord Denning, Master of the Rolls, at a meeting of the California State Bar in 1969. Both systems dispense justice, he declared, but there is an important difference. "When a serious offense is committed we lock the defendant up and give him a speedy trial. You do neither."

Certainly the American bench and bar can address the problem of speedy justice and develop solutions that are suited to American conditions. This Association has taken the lead with its Criminal Justice Project, whose reports have been providing the states with proposed standards for criminal justice procedures. Other bar associations, judicial councils, university law schools and state legislatures are studying aspects of the problem. As directed by President Nixon, the Department of Justice is examining the reform of Federal criminal procedures.

Yet not enough work has been oriented toward the basic causes of delayed justice that I have described. My plan is for the profession to intensify its reforms in these conceptual areas—to revive the court's primary function as a finder of fact, to restore finality as one of the attributes of justice, to breathe life into the ancient adage, "Justice delayed is justice denied."

For its part, the bar needs to review some serious ethical questions. Every attorney is, after all, an officer of the court, and is duty-bound to preserve its effectiveness. When, for example, he seeks unnecessary postponements in the hope that witnesses will disappear, he is abandoning that duty. He is not free to use *every* means at his disposal to defend his client, but only those means within the law and the canons of ethics.

And without going further into his obligations to the court and to society, let me remind him of the obligation he owes his client. Too often the trial attorney acts as though he is representing an issue rather than a client. To win a point he may press it far beyond any benefit to his client. There are times when his client is better served by negotiation than by pursuing a legal argument through the court system. No trial should be the vehicle for an issue at the expense of the client's welfare.

In its turn, the bench is in the best position to halt the stampede of delaying tactics that is overrunning the name of justice itself. It can exercise more judgment in identifying and resisting those devices designed to obstruct rather than to promote justice. It can take affirmative action to speed the process of justice by meeting with the parties before trial to clear away immaterial matters and prepare to focus on the real issues. It can consider devising a system to deal with all questions of fundamental fairness at the trial and in normal review, as a substitute for the endless post-conviction collateral review which so burdens our present system.

The judiciary can also examine the drift of American criminal justice from a larger perspective. It can begin to recognize that society, too, has its rights, including the right to expect that the courts will do justice, that the innocent will be cleared, and the guilty will be corrected.

It can give as much attention to the Constitutional right to a speedy trial as it does to other Constitutional rights.

It can recognize that perhaps it has been too preoccupied in the exhilarating adventure of making new law and new public policy from the bench, and that this function of the courts has outdistanced the more sober task of judging guilt and innocence.

The crowded calendars, the breakdown of speedy justice, the loss of public confidence in the courts—these are the advanced symptoms of an ailment that has permeated our justice system. The ailment should have been cured long before the patient reached the chronic stages of infirmity that I described.

This is why I deeply believe that American administration of criminal justice has reached a crossroads. Shall we continue on our present course until slow justice becomes no justice? Until courtroom posturing becomes a subject for the acid pen of a latter-day Daumier? Until it is said in our courts, as it was said in the court Charles Dickens described, "Suffer any wrong that can be done you, rather than come here?"

Or shall we alter our course, shunning the road to courtroom obfuscation, and taking the road of courtroom common sense? Shall we resurrect the basic role of justice—that of determining innocence or guilt? Shall we insist that Constitutional rights *can* be protected without immobilizing our courts with unnecessary procedures and litigation?

The answer to these final questions must be a resounding "Yes," and the time to begin action is now.

THE AILING HEALTH INDUSTRY

Mr. KENNEDY. Mr. President, I invite the attention of Senators to a series of articles written by Mr. Stuart Auerbach and published this week in the Washington Post. The articles presented a candid view of our ailing health industry by pointing out problems of inadequate health insurance, shortages and maldistribution of medical personnel, and rapid inflation of hospital rates and doctors' fees. But I think the most commendable feature of Mr. Auerbach's series is the attention given to innovative measures such as prepaid health plans and urban-rural hospital confederations, which can do much to help reverse the present intolerable trends in our ailing health industry.

Mr. President, I ask for unanimous consent that the articles be printed in the RECORD.

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

UPHILL FIGHT TO HEAL THE HEALTH INDUSTRY

(By Stuart Auerbach)

Lyle Mattox, a Chicago carpenter, spent his life savings paying for 15 days of hospital care. His medical expenses forced him on the welfare rolls.

James Rieger, who works in a clothing manufacturing plant, owed a Cleveland hospital close to $20,000 after his wife almost died while giving birth. His health insurance covered only $350 of the bill, and he had to declare bankruptcy.

Leonard Kunken, who sells health insurance, found his company's best policy paid no more than $40,000 of medical expenses for his son Ken, who broke his neck and severed his spinal cord while playing football. Kunken estimates his yearly medical bill will be about $100,000.

These are true examples illustrating one part of the nation's health crisis—the inability of both rich and poor to pay for their medical care.

More than a dozen bills have been introduced in Congress in attempts to solve all or part of the health problem. But no more than five of them have any chance of gaining serious consideration.

The bills differ widely in their cost and their effect on American medicine. The American Medical Association's Medicredit, for example, merely sets up a way to finance health care without attempting to reform the way medicine is practiced.

The cradle-to-grave national health insurance system supported by organized labor, on the other hand, would radically change medical practice in the country by emphasizing prepaid group practice. The government would pay virtually all medical bills.

While pushing some reforms—notably encouraging prepaid plans (called health maintenance organization)—the administration bill is mainly aimed at making it easier for Americans to pay for health care.

Plans that appear most likely to pass provide some form of federal financing for "catastrophic" illness—the extreme sickness, like Ken Kunken's, that no private insurance policies cover.

Two key members of Congress—Sen. Russell B. Long (D-La.), chairman of the Senate Finance Committee, and Rep. Wilbur Mills (D-Ark.), chairman of the House Ways and Means Committee support this plan. It is also part of the AMA and the administration bills.

But paying for health care is only part of the problem.

The health crisis, most experts agree, includes a shortage of doctors and other medical personnel their concentration in business sections of cities and the suburbs; their absence from urban slums and rural areas; no assurance of quality medical care; a higher rate of disease and death in the U.S. than other industrialized western countries; a fragmented non-system of health care, and spiraling costs that have increased 50 per cent since 1960 to a 31 per cent rise in the cost-of-living index.

Up to now, federal programs have just added to the inflationary pressures by pouring more money into medical care without attempting to make the nation's $70 billion-a-year health industry more efficient.

Both the administration bill and the cradle-to-grave national health insurance plan, sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich.), attempt more than the others to tackle some of these other problems.

But the thing that affects Americans most directly is the high cost of medical care.

Rich and poor alike become financially strapped by hospital charges that average about $150 a day here and doctor bills that have risen at twice the rate of the already inflated consumer price index.

In an effort to drum up wide support for his national health insurance bill, Kennedy took his Senate health subcommittee across the country, listening to complaints from people who either couldn't get medical care or who couldn't afford the care they got.

The hearings developed testimony from people such as Mattox, Rieger and Kunken—middle and upper middle class Americans driven to the wall by high medical costs.

Rieger, for example, had health insurance through the Cleveland clothing manufacturer where he worked. But it only covered $350 in maternity benefits. (Hospital and doctors' bills for a normal birth average more than $900.)

Mrs. Rieger's birth was far from normal. Her heart stopped during delivery, then she caught pneumonia and her lungs collapsed. She spent two months in the intensive care unit of Cleveland Metropolitan General Hospital, a city operated facility. The baby, two months premature, also spent two months in the infant intensive care unit. The total bill was $20,000.

"All my insurance paid was $350," Rieger told the subcommittee. "Times were hard enough as it was. There was nothing else I could do but go into bankruptcy."

The hospital, he says, wanted him to borrow the money from a finance company. He said he'd try to pay part of the bill from his $120 a week take-home pay "because they saved my wife's life and my baby's life."

Mattox, 52, couldn't get medical insurance because of his history of high blood pressure. While in the emergency room at St. Elizabeth's Hospital in Chicago because he didn't feel well, Mattox suffered a coronary occlu-

sion—a blockage of the blood vessels leading to the heart.

He was hospitalized for 15 days at a cost of $1,500 plus $150 in doctors bills.

"My wife withdrew all of our savings (12 years worth while raising two children) and paid those two bills," he said.

Now he is on welfare and the state-federal Medicaid program is paying his medical bills.

He is trying to start work again. But if he gets sick again, Mattox will have to go back on welfare.

Kunken is a special case—a man who never thought a medical tragedy would floor him. A moderately well-to-do insurance salesman, he lives in Oceanside, L.I., a suburb of New York. He bought his company's major medical insurance policy for his family—the best one offered.

But when his 20 year old son Ken, a junior at Cornell University's engineering school broke his neck playing 150-pound football, the policy benefits melted away under medical bills that ran $6,500 a month.

Ken is undergoing rehabilitation treatment in New York; even though he can't move any muscles below his neck, his mind remains sharp and keen.

How would the leading health reform programs proposed in Congress help James Rieger, Lyle Mattox and Leonard Kunken?

Proponents of the five plans most likely of passage were asked how their bills would help those specific cases. They supplied the answers to The Washington Post.

The major plans are the cradle-to-grave health insurance bill, the American Medical Association's Medicredit, the administration's bill, the health care act proposed by the insurance industry and Sen. Long's catastrophic insurance bill.

Here is how they would work in the case of James Rieger.

The administration bill would have paid at least $71,200 of his $20,000 medical bill. His employer would have had to pay as much as 75 per cent of his health insurance coverage, which would offer more complete maternity benefits.

The catastrophic bill would not have covered the Rieger case because mother and infant were not hospitalized long enough.

The Kennedy-Griffith bill would cover 100 per cent of all costs.

Medicredit would cover the total costs except for $50 deductible on the hospital bill. These costs would be deducted from the Rieger family income tax payments.

The Health Care Act would cover $19,000 of the bill, leaving Rieger to pay $1,000. This would be under the group coverage supplied by the clothing manufacturer which would have to meet new minimum standards.

Here's how the plans would work in the case of Lyle Mattox:

The administration bill would cover at least $1,087.50 of his bill if, as a self-employed person, he had bought health insurance coverage that would be available to him.

Catastrophic bill would not have covered him because his hospitalization was too short. The Long bill requires hospitalization of at least 60 days or a doctors' bill or more than $2,000.

The Kennedy-Griffith bill would cover all costs.

Medicredit would give deductions on the amount of income tax owed for all but $250 of the bill.

The Health Care Act would have covered all but $110 of Mattox's bill. He would have been eligible for a special pool coverage.

Here's how the plans would work in the case of Ken Kunken:

The administration bill would pay $50,000 of the first year's expenses and at least $2,000 a year after that.

The catastrophic bill would cover all expenses after $2,000.

The Kennedy-Griffith bill would cover all costs.

Medicredit would provide tax deductions for all but $250 of the expenses of the first 60 days of hospitalization. Beyond that, the family would have to pay $4,625 of the estimated expenses.

The Health Care Act would not require insurance plans to include coverage for an unmarried son over age 18, but some plans may include him. If so, he would receive full coverage except for $1,000.

It seems obvious that some health care reform measures will pass Congress before the 1972 election.

Those people, like Kennedy, who feel the system needs a total overhaul are hoping the reform will go beyond mere tinkering with the financing of doctor bills.

But, looking at past history, it appears unlikely that major revisions will be made. A 1932 government report, reprinted by HEW last year, concluded:

"The problem of providing satisfactory medical service to all the people of the United States at costs which they can meet is a pressing one.

"At the present time, many persons do not receive service which is adequate either in quantity or quality, and the costs of service are inequitably distributed. The result is a tremendous amount of preventable physical pain and mental anguish, needless deaths, economic inefficiency and social waste.

"Furthermore, the conditions are largely unnecessary. The United States has the economic resources, the organizing ability and the technical experience to solve this program."

The same lines could be written now, almost 40 years later.

THE MAJOR BILLS

Here are the provisions of the major health care reform bills currently before Congress:

The Nixon administration plan would require private health insurance coverage for all workers and their families which meet federal minimum standards. In addition, low income families would be covered by a federal insurance program that is not as complete as the requirements for private coverage. It would encourage prepaid group practice as a way to reform the system.

The administration estimates that the employer-employee insurance would cost $7 billion more than present expenditures. The family program for the poor would cost $3 billion, with about $1.8 billion saved because of the discontinuation of Medicaid.

Sen. Edward M. Kennedy's health security bill would establish a government-run national health insurance program that would provide virtually complete medical care for all U.S. residents. It would be financed by taxes on employees, and employers and general revenues. Money would go first to prepaid group practice plans and the plan would emphasize strict quality controls.

Kennedy estimates it will cost $57 billion, the administration says it will cost $77 billion. Kennedy says most of the money is already being spent by Americans for inefficient and ineffective health care.

The American Medical Association's Medicredit would give tax credits for the purchase of health insurance and the federal government would buy the insurance for the poor. Included is coverage for catastrophic illness. Its cost is estimated at $14.5 billion.

Sen. Russell B. Long's catastrophic health insurance program would supplement private coverage. Benefits would begin after 60 days hospitalization or $2,000 in doctors' bills. It would be paid for by the federal government, and its cost is estimated at $2.5 billion.

The health insurance industry's national health care bill would provide federal aid for state insurance programs for the poor and high risk cases and set federal minimum standards for health policies. It would cost an estimated $2.4 billion.

PREPAID HEALTH CARE COMES INTO ITS OWN

(By Stuart Auerbach)

Betty had a slight summer cold. Nothing special, just the normal childhood sniffles with a minor sore throat.

Many parents wouldn't bother bringing Betty to a doctor. But her father didn't hesitate. He took her to the Group Health Association here for a checkup. The visit didn't cost him anything; GHA is a pre-paid group practice plan, and he pays by the year whether he goes to the doctor or not.

This idea is currently the darling of people trying to reform medical practice in the country. Even the Nixon administration, under the less controversial name of Health Maintenance Organization, has made it a cornerstone of its health reform effort.

HMOs, or pre-paid group practice plans, are supposed to provide better health care—with an emphasis on preventive medicine—at a lower cost.

This is true, its proponents say, even when parents bring in patients such as Betty for minor ailments. Actually, the doctor was glad to see Betty. The checkup didn't take long and it gave nim a chance to catch any possible major illness early, when it is easier to treat.

In Betty's case, the doctor noted that she wheezed when she coughed, indicating that she may be developing allergies.

That was duly placed on her medical record. If the wheezing persists, doctors will begin treating her for allergies.

In 1970, GHA doctors saw patients about a half-million times. But the 75,000 members only spent a total of 43,500 days in the hospital.

This is about half the rate of hospitalization of a similar group of patients here treated by private doctors under the traditional fee-for-serve form of medicine.

The same trend has emerged among members of the Kaiser-Permanente health plan, which serves about 2.1 million people in Hawaii, California, Oregon, Colorado, Washington and Ohio. Kaiser patients have far lower hospitalization rates than patients covered by standard health insurance policies.

This is a key factor in keeping medical costs down. At rates that can go as high as $150 a day here, hospitals are far more expensive than out-patient treatment.

This is borne out by studies of another pre-paid plan, the Group Health Cooperative of Puget Sound, Wash., where Dr. Frank Newman reported that the average member of his plan paid $143 a year for medical care compared to a national average of $226.

"We like to believe that the reason for this lower hospital experience is our preventive medicine program," says Frank C. Watters, GHA's executive director.

This includes diabetes, cancer and glaucoma screening tests for adults and a strong immunization program for children. Members get periodic physical examinations.

"We do GI (Gastro-Intestinal) series here," says Watters. "A solo practitioner would put someone in the hospital for a GI series."

It's not always the doctors' fault for the needless hospitalization of patients. Most private health insurance policies cover tests done while a patient is in a hospital, but fail to cover the same tests done in a doctor's office at a fraction of the cost.

For years, the words "prepaid group practice" couldn't be spoken in polite medical circles.

GHA, fighting both the American Medical Association and the District of Columbia's insurance commissioner, had to go to the U.S. Supreme Court before it won the full right to operate 34 years ago. Even now, its doctors sometimes have problems getting

licensed in Virginia—a medically conservative state.

But for the most part things have changed. Prepaid group practice is the common thread in most of the proposals before Congress to reform the nation's ailing health care system.

The Nixon administration, which first adopted the idea under the name of Health Maintenance Organizations to cut the costs of medicaid and medicare, now consider HMOs the key force in its effort to remold American medical practice.

The cradle-to-grave national health insurance bill sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich.) also looks toward pre-paid groups as the main way to bring better medical care at a lower cost.

The American Hospital Association's Ameriplan, not yet introduced in Congress, focuses on a hospital-based health care system that can easily be converted to prepaid groups.

And while the AMA isn't in love with the concept, it doesn't oppose the idea, either. Its House of Delegates urged the government last month to go slow before spending large sums to start HMOs across the country.

The sudden interest in pre-paid groups developed as a means to control the spiraling costs of medical care—increasing at a rate 20 per cent higher that the national cost-of-living index.

Besides decreasing the rate of hospitalization, experts say the pre-paid group practice uses the doctor's time more efficiently by giving him para-medical assistants, and makes it easier for a patient to get comprehensive care because a number of specialists are working together.

The solo practice of medicine, President Nixon said in his special health message in February, gives doctors "no economic incentive . . . to concentrate on keeping people healthy.

"A fixed price contract for comprehensive care reverses this illogical incentive. Under this arrangement (HMOs), income grows not with the number of days a patient is sick but with the number of days he is well."

It may save money, but does pre-paid group practice actually mean better medical care for its members?

Two days spent visiting GHA's main clinic at 2121 Pennsylvania Ave. NW indicated a real concern by doctors for the health of their patients. Care was swift, but not rushed. Examinations appeared complete, in many instances more complete than most doctors give.

For instance, Dr. Philip C. Brunschuyler took a smear of pus and sent it to the laboratory for tests when he treated a little boy with an infected thumb. He also took a smear when treating a girl with a sore throat.

A little girl who complained one Friday of a burning sensation when urinating had a urine specimen taken the next day to make sure she didn't have a kidney infection. On the next Monday, she was told to return for another test.

The doctors seemed to know their patients, despite claims by detractors that pre-paid group practice breeds impersonal medicine. Indeed, many patients have their own doctors within the group whom they see regularly, except for emergencies.

"We encourage patients to have their own doctor," Brunschuyler says.

GHA also places a heavy reliance on nurses. They give injections, dress the wounds, prepare the patients for examinations and screen all telephone calls.

"This frees the doctor to practice medicine," says Dorothy Fowler, GHA's chief nurse.

The GHA staff also includes two social workers and a dietician to help members with special problems.

GHA, however, lacks one component that many experts feel is necessary for a true HMO: its own hospital that would give it more complete control over costs.

Instead of building its own hospital, GHA decided at the beginning to give its members the extra measure of quality care provided by the university hospitals in the city.

But now, with medical costs rising so fast, GHA is considering starting its own 125-bed hospital for less serious cases, thereby saving as much a 25 per cent of its $6 million yearly hospital bill.

This means that GHA is growing. But Watters wants to make sure it doesn't grow so fast that it can't provide quality care for its members.

He also worries that the new popularity of prepaid groups—or HMOs—will mean that too many are started too fast without proper planning. This, he said, could give the entire concept a bad name.

The Nixon administration, though, thinks America should press forward on HMOs.

It would like to see a network of 1,700 HMOs spread across the country caring for 40 million Americans by 1976. By 1980, the administration says, there should be enough HMOs to cover 90 per cent of the population.

To accomplish this, the administration has asked Congress to appropriate $45 million to be used in fiscal 1972 to start HMOs in urban slums and rural areas that need better health facilities.

In addition, the President asked Congress to approve a guaranteed loan program to help private organizations set up HMOs in slums. The loan funds would grow from $300 million next year to a total of $4.2 billion by 1976.

Furthermore, James Cavanaugh, a former HEW health official now working in the White House, wants to use the $15 billion that the federal government spends on Medicare and Medicaid to promote HMOs.

Watters fears this sudden burst of enthusiasm may sink pre-paid group practice if it is not accompanied by intelligent planning.

"I'm afraid," he says, "that with all the current emphasis on HMOs physicians, consumers and others may have gained the impression that all they have to do is gather a group of doctors together, decide to form a pre-paid group, apply for funds from HEW and start the program."

Not so, he says.

A pre-paid group requires strong leadership; a base membership of at least 5,000 that can grow to 30,000 in three years; interested doctors and other medical personnel, and money.

Nevertheless, says Watters, "Pre-paid group practice is the most promising answer on the scene today to solve in part some of the problems we have in the health care delivery system."

CITY-COUNTRY HOSPITAL CONFEDERATION AIDS RURAL CARE

(By Stuart Auerbach)

PHOENIX, ARIZ.—On a Thursday morning this spring, Mrs. Alvin Reidhead gave birth to premature triplets in the small hospital at Holbrook, 200 miles from here.

As births of premature triplets go, the delivery was routine. But the infants were all high-risk babies—weighing less than 5½ pounds the doctors feel is necessary for survival.

All three Reidhead triplets—Vikki, Nikki and Ricki—survived, thanks to a unique hospital network that provided them with the newest, most sophisticated care available anywhere.

They were born in the 25-bed Holbrook Hospital under the care of Dr. Robert Joseph Haley Jr., an old-time general practitioner who has helped deliver three sets of triplets in his lifetime.

But he had a backup in this case that went far beyond what is available to most GPs practicing in remote, small-town hospitals.

For Holbrook Hospital is part of Samaritan Health Service, a confederation of nine Arizona hospitals stretching from the booming suburbs of Phoenix to the rim of the Grand Canyon, 250 miles from here.

Good Samaritan Hospital in downtown Phoenix, a leading medical center, is the focus of this two-year-old experiment to find new ways of providing medical care to both rural and urban residents of one of the nation's fastest-growing states.

The experiment is being watched with growing interest by hospital officials and health planners across the country who see it as a way to insure that the hospital remains the center of health care delivery.

It is the prototype of Ameriplan, the American Hospital Association's program to reform health care in the country.

Under Ameriplan, hospitals would change from institutions that only care for people who arrive at their doors to ones that reach out into the community to find the sick and that run programs of preventive medicine.

They would emphasize out-patient care as well as in-hospital treatment. And they could be easily converted to the prepaid group practice-health maintenance organization concept that is so popular with health reformers.

"It's a direction in which the voluntary hospital and private medical systems can go to save themselves," says Stephen M. Morris, president of Samaritan Health Service. He is also president-elect of the AHA and an architect of Ameriplan.

"I think if we continue to go the way we are now," he adds, "we're going to lose the whole ballgame. The public is simply not satisfied with either our financing mechanism or our delivery mechanism."

Ameriplan would establish a national network of hospital-based corporations that would provide medical care to all residents of a given area in much the same way that Samaritan Health Service helps hospitals in outlying communities such as Holbrook.

For example, when the Reidhead triplets were born, Samaritan Health Service mobilized its full facilities to keep them alive.

Mary Flemons, the head nurse at Holbrook Hospital, had just returned from a refresher course at Good Samaritan and was up to date on the care of high-risk newborns.

To bolster her, Joanne Junasz, a pediatric nurse at Good Samaritan, drove to Holbrook with extra supplies. And the health corporation rushed three Isolettes—baby-sized incubators—from Phoenix to Holbrook.

Meanwhile, Dr. Haley at Holbrook conferred twice daily by phone with experts in the care of the newborn at Good Samaritan.

The triplets thrived on the round-the-clock care they received at Holbrook. But the hospital's small staff was physically overtaxed; doctors and nurses there couldn't maintain the care the infants needed and still treat their other patients.

So the Reidhead triplets were flown to Good Samaritan in the health system's ambulance plane. They stayed there until they gained enough weight and strength to go home.

Samaritan Health Service has done more than just take care of cases too complicated for the smaller hospitals. Indeed, a good part of consortium's job has been keeping these hospitals supplied with doctors and nurses.

One man, David W. Graef, spends much of his time recruiting doctors for the outlying hospitals.

"Some Friday nights when there are no doctors I get one by Saturday. I call everybody I know who has the weekend off," says Graef.

The big problem is the isolation of the small towns. And when the doctors like it, the wives usually don't.

"I'm convinced if they'd stay there a while, they'd love it," says Graef, who has even tried advertising for doctors in conservation magazines.

The problem of finding doctors to locate in small towns is a national one, with vast stretches of rural America without medical help. In many towns, the only physician is elderly and unable to find a replacement so he can retire.

Morris thinks a hospital-based network, such as Samaritan Health Service, could help solve the problem of getting more doctors for rural America.

"I kept two hospitals open in northern Arizona by being able to move doctors there and relieve them when needed," he says.

Samaritan Health Service also improves the ability of the small hospitals to practice sophisticated, quality medicine.

Now they can offer medical tests that are impossible to perform in a small hospital laboratory. A car now makes a circuit of each hospital daily and picks up samples to be tested in the Good Samaritan laboratory. The results are telephoned back to the individual hospitals.

Dieticians from the health service's headquarters here travel to the smaller hospitals and help them plan their meals. Other experts help set up better billing systems and community relations campaigns—services that the small hospitals couldn't afford on their own.

And all the doctors and nurses at the outlying hospitals can take refresher courses at Good Samaritan, in much the same way that Mrs. Flemons from Holbrook had done before the birth of the Reidhead triplets.

Bringing sophisticated medical care to the vast, sparsely populated regions of Arizona is only one part of Samaritan Health Service's activities.

The consortium also has taken three hospitals in the suburbs of Phoenix, one of the fastest growing areas of the nation, under its wing.

Doctors at these small suburban hospitals also have the benefit of backup from the specialists at Good Samaritan. For example, they can get the complicated analysis of blood gas levels done in minutes through Good Samaritan's laboratories, and experts at Good Samaritan can diagnose from electrocardiographs transmitted from one hospital to the other over telephone lines.

"It's helped upgrade the quality of medical care—at least in my hospital," says Raymond L. Tate, administrator of the 62-bed Northwest Hospital in nearby Glendale.

"Major benefits have ensued to the small hospitals. The strengths of Good Samaritan have been made available to us."

Meanwhile the corporation is saving money by centralizing training, purchasing, insurance coverage and administrative functions.

Morris says that the 1970 budget for all the hospitals together was $40 million. If the nine hospitals had been operating separately, he says, their total budgets would have been $44 million—10 percent higher.

Furthermore, he says, costs at his hospitals are rising slower than the national average. In 1969, the first year of the health service's operation, its bills increased 8 per cent compared to the national average of 12 per cent. In 1970, the Samaritan Health Service increase was 9 per cent; the national average for hospitals, 15 per cent.

Although the idea of a coordinated network of hospitals had been in Morris' mind for years, Samaritan Health Service got its start in the spring of 1968 when Southside Hospital, in a nearby suburb, was in such dier financial shape that Good Samaritan bought it at a bankruptcy sale.

Northwest Hospital, also in financial trouble, asked to join the system next.

Other hospitals asked to join in; Samaritan Health Service officials say they have not solicited other hospitals to join.

While health experts from all over the country come here to study Samaritan Health Service, local doctors and hospital officials have greeted the experiment with some reserve.

At local hospital administrator meeting, says Tate, "I don't get a lot of praise or support. They just say, 'Don't rock the boat. Don't rock the boat'."

Morris has alienated many Arizona doctors, who are especially conservative, by saying publicly that Samaritan Health Service's concept will end the traditional fee-for-service practice of medicine for a single doctor.

The system also lost some medical allies who feared that too many of the strengths of Good Samaritan were being drained to help the smaller hospitals. "This hurt," says Nelson.

While Samaritan Health Service continues to gain strength here, other hospitals around the country are trying their own versions of the idea.

George Washington University Medical Center in Washington, for example, has taken a section of the city and promised to provide full medical care for anyone who lives there.

And in Chicago, Rush-Presbyterian-St. Lukes Medical Center announced last month that it is forming a unified health care system that will tie 20 community hospitals to it.

The plan includes the reactivation of Rush Medical College and the use of Presbyterian Hospital as the backup facility for the community hospitals. The network will cover 1 million to 1½ million residents of Chicago.

Morris says these experiments are important.

"If we can demonstrate to Congress that the private sector can deliver health care, the public will accept," he says, "I think that Congress will give us a chance."

THE PENTAGON PAPERS

Mr. McGOVERN. Mr. President, in order to complete the insertion of the Pentagon documents and summaries as they have appeared in the Nation's press, I ask unanimous consent that one article from the Chicago Sun-Times and summaries and documents from the Boston Globe be printed in the RECORD.

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

[From the Boston Globe, July 2, 1971]

VIET REAPPRAISAL

In 1967 and early 1968 disillusionment grew within the government about the value of continued buildups of American troops in Vietnam, according to portions of the Pentagon papers covering the history of American involvement in the war.

By mid-1967, the first heavy dissents against additional US commitments were voiced within the Defense Department, as represented by a lengthy memorandum from Alain Enthoven, assistant Secretary of Defense for systems analysis.

The issue of whether or not the US would go well beyond the general ceiling of a half a million fighting men in South Vietnam remained largely unresolved for the rest of the year.

But the Tet Offensive launched by Communist forces throughout South Vietnam in the last days of January 1968 gave the question paramount importance.

The fighting gave voice to certain officials within the government who said that more American troops weren't the answer. But the security problems caused by the Tet offensive gave rise to a new request by Gen. William C. Westmoreland and Gen. Earle G. Wheeler for 206,756 more American troops over the existing 525,000 ceiling.

The big debate within the government coincided with President Johnson's appointment of a New Secretary of Defense, Clark Clifford, who started working in February 1968 on what the Pentagon study calls an "A to Z" reassessment.

This fundamental reassessment culminated at the end of March 1968 with President Johnson's speech announcing only a token buildup of American troops, a partial halt in the bombing of North Vietnam, and a policy of encouraging the South Vietnamese to take over more of the burden of the fighting themselves.

The President also announced his decision not to seek re-election.

The documents on this page summarize the positions of various personalities and agencies within the government during this important period of American turn-around.

Due to space limitations and, in some cases, incomplete texts available to The Globe, there are portions excerpted from lengthier documents and memoranda.

In all cases, the excerpts relate directly to the question of whether or not to add more troops, and just how this question reflected on the future of American involvement in Vietnam.

[From the Boston Globe, July 2, 1971]

THE 1971 MEMORANDUM SAYS FURTHER BUILDUP COULD ONLY HELP HANOI

(NOTE.—The following is a memorandum for the Secretary of Defense, dated May 1, 1967, concerning increase of forces in Southeast Asia. It was written by Alain C. Enthoven, assistant secretary of defense for systems analysis.)

MACV (Military Assistance Command, Vietnam) has asked for a "minimum essential force" which would add 2⅓ divisions, 8 tactical fighter squadrons, and 85,000 personnel to Program 4. His "optimum force" would add 4⅔ divisions, 13 tactical fighter squadrons, and 200,000 personnel, for a total of about 670,000 in SVN (South Vietnam).

MACV-JCS (Joint Chiefs of Staff) offer no analysis to show that these extra forces are needed to avoid defeat, or even that they are likely to achieve any specific goal. But I am concerned far less about this unfortunate lack of analysis than I am by the whole strategy which such a massive increase in combat forces must imply.

Though the North Vietnamese are indeed communists, we have come up against something more than just Marxism. We are facing the strongest political current in the world today: nationalism. That is the force which welds the North Vietnamese together, just as it does so many other peoples today.

Having seen both the Japanese and the French come and go, the North Vietnamese are now fighting the United States. For their little country to triumph finally over the greatest nation the world has even known should surely serve as the ultimate vindication of nationalism as a policy. Enticed by this goal, and hardened by 25 years of more-or-less continuous fighting, the North Vietnamese will, I fear, continue to endure great hardship. We have hurt them with our bombing, and we can hurt them more. But we can't hurt them so badly as to destroy their society or, more to the point, their hope, not only for regaining the material things they sacrifice today, but the whole of South Vietnam.

But how can they hope to beat this great nation? As MACV himself said before the Congress, the enemy "believes our Achilles heel is our resolve." They believe that public opinion in the United States will eventually force our retirement. And they could be right.

As for our own goals, I see only one way of establishing stability in Vietnam. We must match the nationalism we see in the North

with an equally strong and patient one in the South. No matter what military success we may achieve, if we leave before that is done, there can be no stability, and we will have lost everything we have invested in South Vietnam. Indeed, we will jeopardize much of the general stability in the world which we bought at the price of the Korean War.

Therefore, I see this war as a race between, on the one hand, the development of a viable South Vietnam and, on the other, a gradual loss in public support, or even tolerance, for the war. Hanoi is betting that we'll lose public support in the United States before we can build a nation in South Vietnam. We must do what we can to make sure that doesn't happen. We must work on both problems together; slow the loss in public support; and speed the development of South Vietnam. Our horse must cross the finish first.

With regard to public support, some people feel we simply have no business being in this war, while others are just against all wars. We can't do much about that. But there are other factors influencing public support that we can control. Casualties are one. Diversion of the national wealth from badly needed domestic programs is another. But the biggest of all may well be escalation.

Since 1961, and particularly since 1965, the public has seen an apparently unending escalation of this war. This must have a strong psychological effect. There must be many who are more concerned about the unbroken upward movement of spending and casualty rates than they are about the current levels. Our escalation is designed to put pressure on the North Vietnamese. But they may be more resolved to withstand it than the United States electroate is. I believe that's the basis of Hanoi's strategy.

If MACV's additional forces are approved, our casualty rate may not rise, but our expenditure rate certainly will, and the ominous history of unending escalation will be maintained. That combination will reduce public support, and we will have even less time to develop a strong nation in the South.

With regard to developing that nation, more United States forces aren't going to solve the pacification problem. In spite of the Marines' ability to deny the Viet Cong control of an area, there were fewer people in the "Secured" category in I Corps at the end of 1966 than at the beginning. In Operation Fairfax, southwest of Saigon, the 3 U.S. battalions which were "temporarily" deployed with 3 ARVN (Army of the Republic of (South) Vietnam) battalions to secure the area were supposed to leave 2 months ago. But they are still there, and will be for the foreseeable future. The kill rate per U.S. battalion-equivalent has been less than one V.C. (not readable) and most of the V.C. infrastructure has evaded capture by moving out. Though the U.S. forces have made many friends (of unknown loyalty), the ARVN has made few and, in comparison with the Americans, the ARVN has lost prestige in the eyes of the populace, who are still worried that the V.C. (Viet Cong) may return.

Part of the reason for the ineffectiveness of the ARVN is a lack of supplies and support items, such as barbed wire, which the U.S. forces have in abundance. While more U.S. forces would bring more barbed wire, that's doing it the hard way. The pacification program depends, instead, on better support for Vietnamese forces and a more energetic national Government. This program required not only time and patience, but political and economic progress rather than military victories.

As we saw when Program 4 was approved, additional forces are a burden on the South Vietnamese economy. Inflation in the first 3 months of 1967 alone amounted to 20%. Even apart from the rice situation, prices rose 7% or 28% on an annual basis. MACV is doing a good job in holding down piaster spending. It looks like the Program 4 forces will cost P41 billion in 1967, and MACV might be able to hold to P44 billion in 1968, even with increased forces. Nevertheless, the SVN economy is still far from sound, additional forces would mean slower progress, and the inflation would still hit hardest on the very civilian and military personnel on whom we must rely, if pacification is ever to succeed.

Furthermore, if we continue to add forces and to Americanize the war, we will only erode whatever incentives the South Vietnamese people may now have to help themselves in this fight. Similarly, it would be a further sign to the South Vietnamese leaders that we will carry any load, regardless of their actions. That will not help us build a strong nation.

If you agree that more U.S. forces would speed the "horse" that is carrying public opinion toward rejection of the war, while slowing the "horse" carrying the development of a strong nation in the South, the only justification left would be to achieve other military objectives, of which I can imagine four:

(1) To deter a Communist Chinese invasion. I see no sign of a change in Communist Chinese intentions. Were they to invade, they would face a formidable force already in place, and more available if needed, particularly with mobilization. Furthermore, I feel that the very nationalism which drives the North Vietnamese also inhibits them from calling in the same Chinese who have subjugated them in the past.

(2) To prevent a military defeat in South Vietnam. I do not think there is danger of any significant military defeat, given the forces we have in place now. I have attached an appendix to this memorandum which shows that we already enjoy favorable force ratios.

(3) To prevent terrorism. Though there is terrorism in South Vietnam now, I doubt that additional U.S. combat forces would significantly reduce it. This is a job for police-type forces, not maneuver battalions.

(4) To raise VC/NVA (Army of North Vietnam) losses to a level they cannot sustain. Presumably, this would be something above the weekly loss rate of 3,265 which the DIA/USIB (Defense Intelligence Agency—United States Information Board) estimate they can swallow indefinitely.

On the most optimistic basis, 200,000 more Americans would raise their weekly losses to about 3700, or about 400 a week more than they could stand. In theory, we'd then wipe them out in 10 years. But to bank on that, you have to assume that (1) enemy losses are just proportional to friendly strength, and (2) that the unusually favorable kill ratio of the first quarter of 1967 will continue. However, if the kill ratio should be no better than the 1966 average, their losses would be about 2,100—less than ⅔ of their sustaining capability.

But even that figure is misleading. Losses just aren't directly related to the size of our force. Between the first and fourth quarters of 1966, our forces increased 23% but their losses increased only 13%—little more than half as much.

Finally, the most important factor of all is that the enemy can control his losses within wide limits. The VC/NVA started the shooting in over 90% of the company-sized fire fights; over 80% began with a well-organized enemy attack. Since their losses rise (as in the first quarter of 1967) and fall (as they have done since) with their choice of whether or not to fight, they can probably hold their losses to about 2,000 a week regardless of our force levels. If, as I believe, their strategy is to wait us out, they will control their losses to a level low enough to be sustained indefinitely, but high enough to tempt us to increase our forces to the point of US public rejection of the war.

In summary, I feel that adding more US combat forces would be a step in the wrong direction. They are not needed for military security, and they could not force higher losses on the North Vietnamese. But they might play right into the hands of Hanoi by burdening the United States and increasing internal opposition to the war, while delaying the birth of the strong nation in the South which is our only hope of real stability. Therefore, I recommend the following:

(1) Maintain the Program 4 ceiling.

(2) Tell the electorate that, barring the unexpected, we'll stick with the present forces which are all we need, not only to stop the VC/NVA militarily but also to exact a high price from Hanoi. Tell them that our "escalation" will now turn toward the building of a nation which will be strong enough to bring a natural stability to Vietnam so that we can leave for good.

(3) Tell MACV to start making good analyses of his operations and feeding them back into his planning so that we can get more out of not only the US and allied forces, but the ARVN as well.

(4) Find ways to reduce costs for the long haul ahead. For example, cut back on the costly ineffective bombing north of Route Package 4.

I know it's much easier to write down these recommendations than it is to get agreement on carrying them out. But I think we're up against an enemy who just may have found a dangerously clever strategy for licking the United States. Unless we recognize and counter it now, that strategy may become all too popular in the future.

SYSTEMS ANALYSTS JOINED OPPOSITION

(By Victor McElheny)

By the spring of 1967, systems analysts in the Pentagon had become as disillusioned with the U.S. "search and destroy" strategy in Vietnam as other civilian officials with a supposedly more "humanist" outlook, according to the Pentagon papers.

The study says the now-dissolved Office of Systems Analysis, under then-Assistant Secretary of Defense Alain Enthoven, became the "vanguard of the reaction" against requests for big troop buildups submitted on March 18, 1967, by Gen. William C. Westmoreland, commander of U.S. forces in Vietnam.

The systems analysis group was the brainchild of Defense Secretary Robert S. McNamara, himself a military systems analyst during World War II. With its numerical approach to problems, the systems analysis group had been a key to achieving the U.S. opposition of Enthoven's group to further troop buildups was a major turning point in the history of the government's Vietnam policy.

Gen. Westmoreland, with the approval of the Joint Chiefs of Staff, had asked an increase in troop levels from 470,000 early in 1967 to 670,000 by the end of 1968. The Pentagon history concludes that the Enthoven group's studies were a key in the long bargaining which scaled down the request to 50,000 more troops for the year ending June 30, 1968.

The history says Enthoven's group greeted Westmoreland's March 18 request with "surprise and incredulity," and began attacking it steadily while preparing a detailed memorandum. This memo, dated May 1, in turn influenced one drafted in early May by Assistant Secretary James McNaughton which asserted:

"Most Americans do not know how we got where we are, and most, without knowing why, but taking advantage of hindsight, are convinced that somehow we should not have gotten this deeply in. All want the war ended and expect their President to end it. Successfully or else."

WASHINGTON WEIGHS THE REQUEST FOR 200,000 MORE TROOPS

PRE-TET OPTIMISM

Gen. William C. Westmoreland's assessment of the situation in Vietnam, January 26, 1968:

During 1967, the enemy lost control of large sectors of the population. He faces significant problems in the areas of indigenous recruiting, morale, health and resources control. Voids in VC ranks are being filled by regular NVA. Sea infiltration through the Market Time area has diminished to near-insignificant proportions. Interdiction of the enemy's logistics train in Laos and NVN by our indispensable air efforts has imposed significant difficulties on him.

In many areas the enemy has been driven away from the population centers; in others he has been compelled to dispense and evade contact, thus nullifying much of his potential. The year ended with the enemy increasingly resorting to desperation tactics in attempting to achieve military-psychological victory; and he has experienced only failure in these attempts. Enemy bases, with sparse exception, are no longer havens and he has necessarily become increasingly reliant on Cambodia and Laotian sanctuaries.

The friendly picture gives rise to optimism for increased successes in 1968. In 1967, our logistics base and force structure permitted us to assume a fully offensive posture . . . A greatly improved intelligence system frequently enabled us to concentrate our superior military assets in preempting enemy military initiatives leading us to decisive accomplishments in conventional engagements.

TROOP REQUEST

Gen. Wheeler and Gen. Westmoreland request more troops, February 27, 1968:

Coupling the increased requirement for the defense of the cities and subsequent reentry into the rural areas, and the heavy requirement for defense of the I Corps Zone, MACV does not have adequate forces at this time to resume the offensive in the remainder of the country, nor does it have adequate reserves against the contingency of simultaneous large-scale enemy offensive action throughout the country.

Forces currently assigned to MACV, plus the residual Program Five forces yet to be delivered, are inadequate in numbers and balance to carry out the strategy and to accomplish the tasks described above in the proper priority.

It was the extent and magnitude of Gen. Wheeler's request that brought about the thorough review of US policy. To contend with, and defeat, the new enemy threat, the generals asked for an additional 206,756 troops over the 525,000 ceiling then in effect, or a proposed new ceiling of 731,756 troops, all to be deployed by the end of 1968.

OPTIONS DEFINED

Assistant Secretary of State William Bundy outlined these alternative courses of action early in March, 1968:

(a) Accept the Wheeler-Westmoreland recommendation aimed at sending roughly 100,000 men by 1 May and another 100,000 men by the end of 1968.

(b) Change our military strategy, reducing the areas and places we seek to control and concentrating far more heavily on the protection of populated areas.

(c) Adopt option "b" above in the south, but extend our bombing and other military actions against the North to try to strangle the war there and put greater pressure on Hanoi in this area.

(d) Accept immediately those elements of the Wheeler-Westmoreland proposals that could hope to affect the situation favorably over the next four months or so, but do not go beyond that in terms of force plans and related actions.

(e) "Cut and shave" the Wheeler-Westmoreland proposals and their action implications, but carry on basically in accordance with present strategy.

(f) "All-out option." Announce that we are prepared to hold in Vietnam no matter what developed.

CIA'S PROGNOSIS

The CIA's post-Tet assessment, submitted to Secretary of Defense Clifford on March 1, 1968:

Q—What is the likely course of events in South Vietnam over the next 10 months, assuming no change in US policy or force levels?

A—In the assumed circumstances a total military victory by the Allies or the Communists is highly unlikely in the next 10 months. It is manifestly impossible for the Communists to drive US forces out of the country. It is equally out of the question for US-GVN forces to clear South Vietnam of Communist forces. It is possible, however, that the overall situation in this period will take a decisive turn.

Far more likely is an erosion of the ARVN's morale and effectiveness. We do not believe that the GVN will collapse, or that the ARVN will totally disintegrate. But there is a fairly good chance that Communist pressures will result in a serious weakening of the GVN-ARVN apparatus and an end to its effective functioning in parts of the country. In these circumstances, virtually the entire burden of the war would fall on US forces.

In sum, there is a high risk that both the ARVN and GVN will be seriously weakened in the next months, and perhaps decisively so. Our best estimate is that in the assumed circumstances the overall situation 10 months hence will be no better than a standoff.

Q—What is the likely NVA-VC strategy over the next 10 months if US forces are increased by 50,000, by 100,000, or by 200,000?

A—We would expect the Communists to continue the war. They still have resources available in North Vietnam and within South Vietnam to increase their troop strength. Their strong logistical effort and their ability to organize and exploit the people under their control in the South enable them to counter U.S. increases by smaller increases of their own. Over a ten-month period the Communists would probably be able to introduce sufficient new units into the South to offset the U.S. maneuver battalion increments of the various force levels given above.

"AMERICANIZATION"

Memorandum prepared in the office of Paul Warnke, assistant secretary of Defense for International Security Affairs (ISA), on March 1:

With current force levels we cannot continue to pursue all of the objectives listed by General Wheeler. Can we do so with increased forces?

MACV does not clearly specify how he would use the additional forces he requests, except to indicate that they would provide him with a theater reserve and an offensive capability. Even with the 200,000 additional troops requested by MACV, we will not be in a position to drive the enemy from SVN or to destroy his forces. MACV's description of his key problems makes clear that the additional forces would be used to open Route 1, north of Danang; support ARVN units, particularly in the Delta; and to maintain a reserve against enemy offensives. With lesser increases of 50,000 or 100,000, MACV would be in an even less favorable position to go on the offensive. Moreover, even before the TET offensive the enemy was initiating about two-thirds of the clashes and could, in response to our buildup, adopt a casualty limiting posture.

The more likely enemy response, however, is that with which he has responded to previous increases in our forces levels, viz, a matching increase on his part.

The presence of more than 700,000 U.S. military can mean nothing but the total Americanization of the war. There is no sign that ARVN effectiveness will increase, and there will be no pressure from the U.S. or the GVN for ARVN to shape up if the U.S. appears willing to increase its force levels as necessary to maintain a stalemate in the country.

CLIFFORD'S DOUBTS

Draft memorandum for the President from the Defense Department, apparently approved by Secretary Clifford, March 4:

There can be no assurance that this very substantial additional deployment would leave us a year from today in any more favorable military position. All that can be said is that the additional troops would enable us to kill more of the enemy and would provide more security if the enemy does not offset them by lesser reinforcements of his own. There is no indication that they would bring about a quick solution in Vietnam and, in the absence of better performance by the GVN and the ARVN, the increased destruction and increased Americanization of the war could, in fact, be counter-productive.

. . . the striking change in the enemy's tactics, his willingness to commit at least two additional divisions to the fighting in the South over the past few weeks and the obvious and not wholly anticipated strength of the Viet Cong infrastructure, shows that there can be no prospect of a quick military solution to the aggression in South Vietnam. Under these circumstances, we should give intensive study to the development of new strategic guidance to General Westmoreland. This study may show that he should not be expected either to destroy the enemy forces or to rout them completely from South Vietnam. The kind of American commitment that might be required to achieve those military objectives cannot even be estimated. There is no reason to believe that it could be done by an additional 200,000 American troops or double or triple that quantity . . .

PRESIDENT DECIDES

On March 31, the President announced his decision. He was authorizing an additional 24,500 troops for Vietnam, placing a new ceiling of 549,500 on US forces there. None of the 206,756 troops requested by Generals Westmoreland and Wheeler on February 27 were to be deployed.

Some weeks ago, to help meet the enemy's new offensive—we sent to Vietnam about 11,000 additional Marine and airborne troops. They were deployed by air in 48 hours, on an emergency basis. But the artillery, tank, aircraft, and other units that were needed to work with and support these infantry troops in combat could not accompany them on that short notice.

In order that these forces may reach maximum combat effectiveness, the Joint Chiefs of Staff have recommended to me that we should be prepared to send—during the next five months—support troops totaling approximately 13,500 men.

HOW KENNEDY SENT L.B.J. TO PROD DIEM TO ASK FOR GI'S

(By Morton Kondracke and Thomas B. Ross)

WASHINGTON.—The late President John F. Kennedy sent Vice President Lyndon B. Johnson to Saigon in May, 1961, with orders to "encourage" South Vietnam President Ngo Dinh Diem to request U.S. ground troops. Diem originally opposed the request, government documents revealed Wednesday.

It was on that trip that Mr. Johnson publicly referred to Diem as the "Winston Churchill" of the Far East.

Diem responded to the unpublicized request that he did not want foreign troops on Vietnamese soil except in the case of

direct aggression by North Vietnam. Diem pointed out that U.S. troops would violate the 1954 Geneva accords that ended the French war in Indochina.

Later, the documents show, Diem wrote a letter to Kennedy arguing that the United States should provide material support, not troops, since the presence of U.S. soldiers would tend to give credence to the Communist charge that he was a front for the colonialists.

Diem successfully balked at the Kennedy-Johnson proposal for five months, but with the military situation rapidly deteriorating, he yielded in October and made the solicited request for U.S. troops.

Two years later, the documents reveal, the situation was even worse. So much so that Kennedy's principal Vietnam expert on the working level, Paul H. Kattenburg, Chairman of the State Department's Vietnam working group, told an Aug. 31, 1963 National Security Council Meeting:

"At this juncture, it would be better for us to make the decision to get out honorably."

"STEADILY DOWN HILL"

He warned that Diem would get less and less support from the military and the "country will go steadily down hill."

Kennedy's advisers reacted with shock. Sec. of State Dean Rusk dismissed Kattenburg's remarks as "largely speculative." Defense Sec. Robert S. McNamara agreed with Rusk.

Rusk said:

"It would be far better for us to start on the firm basis of two things—that we will not pull out of Vietnam until the war is won, and that we will not run a coup."

And Mr. Johnson argued: "It would be a disaster to pull out . . . We should stop playing cops and robbers and get back to talking straight to the GVN (Government of South Vietnam) . . . We should once again go about winning the war."

The report on the session, held at the State Department and led by Rusk in President Kennedy's absence, is contained in a memorandum written by Marine Maj. Gen. Victor C. Krulak, then the Pentagon's top expert on counterinsurgency.

Three months later Kennedy was dead and the conduct of the war passed to Johnson.

The documents, disclosed to The Sun-Times by a number of reliable sources, provide this chronology of how the U.S. involvement deepened during the Kennedy administration.

Upon taking office in January of 1961, Kennedy was confronted by reports from the U.S. Embassy in Saigon that President Diem was in danger of being overthrown because of his repressive policies and the toleration of corruption at the tip of his government.

A message from Ambassador Elbridge Durbrow had urged consideration of "alternative actions and leaders" to salvage the late President Dwight D. Eisenhower's policy of creating a non-Communist South Vietnam.

In March of 1961, the Central Intelligence Agency in a National Intelligence Estimate warned that the Viet Cong were gaining "control and influence over increasing areas of the countryside." The CIA said Diem was growing progressively weaker and was vulnerable to a coup by "non-Communist elements."

Kennedy sought to bolster the regime by authorizing funds to increase the South Vietnamese army by 20,000 men and the Civil Guard by 32,000.

MILITARY'S HAND STRENGTHENED

In March, Kennedy also approved a plan by the Joint Chiefs of Staff for the military command to by-pass the ambassador, to be in a better position to handle a "hot-war situation."

In May, Johnson was sent to Vietnam with orders to "encourage" Diem to request U.S. ground troops. At first, Diem balked, arguing that he did not want foreign troops on Vietnamese soil unless he was threatened with outside attack.

By October, however, after a summer of deterioration, Diem changed his mind and made the solicited request.

Kennedy had then decided to send Gen. Maxwell D. Taylor and Walt W. Rostow on a fact-finding mission to Saigon. In advance, he requested a Pentagon assessment.

The Pentagon concluded that the "vast majority" of the Viet Cong troops were of local origin and that there was little evidence that they were receiving major supplies from outside. It recommended the dispatch of 22,800 troops—11,000 combat and 11,800 support—to be in a position to seal the border against possible infiltration.

MANPOWER NEEDS ESTIMATED

The Joint Chiefs of Staff calculated that three divisions, about 100,000 men, would be needed if North Vietnam invaded, and six divisions and possibly tactical nuclear weapons if Communist China intervened.

On the way to Vietnam, Taylor and Rostow stopped in Hawaii, where Adm. Harry D. Felt, the Pacific commander, told them that his plans were drawn on the "assumption" that tactical nuclear weapons would be used if necessary following a North Vietnamese or Chinese invasion.

Upon his return, Taylor urged Kennedy to deploy 8,000 U.S. troops but administration officials put out the word that he had recommended only advisers. Taylor conceded that commitment of the troops ran the risk of the U.S. commitment "escalating into a major war in Asia."

STRATEGIC RESERVE WEAK

He also acknowledged that the Army's strategic reserve was so weak that the United States could "ill afford any detachment of forces." Nevertheless, Taylor insisted Kennedy should deploy the 8,000 troops, because he did not believe "our program to save South Vietnam will succeed without it."

In an early foreshadowing of things to come Taylor noted that North Vietnam was "extremely vulnerable to conventional bombing" and recommended that the weakness be "exploited diplomatically" in Hanoi.

Taylor posed three options for Kennedy: (1) to remove Diem in favor of a "military dictatorship" that would give dominance to the army's needs; (2) to remove Diem for a "figure of more dilute power" who would delegate more authority to the military; (3) to use a U.S. presence to "force the Vietnamese to get their house in order."

After noting that it would be "dangerous for us to engineer a coup under present tense circumstances," Taylor recommended the third option.

RUSK RESPONDS WITH WARNING

Sec. of State Dean Rusk responded to Taylor's report with caution, warning against "committing American prestige to a losing horse."

Defense Sec. Robert S. McNamara, on the other hand, viewed the proposed force of 8,000 troops as a move that could get the United States "mired down in an inconclusive struggle." He recommended a "firm initial position," saying the American people would respond better to bold action. He suggested as many as 205,000 U.S. troops might be necessary if the enemy counterattacked against the U.S. military intervention.

Kennedy's decision was to reject Taylor's proposal for an open commitment and to send U.S. troops to Vietnam slowly and quietly as "advisers."

In National Security Memorandum 111, however, Kennedy made it clear that the troops were available for "operational duties" and for "performing crucial missions" to help the South Vietnamese army "win the war against the Viet Cong."

Kennedy deepened his commitment to a non-Communist South Vietnam despite a report by Charles Maechling, Jr., chairman of the committee of deputies on the special group, that: "If free elections were to be held in South Vietnam in 1962, Ho (North Vietnamese President Ho Chi Minh) would get 70 per cent of the popular vote."

Maechling estimated that the Viet Cong were getting only a trickle of supplies from North Vietnam and noted that no one had ever found a Chinese rifle or Soviet weapon used by the guerrillas.

He concluded that the "massive aggression theory was completely phony."

Kennedy got essentially the same word from a White House aide, Michael Forrestal, upon his return from Vietnam in early 1963. Forrestal estimated that "the vast bulk of both recruits and supplies come from inside South Vietnam itself."

SECRET RAIDS ON NORTH

Other matters, related in the documents and previously reported on, show that:

President Kennedy ordered an extensive program of secret raids on North Vietnam in March of 1961, three years before the Gulf of Tonkin incident.

The documents show that the raids included airlifting South Vietnamese sabotage teams into North Vietnam, PT-boat attacks on the North Vietnamese coast, and U.S. destroyer patrols to trigger and locate North Vietnamese and Communist Chinese radar.

The documents, disclosed to the Sun-Times by several reliable sources, reveal that the raids were carried out under the direction of two super-secret agencies in Washington—the 303 Committee and Special Group Counterinsurgency, co-chaired by the President's brother, Robert F. Kennedy.

U.S. POLICY SHOULD NOT ENCOURAGE JAPAN TO ACQUIRE NUCLEAR WEAPONS

Mr. HUMPHREY. Mr. President, there has been considerable anxiety of late over the possibility that the United States may actively or tacitly be encouraging Japan's acquiring nuclear weapons. This concern stems from reports of Secretary's Laird's recent trip to Japan. I ask unanimous consent Mr. President, that the articles by Mr. Oka of the New York Times and that of Mr. Harrison and Mr. Simons of the Washington Post be printed at this point in the RECORD to serve as an illustration of the kind of reports which circulated at the time of the Secretary of Defense's visit.

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

[From the New York Times, July 12, 1971]

LAIRD FINDS SEOUL AND TOKYO FEAR MILITARY CUTBACKS BY THE UNITED STATES

(By Takashi Oka)

SEOUL, SOUTH KOREA, July 11.—Defense Secretary Melvin R. Laird, who today ended a visit to Japan and began one to South Korea, is encountering in each country deep reluctance to go along with his basic message, that the United States is reducing its military presence in Asia and that other nations must share a greater part of the defense burden in Asia under his concept of "realistic deterrence."

Outwardly the Japanese have shown no concern over the reduction of the American military establishment in their own country. United States troops in Japan have gone from 40,000 last year to fewer than 30,000 today, and the Japanese have been given control of such air bases as Misawa, Atsugi and Itazuke,

once considered essential by the United States. The Japanese want Okinawa returned next year with reduced American bases free of nuclear or chemical weapons.

JAPANESE SHARE MISGIVINGS

By contrast, South Korea is reluctant to see American troops go and agreed to a 20,000-man reduction in the 60,000-man force here only after the United States promised to finance a five-year modernization program for Korean forces that is to cost about $150-million a year. Unlike the island country of Japan, Korea faced an enemy across a land frontier—the demilitarized zone in the area of the 38th-Parallel border with North Korea.

But the Japanese share with the South Koreans the deep misgivings over the changing militay balance in Asia that these American reductions will inevitably bring. The Japanese view the Communist threat in a different way than the Koreans do—they do not sit on the front lines and their military force of 260,000 men is one of the few in Asia that has had no combat experience since World War II.

But Japan senses that because she is Asia's foremost economic and industrial power and the only Asian country capable of making her own heavy armaments as well as sophisticated electronic equipment, an American military reduction inevitably means a larger role for Tokyo. And although Premier Eisaku Sato reiterates that a major economic power need not become a major military power, there is uneasiness and controversy within the Japanese body politic that this is precisely what may happen.

If other Asian countries including South Korea do not trust the Japanese and do not forget World War II or the period of colonial expansion that preceded it, many Japanese do not yet trust themselves, are not certain that the sense of power arising from their remarkable economic growth will not go to their heads. They know how to behave in poverty or in adversity. But they have qualms about their maturity and responsibility in a period of unaccustomed prosperity and power.

"YOU EXPECT US TO LEAD?"

This uneasiness can be found in any number of Japanese publications, from pulp weeklies printing the latest scandal involving the "ugly Japanese" to intellectual monthlies delving into the national ethos. Conversations with Government ministers or with prominent businessmen quickly bring the uneasiness to the surface. "Lead? You expect us to lead?" one minister exclaimed plaintively. "Why, for the past hundred years we have been solely preoccupied with catching up. You can't ask us to shift gears so quickly. The most you can ask us to do is to hold the fort until a new generation used to affluence reaches the age of discretion."

To this confused and groping Japan, Secretary Laird brought a list of requirements for sharing the defense burden, saying in effect: The United States is keeping up its nuclear umbrella, but you have to do more in the conventional field. We respect your no-war Constitution and do not require you to send troops abroad or to pay for the upkeep of American troops in Japan, but we do expect you to step up dramatically your economic aid to the three Indochinese countries. Your best and only armored division is well trained but its equipment is antediluvian.

KOREANS FEAR CUTBACK

At his news conference in Tokyo this morning Mr. Laird all but expressed amazement that the armored division did not fall apart when it passed in review before him. "I was impressed by the maintenance but also impressed by the age," he said bluntly.

The South Koreans, meanwhile, fear that the giant Pentagon machine that in times of plenty produced a continuing supply of material and men to guard the frontlines against Communism is now, in times of domestic recession and accommodation toward both Peking and Moscow, about to be cut back drastically. Not only is the United States talking about reducing its own troop strength in South Korea, but there are rumors that Mr. Laird may even suggest reductions in South Korea's own 620,000-man authorized force level. Since the American military assistance program is designed to support certain force levels, any reduction in Korean forces would result in a reduction of the assistance program and therefore a saving for the Pentagon.

To the Koreans as to the Japanese, Secretary Laird has brought the message that the United States will not go back on its commitments even while it reduces its forces, that the nuclear shield stands, as does the commitment to defend the 38th parallel. But the practical effect of an American reduction is not only to increase the burden on the South Korean budget but also to increase the relative weight of Japan in what Mr. Laird labels his "total force" concept—a concept that takes account not only of American resources but of all resources to allied nations in a given region. If the prospect of Japanese power is uncomfortable to the Japanese themselves, it is all the more so to the Koreans, who remember 35 years of harsh colonial rule by Japan.

For better or for worse, the Americans have become the bridge between these two neighbors both militarily and politically. The two deal with each other directly but only because the Koreans know that the relationship is not exclusively bilateral as in the old days, that they can add the United States to equation as a friend.

What bothers both the Japanese and the South Koreans is that the United States in its current mood of economy and force reduction seems to be changing the terms of reference, that despite all of Secretary Laird's soothing assurances he is in fact propelling a far from ready Japan into an uncharted and dangerous new role.

[From the Washington Post, July 14, 1971]

LAIRD CONFUSES JAPAN ON A-ARMS ISSUE

(By Selig S. Harrison)

TOKYO, July 13.—Defense Secretary Melvin R. Laird's studied ambiguity on the issue of nuclear weapons for Japan during his recent visit here has left behind a trail of confusion, uneasiness and agitated debate concerning his possible motives.

When a Japanese reporter asked how the United States would react if Japan developed tactical nuclear weapons, Laird suggested at his farewell news conference that Japanese defense planners should give "higher priority" to upgrading conventional military capabilities adding, that "President Nixon and our government will continue to provide the nuclear umbrella."

The secretary coupled this response with an assurance that he sees "no role for Japan as far as the nuclear deterrent is concerned during the periods of the 1970s and beyond." But he spoke of the issue casually as one of "priorities" three times in the course of his reply, and the inference drawn by most Japanese observers was that he does not necessarily rule out the future desirability or inevitability of nuclear arms after the conventional buildup now programmed here has been completed in 1980.

What Laird said with cautious indirection in the open forum of a press conference confirmed the worst Japanese fears generated by more direct statements coming out of an earlier background briefing given by U.S. defense planners authorized to discuss the secretary's thinking.

The principal spokesman at this briefing pointed to a series of developments which might lead Japan to deploy defensive nuclear weapons in the early 1980s—possibly "ABMs (antiballistic missiles) on ships," he said, since a country with Japan's populaiton density would be doomed if enemy missiles ever came close to the big population centers.

The most critical development pushing Japan toward the nuclear option, it was suggested, would be a U.S.-Soviet agreement in the strategic arms limitation talks resulting in a reduced U.S. nuclear posture in the Pacific.

Peking is not taking part in the negotiations and would still be free to develop its missile strength unchecked.

This would pose a growing threat to Japan at a time when the intercontinental ballistic missile threat to the United States from Peking would still be "decades" away, and when the United States would feel less directly endangered than ever before by Moscow.

Even if the strategic arms talks did not have a direct impact on the U.S. nuclear presence in the Pacific, the spokesman reasoned, Washington might be increasingly unwilling to bear the costs of maintaining the nuclear deterrent alone. No longer would Japan be an indirect beneficiary of an anti-Soviet strategic posture that the United States maintained basically for its own sake.

CHANGED SETTING

In this changed strategic setting, Tokyo could choose to acknowledge its new position as the immediate beneficiary of the deterrent and actively help the United States to maintain it. Or Japan might begin to worry about U.S. reliability and decide instead to develop its own defensive nuclear weapons as a supplement to the U.S. strategic umbrella.

The point of it all was not so much that the United States should directly encourage Japan to go nuclear, but rather that the Japanese should begin to pay a greater price for U.S. nuclear protection. By implying that the U.S. nuclear shield can no longer be taken for granted and that the United States is not afraid to see Japan go nuclear, Laird apparently hoped to change the bidding in the overall bargaining relationship between the two countries.

Laird astonished the Japanese press and delighted hawkish elements in the military here with an uncompromising refusal to permit a public verification procedure demonstrating the removal of nuclear weapons from Okinawa.

He seemed impatient on finding that the "nuclear allergy" is still dominant here 25 years after Hiroshima but did not let this deter him from asking for free access by nuclear-armed and nuclear-powered U.S. ships, submarines and aircraft as a logical corollary to receiving U.S. nuclear protection.

MOTHER PORT

It is understood that Laird also asked for semi-permanent arrangements permitting the 7th Fleet to make Japan a "mother port" as a way for Tokyo to help support the nuclear deterrent and the U.S. naval presence in a more general sense. At present, U.S. vessels, including aircraft carriers with nuclear-capable aircraft, operate out of the huge San Diego, Calif., naval station as home base, using Yokosuka and Sasebo in Japan only for port calls and repairs.

One of the most interesting items on Laird's agenda here was a proposal for the reversal of an earlier decision to return Yokosuka and, more importantly, for the establishment of a major residential complex for the wives and children of naval personnel on Okinawa. This would be a political hot potato for the Japanese government but was urged by Laird as a way to save substantial sums on steaming costs back and forth between San Diego and the western Pacific.

The timing of the controversial nuclear

briefing on the day before the scheduled opening of the strategic arms talks has led to a widespread suspicion that the real motive behind the exercise may have beeen a desire to influence the Helsinki talks by projecting the specter of a nuclear Japan.

Whether or not this is justified, it is clear that the settlement currently proposed by the Soviet Union in Europe could eventually have an impact on the U.S. nuclear posture in the Pacific and thus on Japanese nuclear plans.

BAN SOUGHT

Moscow wants tactical nuclear weapons in western Europe capable of reaching Soviet territory to be banned, along with intercontinental missiles, as one of the preconditions of a strategic arms agreement.

Should the United States ever agree to this, some Japanese and U.S. officials argue, Moscow and Peking could point to this as a precedent for demanding a pullback of U.S. nuclear weapons in the Pacific for a comparable distance from their shores.

This could lead to pressures for the withdrawal of nuclear bombs for use by carrier-based aircraft from storage vessels in the western Pacific, and it could make it all but impossible, politically speaking, for nuclear-armed ships, submarines or aircraft to call at Japanese ports.

In assessing the weight of accident and design in the Laird visit, it is instructive to recall the secretary's long preoccupation with the role of nuclear weapons in the hands of U.S. allies as an essential element in the U.S. strategy. Laird's 1962 book, "America's Strategy Gap," advocated "defensive nuclear weapons with proper controls" for NATO partners, citing approvingly a statement that "military establishments which do not have nuclear weapons are little more than oversized gendarmeries."

REFERENCE NOTED

Japanese readers have been quick to note the reference to "proper controls," implying a two-key arrangement, as well as another passage made in the NATO context with a striking applicability to the current Japan-U.S. dialogue initiated by Laird. "The nuclear deterrent in the hands of the allied powers would be a great help to us," Laird wrote, "since it would provide us with a bargaining vehicle for insisting, in turn, that they meet their conventional force requirements."

The alarmed antinuclear forces here see the Laird visit as renewed proof of collusion between Japanese and American hawks and as a partial vindication of the Chinese propaganda line warning of the revival of Japanese militarism.

"Smoke does not arise when there is no fire whatsoever," said the newspaper Asahi in a comment on the State Department disclaimer issued following the briefing here.

Yomiuri recalled the Defense Agency white paper last October arguing that "small-scale, tactical, purely defensive nuclear weapons" would be legally permissible under the U.S.-imposed "no war" constitution.

"These press reports are trial balloons intended for American and Japanese public opinion," Yomiuri observed.

SATO CALLS PACT BASIS FOR BUILDUP

TOKYO, July 13.—Prime Minister Sato told a news conference today that the U.S.-Japan security treaty was the very basis of strengthening and improving Japan's defense capability with conventional weapons.

He said Japan would remain under the U.S. nuclear umbrella and flatly denied the possibility of Japan's possessing nuclear weapons.

Sato, who was instrumental in having an agreement signed last month for reversion of U.S.-held Okinawa to Japan next year, said mutual trust was strong enough to require no inspection to confirm a nuclear-free Okinawa at the time of the reversion.

Sato said Japan's defense capability should be strengthened in ways that would not make any other country feel threatened or would not invite criticism of militarism. China has made just such a charge frequently in recent months.

Sato categorically denied any official or unofficial conversation with Laird that Japan might take over the U.S. 7th Fleet for security of Japanese waters.

LAIRD ASSURES KOREA OF AID AGAINST ATTACK

SEOUL, July 13.—Defense Secretary Melvin R. Laird assured South Korea of U.S. readiness and determination to render prompt and effective assistance under the mutual defense treaty in the event of armed attack, a joint communique said today.

The communique was issued by Laird and Korean Defense Minister Nae Hiuk Jung after two days of talks at the security consultative meeting initiated this year as the first of a series of annual defense discussions.

They examined the security situation on the Korean peninsula and assessed the nature of the military threat directed against South Korea, the communique said.

It added, "The delegations of the two nations agreed that the forces defending the Republic of Korea must remain alert and strong to deter North Korea from renewed aggression."

Laird emphasized that adequate strength and partnership were key pillars in the Nixon doctrine which calls on Asian nations to take over a greater share of their defense.

Noting the ties the two nations had forged in the Korean war of 1950–53 and the Vietnam war, the two officials pledged to continue the "partnership so as to preserve the security of the Republic of Korea."

Turning to specific subjects, the communique said Laird agreed to the scheduled delivery of some F–5A aircraft, fighter-bombers specially designed for use by the American allies.

Laird also said study would continue on strengthening the South Korean defense capabilities against seaborne infiltration from the north, according to the communique.

[Early Wednesday, news agencies reported that Laird had left Korea by air for the United States.]

JAPAN IS CURING "NUCLEAR ALLERGY"

(By Lewis M. Simons)

The thought of Japan, the only nation in the world to have suffered atomic bombing, arming itself with nuclear weapons is highly provocative.

Yet, despite protests and denials—both by Japan and the United States—particularly in the last two weeks, the Japanese are most certainly considering the possibility. New signs are regularly emerging that Japan will, in time, become a nuclear power.

If there is one point at which the evidence is weighted heavily on the side of Japanese nuclear armament it is that the decision will depend more on the United States and its policies in Asia than on Japan itself. In sum, Japan will go nuclear if and when it feels it is no longer receiving adequate protection beneath the American nuclear umbrella.

In one very real way, the thought of Japan not acquiring nuclear weapons is more fascinating than if she were to. The concept of an independent great nation—an economic giant—shorn of commensurate armed might is unprecedented. Historically, major powers have achieved their greatness with the support of their armed forces. But Japan, secure in the U.S. nuclear embrace, has been able to reach fantastic heights without diverting funds for an equivalent military buildup.

There is every good reason to believe the Japanese would continue to accept America's "free ride" as long as it is available.

But just how long the United States, operating under the Nixon Doctrine in Asia, making moves toward friendship with the Chinese mainland and engaged in strategic arms limitation talks with the Soviet Union, will provide that ride is a major question.

If there was one ray of clarity that emerged from Defense Secretary Melvin R. Laird's visit to Tokyo this month, it was that Japan can no longer count on America's nuclear shield as absolutely guaranteed.

This is all the more distressing opponents of nuclear armament in Japan because it appears to be part of a pattern of dwindling American involvement in Asia:

Withdrawals of U.S. troops from Japan and South Korea have already begun; the reduction of American strength in South Vietnam will almost doubtlessly be completed by November, 1972; President Nixon—or his successor—will certainly reduce commitments elsewhere in East and Southeast Asia and will be highly reluctant to intervene in fresh outbreaks of insurgency.

Furthermore, if any serious shock reaction following the dragged-out U.S. involvement in Vietnam were to take root among Americans after withdrawal, the U.S. could very well assume a real isolationist posture. And many Japanese believe this will happen.

Such a reaction would provide Japan ample reason for taking her own defense into her own hands.

A WARNING "ALLERGY"

For the last quarter-century the strongest block to Japanese nuclear weapons has been the popular disgust which followed the atomic bombings at the end of World War II. But today there are numerous indicators that this "nuclear allergy" has been cured, that the Japanese no longer find military force repugnant.

Legally, Japan is still barred from maintaining an offensive nuclear force. But, through continued political squirming, there are no longer any legal barriers to "defensive" tactical nuclear arms. If the Japanese leadership chooses to have a nuclear armory, one could surely be built in the name of self-defense.

And Japan could build it in a hurry. As the people who have undoubtedly established a world speed record in technological development since World War II, the Japanese must be credited with the ability to produce at least a comparatively crude nuclear weapon in short order.

Qualified U.S. military officers estimate Japan could produce a bomb comparable to the latest known Communist Chinese weapons in 18 months to two years.

With slight modification of its rapidly expanding nuclear-based electric power industry, Japan could turn out enough plutonium for 1,000 small weapons by the mid-1970s. And, by the same time, Japanese aerospace experts could have ready adequate propulsion, guidance and re-entry equipment to carry nuclear warheads—at least as far as Peking.

Mr. HUMPHREY. Promoted by these reports, I wrote a letter to the Secretary. It expressed my total dismay that such rumors could even arise when the idea of Japan moving to a nuclear capability is clearly in contravention of the Non-Proliferation Treaty of which Japan is a signatory, and of the Japanese Constitution. Moreover, it gravely upsets the sensitive negotiations now underway with the Soviet Union for arms control agreements on defensive and offensive weapons and it sets back hope of a possible five-power or world conference on arms control.

The recent news of the President's trip to China gives us all hope that such a conference and effective agreements may

be brought about in the near future. We should not upset these promising developments by raising the specter of a Japanese nuclear deterrent.

The period we are now witnessing is a delicate one, and each public declaration and diplomatic maneuver must be made with the utmost caution. It would seem, therefore, that it behooves the President at this critical juncture to affirm clearly and unequivocally the strong opposition of the United States to Japan's going nuclear. Although official spokesmen have said that our Government is not encouraging any such defense policy, and although Secretary Laird is reported to have said at his final press conference in Japan in response to a question prompted by my letter that he sees "no role for Japan as far as the nuclear deterrent is concerned during the period of the 1970's and beyond," the rumors to the contrary have not been squelched for one simple reason. There has not been the kind of declaration to remove beyond any question of a doubt the ambiguity of our Government's position.

The perfect demonstration in studied obfuscation is the Secretary's reply to a question in his last press conference before departing from Japan. Secretary Laird was asked the following:

Q. I understand that you have made no suggestion at all to the Japanese side about the Japanese obtaining nuclear weapons. I'd like to ask you a question about your future outlook. There is some talk I believe inside the Japanese Self Defense Agency, some people saying that Japan might at least have a tactical nuclear weapon for her defense, and particularly as China begins to develop her delivery system of nuclear weapons that that type of need might be increased. If Japan should in the future acquire nuclear weapons, would this be welcomed by the Americans or not welcomed by the American side? "What would be your view of that possibility?" And he answered by not facing the question directly.

A. If I were to have been asked this question by the Defense officials of Japan, I would have stated that I felt there were higher priorities within their Self Defense Forces than acquiring this kind of capability. I was not asked the question, but I would have certainly responded that way. With the assets that are available, I can think of a very much better use to make of those assets than proceeding along the lines you suggest. I was not asked the question. It did not come up in our discussions, but certainly the priorities would be much different if set by me as a defense planner in Japan. I am not a defense planner for Japan, I am a defense planner for the United States Forces, but I can certainly say that the priorities would be much different.

As you know, I was along with Secretary Rogers the principal witness for the nonproliferation treaty in the United States Congress, and the nonproliferation treaty which Japan has signed—it's not ratified of course but has been signed—would specifically bar such a development on the part of the Japanese should they ratify the treaty. To answer directly your question, if I were the defense planner, I would certainly set higher priorities on conventional capabilities which I believe are in the interest of the Japanese Self Defense Forces, and I can assure the Japanese defense planners that President Nixon and our Government will continue to provide the nuclear umbrella.

Mr. President, I am as deeply concerned about these recent developments as I was at the time I wrote to Secretary Laird. I want to share with the Senators the letter I wrote. I ask unanimous consent that it be printed, along with the reply from the Assistant Secretary of Defense. Mr. G. Warren Nutter, at this point in the RECORD. I appreciate Assistant Secretary Nutter's courtesy in replying to my letter in the Secretary of Defense's absence, but the Assistant Secretary's letter does not satisfy my concern.

To say that Secretary Laird is busily doing all he can in support of the Nixon doctrine, SALT, Vietnamization, and allied cooperation is little comfort. I do not know, nor do the American people know, what the Nixon doctrine or Vietnamization are. I am puzzled by the administration's approach to arms control, and I am very uncertain about just how much cooperation has been extended to our allies beyond the most narrow military interpretation of the term.

What I want to know and what all Members of this body want to know is just what Secretary Laird said on his trip to Japan. More important, we want to hear what our Government's position is on the nuclear question with respect to Japan. Mr. President, we have a right to know, and I, for one, still await a forthright and unambiguous reply from Secretary Laird.

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

Hon. MELVIN R. LAIRD,
Secretary of Defense,
Washington, D.C.

DEAR MR. SECRETARY: I have been following the press reports of your visit to Japan and am, quite frankly, most disturbed at what I have read. I would like to refer you particularly to the article by Selig Harrison in the *Washington Post* of July 8 and the *New York Times* article by Takashi Oka of the same day.

What concerns me most are the references made to our position regarding the future defense role of Japan. I am referring specifically to such reports as "Mr. Laird appears to have given the impression that he views with equanimity a possible situation in which Japan might be faced with the question whether to acquire nuclear weapons."

I prefer to avoid drawing any definitive conclusions until I receive your reply to this letter. I cannot view any such development with "equanimity." It is in direct violation of the Non-Proliferation Treaty of which Japan is a signatory and which the United States worked so hard to bring about. It also violates the spirit of the Japanese Constitution, written during the American military occupation of Japan.

Moreover, any encouragement we would give to the Japanese government to build "shipborne antiballistic missiles in the early 1980's as a supplement to the U.S. nuclear protection" would surely be an impetus to the spiraling arms race. If these reports are accurate, they could jeopardize the sensitive negotiations now underway between the United States and the Soviet Union, which give such promise for effective agreements on defensive and offensive nuclear weapons.

There is great hope throughout the world that the impasse in arms control agreements may have been broken. In this decade we should be striving for agreements not only between the United States and the Soviet Union, but also among the other nuclear powers—Mainland China, France, and Great Britain. Japan's joining of the so-called "nuclear club" with our open encouragement would be a serious blow to our hard-won progress. It would open up a Pandora's box, destroying the very heart and substance of the Non-Proliferation Treaty.

The United States has mutual defense pacts with Japan. While we have every right to ask that Japan increase her contribution for her own defense, commensurate with her economic position, we must not be encouraging her to move in the nuclear weapons field. Such a development, I repeat, would be contrary to international treaties, would offer little strategic value, would poison the climate of future arms control agreements, and would endanger the prospects for peace.

I am certain, Mr. Secretary, that you are aware of these ramifications but, because of these disturbing reports, I did want to take this opportunity to express my own deep concern on the subject.

I will look forward to receiving your reply.

Sincerely,

HUBERT H. HUMPHREY.

ASSISTANT SECRETARY OF DEFENSE,
Washington, D.C., July 14, 1971.

Hon. HUBERT H. HUMPHREY,
U.S. Senate,
Washington, D.C.

DEAR SENATOR HUMPHREY: I am writing in reply to your letter to Secretary Laird in which you reacted to press reports from Tokyo concerning his visit there.

I am confident that as a member of the Senate who often has heard Secretary Laird testify you are fully aware of his views in support of the Non-Proliferation Treaty, the Nixon Doctrine which provides our friends and allies a nuclear shield, and the SALT talks undertaken by this Administration in the hope that strategic nuclear weapons can be controlled rather than proliferated.

I realize you are disturbed at the press reports you have seen, rather than at any view held by or ever expressed by Secretary Laird, but I did want to reassure you that on this as on earlier trips Mr. Laird is continuing his efforts in support of the Nixon Doctrine, SALT, Vietnamization and allied cooperation. The Secretary has expressed to Congressional committees, as you know, his gratification that the policies being followed by this Administration have reversed the tide of US participation in the Vietnam fighting, drastically curtailed US casualties, initiated for the first time nuclear arms limitation talks with the Soviet Union, and provided real hope that we can achieve the generation of worldwide peace which is the goal of the President and of all Americans.

Certainly the Secretary does not view we equanimity possession by Japan of nuclear weapons. He made this clear at his farewell news conference in Tokyo when he stated: "I see no role for Japan as far as the nuclear deterrent is concerned during the period of the 1970's and beyond." I am enclosing for your information a transcript of that news conference.

I know the Secretary will talk with you personally on his return, but I did not want you to remain unnecessarily disturbed and so take this opportunity to reassure you on behalf of Secretary Laird and all the other civilian and military members of the Department of Defense that we are working daily to end the fighting, to achieve and preserve peace, and to limit nuclear weapons.

I hope you find this information useful.

Sincerely,

G. WARREN NUTTER.

EXCELLENT REPORT ON TACTICAL NUCLEAR WEAPONS BY SENATOR NELSON

Mr. PROXMIRE. Mr. President, Members of Congress for Peace Through Law has issued a series of reports on the B–1 bomber, the F–14 airplane, the proposed Cannikin test MIRV's, and the undersea long-range missile system—ULMS—to name some of them.

Late last week an additional report of very high quality was issued by my colleague, Senator GAYLORD NELSON of Wisconsin, on the subject of tactical nuclear weapons.

Very little is known about tactical nuclear weapons. While there has been major discussion and debate over the issue of strategic nuclear weapons, little has been said about tactical weapons and even less has been said about their importance and their military and diplomatic significance.

In his research paper, which has been presented to MCPL members for their consideration, Senator NELSON raises a number of important issues. He defines tactical nuclear weapons, discusses their numbers and location, their yields and varieties, where they are deployed, and agreements concerning them.

Because I believe that Congress and the public will find a great deal of useful information in Senator NELSON's research paper, I ask unanimous consent that it be printed in full in the RECORD.

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

REPORT ON TACTICAL NUCLEAR WEAPONS

INTRODUCTION

Most public discussion of nuclear warfare in recent years in this country has centered on "strategic" weapons—those which the United States and Soviet Union aim at each other's homelands. These include intercontinental ballistic missiles, missile-firing submarines, long-range bombers and the corresponding defenses such as the ABM.

A great deal of information about these weapons is in the public domain. Their numbers are announced annually. The rationale involved in their planning is spelled out in great detail each year by the Defense Department and White House. The issues concerning their future development have been extensively debated in Congress.

Much less public attention has been given to another kind of warfare—"tactical" nuclear war, in which nuclear weapons would be used against military forces on a battlefield. A large array of nuclear weapons has been built for this type of warfare. These weapons are less well known to the public than strategic weapons. They are more numerous than strategic weapons but their numbers are not announced. In recent years there has been extremely little public discussion of tactical nuclear weapons in Congress.

DISCUSSION

The terms "strategic" and "tactical" are not precise. They refer to the use a nuclear weapon is to be put. To some extent the same weapon could be used for either purpose. The distinction depends on vantage point. A 100 kiloton bomb carried by a U.S. F4 fighter-bomber based in Europe, may seem to be a "tactical" or battlefield weapon to an American, but to a European it makes little difference what it is called. Without attempting to fix an exact dividing line, it is the purpose of this report to discuss a large set of weapons, generally left out of the main nuclear debate, which for lack of a better term are called "tactical", and concerning which there are substantial issues of U.S. policy.

Numbers

The March 9, 1971, Defense Department annual defense program and budget statement gives a specific accounting of the numbers of U.S. strategic offensive weapons—1,054 ICBMs, 656 submarine launch tubes, 569 heavy bombers, totaling together 4,600 nuclear warheads. No such accounting is available for tactical nuclear weapons.

Former Secretary of Defense Robert S. McNamara said in 1967 that the United States then had about 7,000 tactical nuclear weapons in Europe.[1] His successor, Clark M. Clifford later spoke of 7,200 there.[2] Those figures are still roughly accurate today, although exact current numbers are not made public.

The number of U.S. tactical nuclear weapons overseas, apart from Europe, has never been announced and is highly classified. It is clear, though, that aside from Europe, the United States has several thousands of these weapons stockpiled abroad and at home. There are many more tactical nuclear weapons now than strategic, although the deployment of strategic weapons with MIRV will make the ratio closer.

Places

U.S. tactical nuclear weapons are deployed in 10 to 20 countries overseas. The list is secret. It obviously includes some, but not necessarily all of the NATO countries. The others are U.S. military alliance countries, which confront the potential nuclear enemies, the Soviet Union and Communist China. South Korea would be a good example.

Agreements

In the case of NATO, U.S. nuclear weapons are present under specific agreements, the details of which are largely secret. The U.S. warheads are kept in Europe in custody of U.S. forces, in some cases in stockpiles, in other cases on quick reaction alert with the weapons that deliver them. In either case only the President of the United States has authority to release them for use. Almost nothing is publicly known aobut those arms agreements with other countries. In no case, according to U.S. officials, are nuclear weapons present without the local government having been told.

Yields

Tactical nuclear weapons range in explosive power from a small fraction of a kiloton to hundreds of kilotons. A kiloton is the equivalent of 1,000 tons of TNT. The A bomb which the United States dropped on Hiroshima was 20 kilotons. According to the Institute for Strategic Studies in London, the average warhead yield of U.S. tactical nuclear missiles stockpiled in Europe is 20 kilotons (Hiroshima size) and the average or U.S.tactical nuclear aircraft bombs there is 100 kilotons (five times Hiroshima).[3]

Varieties

The basic varieties of U.S. tactical nuclear weapons are as follows:

Artillery—Eight inch and 155 milimeter self-propelled howitzers. These can fire either conventional or nuclear warheads, the latest probably under 1 kiloton, at ranges up to roughly 10 miles. In a nuclear role they would be used to fire at concentrations of enemy troops, artillery and missile positions, command posts, groups of vehicles.

Honest John rocket. First conventional or nuclear warhead, the latter "in the same ballpark" as the Hiroshima bomb, according to one official source. Range is more than 20 miles. Rides on a truck-like launching vehicle. The whole unit can be air-transported.

Sergeant missile. Fires a nuclear warhead.

Lance missile. A new artillery missile to replace the Honest John and Sergeant systems, both of which are approaching the end of their useful life spans. Procurement is planned for fiscal 1972. Conventional and nuclear warhead capability, greater mobility and quicker reaction time.

Pershing missile. The longest in range of the nuclear artillery, about 400 miles. Nuclear warhead probably several times more powerful than Hiroshima. Fired from West Germany it could reach to the fringes of the Soviet Union. It is a "counter-nuclear" weapons, to wipe out airfields from which enemy planes might attack and other major targets.

Atomic Demolition Munitions (ADM)—These are nuclear devices to be buried in the earth in friendly territory along probable routes of enemy invasion. They are detonated by electronic command to cause earthslides, blocking mountain passes, or to turn a forest into a barrier of fallen trees or to destroy major highways. Though sometimes called "nuclear land mines" they are not detonated automatically by an advancing enemy but are set off on command.

Aircraft-carried—Tactical fighter-bomber aircraft, land-based in Europe and Asia and on aircraft carriers, have both conventional weapons and nuclear. The latter include air-to-air rockets, air-to-air guided missiles and nuclear bombs.

Naval—Talos, surface to air or surface-to-surface missiles; ASROC, ship-launched anti-submarine missile; SUBROC nuclear depth bomb.

Air defense—Nike-Hercules system deployed in Europe is capable of using conventional or nuclear warheads.

Soviet Union

In the case of Soviet nuclear weapons for use in Europe, the distinction between strategic and tactical blurs. The Soviet weapons include:

Medium and intermediate range ballistic missiles based in the Soviet Union and targeted on Europe.

Medium bombers targeted on Europe.

Tactical rockets and missiles for immediate support of Soviet ground forces (FROG, SCUD, SHADDOCK, SS–12).

Tactical aircraft with nuclear weapons delivery capability. (IL–28 light bomber; YAK–28 light bomber; SU–7 fighter-bomber; MIG–21 fighter)

Naval nuclear weapons including surface-to-surface and surface-to-air.

The Institute for Strategic Studies estimates the Soviet Union's European theater nuclear forces at 3,500 warheads, compared to NATO's 7,000. It reports that some of the delivery vehicles (but not the warheads) are in the hands of non-Soviet Warsaw Pact forces.[4]

Communist China

Communist China's theater nuclear capability is probably limited to TU–16 Badger medium bombers now, according to the U.S. Defense Department, but some deployment of Chinese medium range ballistic missiles may have occurred.[5] The launch of a Chinese satellite of 381 pounds on April 24, 1970, signalled that China has IRBM components.

What purposes should they serve

When U.S. tactical nuclear weapons were first deployed overseas during the 1950s, their purposes were clear. The United States had nuclear superiority over the Soviet Union. The prevailing military view at the time was that the United States and NATO were hopelessly inferior to the Soviet Union and Warsaw Pact in conventional military strength in Europe—a dozen NATO divisions facing 25 well equipped Soviet divisions in Central Europe and up to 175 Soviet divisions in all. It followed that the United States could make up for this conventional inferiority in Europe with nuclear firepower with little fear of Soviet nuclear retaliation against the United States.

But in the early 1960s these premises were being swept away. The U.S.-Soviet nuclear balance was shifting toward partity. There was more concern that use of nuclear weapons in Europe would lead to the destruction of the United States itself. Also, Defense Secretary Robert S. McNamara's systems analysts were recalculating the NATO-Warsaw pact conventional balance in more sophisticated ways, weighing the strength of Soviet divisions instead of just counting them. They found the conventional balance much closer to parity than the military had previously assumed. The McNamara doctrine of "flexible response" evolved—to the effect that NATO could, with improvements in its

Footnotes at end of article.

conventional forces, meet a conventional attack in Europe with conventional force without necessarily having to resort to nuclear warfare.

The main rationale for tactical nuclear weapons became, and remains today, twofold: (1) that they add to the deterrent against conventional attack in Europe and elsewhere because an enemy would have to assume they might be used and (2) they provide a deterrent against Soviet or Chinese first use of nuclear weapons.

During the Nixon Administration there have been parallel studies in the National Security Council and in NATO on the broad purposes of tactical nuclear weapons. President Nixon's Foreign Policy Message to Congress and Secretary of Defense Laird's most recent annual statement to Congress describe the current policy thinking of the Administration and NATO, based on these studies.[6] In essence, the policy is to rely on three levels of deterrence but on none of them alone:

Strategic—The possibility of use of U.S. strategic weapons against Russia is part of the western deterrent in Europe, but in an age of U.S.-Soviet nuclear parity it is not a realistic deterrent alone, for "today, nuclear destruction would be mutual."

Tactical nuclear—These weapons add to the deterrent, but NATO must not be in a position where its only possible response would be nuclear.

Conventional—A stronger conventional capability must also be maintained. But to rely on it alone might "lead an aggressor to conclude that we might accept the loss of vital territory without taking further action.

How well do they serve their purposes?

For many years it has been recognized that there are major questions and problems inherent in tactical nuclear weapons which bear on how acceptably they fulfill their purposes. Alain C. Enthoven and K. Wayne Smith have described the consideration of many of these questions in and out of government before and during the McNamara defense years. A Brookings Institution study[8] also outlines the major questions. These questions are still under scrutiny in the government today. Some examples:

1. Degree of destruction: Military plans for the tactical nuclear weapons in Europe call for them to be used against military targets with restraint so as to limit "collateral damage", the term for the killing of civilians and destruction of cities. Under these plans, relatively low yield weapons would be chosen. Warheads would be made to explode in the air at sufficient height so the fireball would not touch the ground in order to reduce fallout.

But questions have been raised whether such restraint would in fact occur. Many of the U.S. weapons stockpiled in Europe are of very high yield. It has been argued that in the opening exchange of a tactical nuclear war communications and intelligence capabilities would be wiped out. Commanders on both sides would lose the ability to pinpoint targets. In their blindness both sides would resort to area devastation with their biggest weapons. Estimates of how many people would be killed in a tactical nuclear war in Europe depend on assumptions made as to how the war unfolds. Such estimates have ranged from a matter of thousands, assuming the war stops immediately after a few nuclear weapons have been used; to 2 to 20 million, assuming extensive use of nuclear weapons with some restraints; to 100 million if there are no restraints at all.

In November, 1969, the NATO Nuclear Planning Group, at a meeting at Airlie House near Warrenton, Virginia, drafted the first agreed NATO political guidelines covering possible initial use of tactical nuclear weapons by the alliance. Though these were not made public, they said in effect that in response to a conventional attack which could not be stopped with ordinary forces, NATO might use tactical nuclear weapons. But it would do so in ways designed to minimize the chances of automatic escalation. As one NATO planner interpreted the agreement, low yield weapons would be used, and they would be used in "tens rather than hundreds". The enemy would be told of the intent to use restraint. The enemy command and control system would be deliberately spared, making it possible for the enemy commanders to control their forces. The Nuclear Planning Group consists of seven of the NATO defense ministers serving in rotation. In subsequent meetings NATO has taken up the question of how nuclear weapons might be used *after* their initial introduction. The answers are apparently still open.

2. Deterrent or Incentive? Since France expelled NATO from its soil, it has been obvious that a great deal of the U.S. tactical nuclear weaponry assigned to the NATO area must be in Germany. The warheads are kept in stockpiles, the locations of which are secret. Germany, however, is an open country and it is probable the Soviet Union knows these locations. It has been argued that in time of extreme crisis the Soviets would have an incentive to knock out the stockpiles before they could be used. The same has been said of the airfields where NATO nuclear-capable aircraft are based. The question has been asked whether tactical nuclear weapons in general cause more instability than offer deterrence because of such vulnerabilities. To some extent at least this may be improved by sheltering of tactical aircraft.

3. *Who Would Win?* The question has also been asked whether NATO would in fact be the relative winner of a tactical nuclear war in Europe. One possible scenario is that the forces in place in Europe would be annihilated in the nuclear exchange, and then the Soviets, with closer conventional reserves, would occupy the devastated remains of Europe. Partly, due to the need for reserves, the Brookings report argues that tactical nuclear weapons are not by themselves a substitute for conventional forces. Another factor which must be considered is that the Soviet Union, in addition to its mobile tactical nuclear forces, has medium and intermediate range missiles and bombers in the Soviet Union targeted on Europe.

4. Command and Control: The problem of maintaining effective Presidential control over firing any nuclear weapons would appear more difficult in the case of tactical nuclear weapons than strategic. Strategic weapons are divided into three clear commands, and are either at home or at sea. The tactical weapons are distributed among many countries and many more major military commands and subcommands. From public information it is not clear whether a U.S. President would issue a blanket release of nuclear weapons in Europe or would release them on a weapon by weapon, target by target basis.

One nuclear weapons system has been scrapped partly because of control problems. The Davy Crockett, smallest of the U.S. nuclear weapons, fired a nuclear warhead reportedly measured in tens of tons of TNT, and could be mounted on a jeep. In 1967 the Davy Crockett was ordered withdrawn from the inventory of U.S. forces world-wide. The officially stated reason was that it will be replaced by a more effective weapon, the 155 m.m. howitzer. One factor in the decision however, was that the Davy Crockett, due to its short range, had to be deployed very far forward and at low command echelons, raising problems of communications and also of possible capture.

5. ADM: One particular class of weapons about which questions have been raised are the atomic demolition munitions (ADMs). These are presently stockpiled in U.S. custody in Europe. In time of impending war they could be buried in the ground or implanted in bridges along the frontiers where they could be detonated by electronic command in the path of an advancing army. The associated problems include when to plant them, when to detonate them, whether Presidential authority over their firing should be delegated in view of the fact that time might be at a minimum, how much damage would they do, and how to safeguard them from theft. At one time both Turkey and Germany seemed interested in making greater use of these weapons. After separately studying them in the Nuclear Planning Group both countries recommended further study of the problems involved.

6. Asia: The emergence of Communist China as a nuclear power has cast doubt on the original premise that tactical nuclear weapons could deter massive conventional attack in that part of the world. The following question is being asked: What good would it do for the U.S. to employ battlefield nuclear weapons if Communist China could respond by dropping nuclear bombs on Seoul, Manilla, Bangkok, Tokyo or other major cities or countries the United States wants to protect?

Do we have the right numbers?

In the field of strategic weapons, extensive and detailed information has been released to the public over the years, bearing on the question of how many and what kinds are needed. This information has included the numbers needed to inflict a certain level of damage on the Soviet Union and the numbers which would be destroyed by various kinds of Soviet attack. No comparable detailed information has been made public to spell out the requirement for 7,000 tactical nuclear weapons in Europe. In general, military officials cite the need to protect many allies, a large land area, the fact that many weapons systems are involved, and that many weapons would be destroyed. However, others have questioned whether the number 7,000 was planned as a force level or just grew autonomously. A fuller justification would be in the public interest.

Should we develop new tactical nuclear weapons?

The United States now faces an important choice in its tactical nuclear weapons policy. Proposals have been made for a general "modernization" of the U.S. tactical nuclear arsenal—in effect building a new generation of weapons. The proposed new weapons would be of relatively small yield and would have increased accuracy of delivery. Proponents argue that, in contrast to many of the weapons now in Europe, these would better fit the U.S. and NATO strategies of fighting a tactical nuclear war with restraint, concentrating on military targets and reducing civilian casualties and destruction. They would, it is argued, be a much more credible and realistic deterrent. Proposals for modernization have come from within the military and from the government laboratories which build weapons.

The basic technology for such modernization is in hand. Nuclear warheads can be packaged smaller. Methods of increasing accuracy which could be applied to tactical nuclear weapons have been developed and in some cases tested in battle. An example is the (non-nuclear) Walleye bomb used in Vietnam which guides itself to on target with a built-in television camera.

Though some isolated improvements may well go forward, no decision has been made in favor of a general modernization. The issue is still under study.

Some opponents of modernization see the issue as one between deterrence and war-

Footnotes at end of article.

fighting. Like strategic weapons, they argue, tactical nuclear weapons are only for the purpose of being able to retaliate against enemy use of nuclear weapons, in other words to deter nuclear war. Nuclear weapons, this school argues, should not be designed for marginal advantages in battle and should not be designed so that it becomes more tempting to use them. Proponents of modernization argue that without a realistic warfighting ability there is little deterrence.

The opponents also argue that the modernization program would be costly and would mean a new round in the arms race at a time when the United States and Russia should be limiting and getting rid of their nuclear weapons. Finally, they argue that it makes little sense for the United States to develop a new family of more acceptable tactical nuclear weapons unless the Soviet Union does also, and so far there is no evidence that the Soviet Union is moving in this direction.

The fact that a policy choice is still open is reflected in the following paragraph in the FY 1972 Defense Reports:

We are currently evaluating the long-term structure of our theater and tactical nuclear programs. In the near-term, we will continue to rely on current capabilities, including theater assets, tactical aircraft, missiles, rockets, field artillery, and atomic demolition munitions. However, research and development and weapons improvement programs are planned in this area, to insure that our weapons and the associated command and control systems have both adequate capability and continue to emphasize minimum chance of accident. With such programs, we believe that we can retain or improve the essential contribution our theater nuclear forces make to our deterrent posture.[9]

The amount of money now being spent on the above research and development programs is about $22 million this year. According to Brookings the cost of building new tactical nuclear forces for Germany alone could be $1 billion to $1.5 billion annually over a ten year period.

Further questions and recommendations

Several questions bearing on the relation of tactical nuclear weapons to other aspects of U.S. policy should also be noted:

1. Troops in Europe: Congress should begin considering the questions of the level of U.S. troops in Europe and U.S. tactical nuclear forces in Europe together rather than as separate issues. Consideration should be given to whether reduction of U.S. troops in Europe from 300,000 as proposed in the recent Mansfield Amendment would mean greater reliance on nuclear weapons.

2. Nixon Doctrine: The United States is now in the process of general reduction of its conventional forces in Asia. Since much tactical nuclear weaponry consists of warheads for dual capable systems, we must ascertain if this reduction will result in a corresponding draw down of tactical nuclear weapons or if it will result in more reliance on them.

3. Commitments: The Senate Foreign Relations Sub-Committee on U.S. Security Agreements and Commitments Abroad has reported extensively on this country's system of overseas defense alliances. But because of the secrecy involved, little could be made public in its hearings about the extent to which nuclear weapons have added to our overseas commitments. Except for the NATO area, the presence of nuclear weapons in a foreign country is not supposed to be discussed in public. The public interest would be served if ways could be found consistent with security requirements to bring more information on this subject into the open.

4. Arms Control: Concerted effort should be made to find ways of bringing tactical nuclear weapons into arms control talks. One possible forum would be the Strategic Arms Limitation Talks (SALT). The Soviet Union reportedly has taken the position that the delivery systems—aircraft and missiles—of U.S. tactical nuclear weapons in Europe could reach into the Soviet Union and therefore should be included in SALT. The United States reportedly has taken the position that these systems have very little capability against the Soviet Union and are a separate subject. One consideration involved is whether bringing tactical weapons into SALT would involve NATO and the Warsaw Pact in these talks and whether this would be wise. Another possible forum for discussing tactical nuclear weapons would be talks on Mutual and Balanced Force Reductions in Europe, in which both the United States and the Soviet Union have expressed interest.

FOOTNOTES

[1] Statement of Secretary of Defense Robert S. McNamara before Joint Session of Senate Armed Services Committee and Senate Subcommittee on Department of Defense Appropriations on the Fiscal Year 1968–72 Defense Program and 1968 Defense Budget—January 23, 1967, Page 68.

[2] Secretary of Defense Clark M. Clifford, Press Conference, U.S. Military Headquarters, Berlin, Germany, October 12, 1968.

[3] Institute for Strategic Studies, London, The Military Balance 1969–1970, page 19.

[4] Institute for Strategic Studies, London, The Military Balance 1970–1971, page 95.

[5] Statement of Secretary of Defense Laird on Fiscal year 1972–76 Defense Program and 1972 Defense Budget, March 9, 1971, page 48.

[6] Foreign Policy Message of President Nixon to Congress, February 25, 1971, pages 22–24. Laird statement listed in Note 5, pages 75–76. Quotations used are from President's message.

[7] How Much Is Enough?—Alain C. Enthoven and K. Wayne Smith, Harper & Row, Chapter 4.

[8] Setting National Priorities, the 1972 Budget, Brookings Institution, 1971, pages 94–102.

[9] Laird statement listed in Note 5, page 76.

SOVIET JEWRY NEEDS OUR HELP

Mr. McGOVERN. Mr. President, the plight of 3½ million Jewish citizens of the Soviet Union is a source of continuing concern to many Americans. These Soviet Jews are the great majority, perhaps as much as 85 percent of the remnant of European Jewry left after the Nazi holocaust. We cannot forget that 6 million Jews, including half the Jews of the Soviet Union itself, were methodically exterminated by the Nazis.

It is cruelly ironic that the great majority of surviving European Jews owe their survival to the fact that they lived during the Second World War in nonoccupied areas of the Soviet Union, for that country has its own long and well-documented history of barbarous treatment of Jews.

It must be admitted that the Bolsheviks who took control of Russia in the early 1920's represented in many respects an improvement for Russia's Jews. This improvement, however, was slim consolation to Soviet Jewry during Stalin's reign of terror, especially from 1948 to 1953, when tens of thousands of Jewish artists, writers, and intellectuals were officially characterized by the Soviet Government as, "Zionist bourgeois dogs," "homeless cosmopolitans," and "enemies of the Soviet people," and were systematically liquidated.

Anti-Jewish literature, much of it truly medieval in character, continues to roll off the Soviet press, both official and nonofficial, especially since the Arab-Israel war of 1967. Indeed, shortly after that war the Soviet Government opened a full-scale propaganda war against an "international Zionism" which it equated with any expression of Jewish national feeling by Soviet Jews. Conspiracies were invented between "Zionists" and every breed of tyranny from czarist pogromists to the Nazi perpetrators of genocide, and even to the alleged counterrevolution in Czechoslovakia. Previously discredited anti-Jewish writers as Kichko, Osipov, and Ivanov have been resurrected since 1967, and their writings are in abundance today in the Soviet Union.

Nor has the post-Stalinist era in the Soviet Union been free of the taint of mass trials for vaguely defined crimes. For example, trials for alleged economic crimes took place between 1961 and 1964, in which nearly 60 percent of the hundreds of defendants, most of whom were executed, were Jews, a fact which the official Soviet press never allowed its readership to forget. The trial which has most recently generated world attention is the December hijacking conspiracy trial in Leningrad—in which world pressure induced the Soviets to commute death sentences. Subsequent trials in Riga and elsewhere on trumped-up charges of economic crimes and disloyalty to the state have been used as instruments of harassment against Jews seeking to emigrate. In short, the Soviet Government has in the past 10 years conducted numerous mass trials for various crimes, always ill-defined both factually and legally, in which Jews were conspicuous both by their disproportionate numbers and by the extraordinary publicity given to the vague charges against them.

But it is not only the physical danger of being a Jew in the Soviet Union which we must acknowledge today. For the Soviet Jew who wishes to maintain the deeply engrained religious and cultural traditions of his Jewish heritage encounters a persistent and concerted Government effort aimed at the cultural annihilation of its Jewish citizens. At the same time, the Soviet Government has refused, in stark violation of basic human rights and international law, to allow those Jewish citizens who find intolerable a life of cultural and spiritual deprivations to leave the Soviet Union and seek refuge where they can freely practice their culture and religion.

What are the facts with regard to the freedom of Soviet Jews to enjoy their culture or practice their religion? The basic fact is that Jews enjoy far less cultural and religious freedom than virtually any nationality or religious group in the Soviet Union. Synagogues have systmatically been closed down for the past 30 years, frequently with press releases denouncing them as centers of illicit capitalistic activity. There are now only about 65 synagogues left in the Soviet Union to serve a Jewish population estimated at 3½ million persons. To put this figure in perspective, Chicago, with a Jewish population of about 200,000, has 120 synagogues.

Nearly every American visitor to the Soviet Union who attends a synagogue

there reports that those who attend services are afraid to speak or even to exchange glances with foreigners because of the widespread use of police informers among the congregant. Although the official policy of the Soviet Union is to discourage religion, no other religious group, including the Russian Orthodox Church, the Moslem sects of Eastern Russia, and numerous other religious sects report any remotely similar degree of interference with their houses of worship.

Equally detrimental to the freedom of Jewish worship is the informal but rigorously imposed ban on the manufacture or importation of Jewish religious objects, such as prayer shawls, phylacteries, prayer books, and Hebrew bibles. As our State Department quietly recognizes in its instructions to American tourists visiting the Soviet Union, these religious items are routinely confiscated by the Secret Police from tourists who attempt to bring small quantities of them into the Soviet Union.

Though Soviet law theoretically guarantees the right of a group of parents to organize a school for their children, a right internationally guaranteed by the Convention Against Discrimination in Education adopted by the General Conference of the U.N. Educational, Scientific and Cultural Organization, the Soviet authorities consistently and forcibly discourage the organization of Hebrew schools. Moscow's only Hebrew teacher, Lev Sheinkar, was recently imprisoned on vague charges of "hooliganism." Others who have attempted to perpetuate Hebrew learning in the Soviet Union, such as Vadim Mogilever, have found that these efforts alone have rendered them liable for criminal charges of anti-Soviet activity. The training of Rabbis has virtually ceased in the Soviet Union.

And Jewish secular culture fares little better than freedom to practice the Jewish religion. The once thriving Yiddish press and Yiddish theater of the Soviet Union have been reduced to an insignificance. No more Yiddish speaking schools are allowed, even though a majority of Soviet Jews are fluent in that language. Ironically, by contrast, the Soviet German population, which numbers perhaps half of Soviet Jewry, enjoys the right to have extensive cultural facilities, including schools, radio broadcasts, newspapers, books, and theaters. So indeed do numerous other national groups, especially those who have territorial bases in the Soviet Union, such as Latvians, Lithuanians, Georgians, and others.

Tens of thousands of Soviet Jews have found this religious and cultural oppression intolerable and have requested permission to leave the Soviet Union. Numerous international agreements, to which the Soviet Union is morally bound, guarantee them this right. These agreements include the Universal Declaration of Human Rights, the International Convention on Elimination of All Forms of Racial Discrimination, and the International Covenant on Civil and Political Rights.

However, the policy of the Soviet Union has been to deny exit permits to the vast majority of Soviet Jews who request them and to subject many of the petitioners to a variety of harassments ranging from dismissal from employment to imprisonment and physical abuse. Boris Kochubievsky, for example, was put on trial in May 1969 and sentenced to 3 years in prison for issuing a public statement defending Israel and for requesting permission to emigrate. Recently Pravda branded Jews who wanted to go to Israel with the Stalinist term "anti-Soviet"—February 17, 1971.

Though the number of permits issued has apparently increased somewhat in recent months, permission to leave has been and continues to be routinely denied without any substantive reasons given.

Because of the enormous risk involved in applying for an exit permit, it is extremely difficult to determine the precise number of Soviet Jews who wish to emigrate. We can surely assume that the vocal, activist Jews—as well as dissident non-Jewish intellectuals and others who wish to leave—represent only a small percentage of those who would apply for permits if the fear of reprisal were not present. A letter of February 15, 1968, signed by 26 Jewish intellectuals residing in Soviet Lithuania and sent to the Secretary General of that republic's Communist Party, estimated that if the borders were opened for emigration, some 80 percent of the Jews in Soviet Lithuania would leave for Israel.

Despite the unjust and vicious treatment of Soviet Jewry, over which Jewish and non-Jewish Americans, including many Members of the Congress, have expressed great concern, the Nixon administration has apparently done nothing to exert its influence in any way that might alleviate the situation.

Last December 26, during the public furor that erupted after the imposition of the death sentence on two of the defendants in the Leningrad conspiracy trials, the President met with prominent American Jewish leaders who requested that the President make a public declaration deploring the Leningrad trials and the treatment of Soviet Jews. The President responded that such a public declaration might endanger the lives of the two individuals who were then under death sentence. Now that the death sentence has been commuted, it is difficult to understand why the President cannot make a strong public statement calling on the Soviets to ease the restrictions on Jews. Such a statement should not be laced with inflammatory threats to fan the flames of the cold war. But I feel that the Soviets have amply demonstrated their sensitivity to vocally expressed world opinion in this area, both in the commutation of the Leningrad sentences and in the increased rate of exit permits issued in recent months. A Presidential statement expressing the humanitarian concern of the American people for the persecuted Jews and other dissidents of the Soviet Union is entirely appropriate at this point.

Even more discouraging is the apparent failure of the President to take private initiatives which would demonstrate that the treatment of Soviet Jewry and other dissidents is a matter of high priority to concerned Americans. For example, I believe that the President would have nothing to lose and perhaps much to gain by approaching, on a personal basis, the leaders of friendly East European countries such as President Tito of Yugoslavia or President Ceausescu, of Rumania. These leaders might well agree to encourage the Soviets to adopt the humanitarian policy which those countries themselves have successfully carried out by issuing exit permits to Jews who wish to leave. Similar appeals could well be made to neutral countries such as India or the nations of Black Africa, or to the Communist parties of Western Europe.

It is hard to see any substantial risk in these approaches. Yet the President and the State Department have consistently pushed suggestions of this nature under the rug with references to the "delicate" nature of the problems. One can only conclude that the Nixon administration does not attribute to the plight of Soviet Jewry a priority high enough to warrant the most minimal diplomatic risk.

Even at the State Department level, response to the problem of Soviet Jews and other libertarian dissident movements has been woefully inadequate. The State Department has consistently maintained that the problem is not an appropriate matter for governmental effort, but is best dealt with by private parties. The State Department gave this response throughout the Leningrad trials and the death sentence and prior to the commutation of that sentence. After the commutation, the Department claimed that Secretary Rogers had, in fact, written a personal letter to Mr. Gromyko, the Soviet Foreign Minister, and that the Department had sought to enlist the British and French—who would doubtless have acted anyway—in support of commutation. One is thankful that other countries as well as private parties, groups and journalists throughout the world communicated their concern with greater force than did our Government.

State Department activity since the public furor over the Leningrad trials has not demonstrated any change in the Department's hands-off attitude. The only public forum in which the matter has ever been raised by our Government has been the United Nations Commission on Human Rights, where we have traded insults with the Soviet Union in a rather perfunctory manner.

One excellent opportunity to make substantial progress in the alleviation of this problem through a neutral international humanitarian organization was totally bungled by the State Department. The Intergovernmental Committee on European Migration—ICEM—an international body headquartered in Geneva which was active in the resettlement of Polish and Rumanian Jews, recently offered to make a formal approach to the Soviet government suggesting the ICEM would be willing to make the arrangements and assist financially in the quiet resettlement of Jews. The advantage of the ICEM proposal was that it gave the Soviets a chance to alleviate and partially diffuse the problem with the help of a neutral international organization,

quietly and without expense or embarrassment.

The Director of ICEM sought the support of member governments for the proposal, and many governments voiced their support. Almost unbelievably, the United States denied its support, and ICEM proceeded without U.S. endorsement. The State Department now explains that this was simply a "bureaucratic mistake," and claims that, in fact, the Department was planning to strengthen the ICEM proposal. We must accept the statement that failure to endorse this totally risk-free proposal was merely a blunder rather than a willful act. In either case, the implications in terms of the priority given to this humanitarian problem by our Government are depressing.

And there are other international organizations, such as the United Nations High Commission for Refugees and the International Refugee Organization, whose aid in this matter could be enlisted if our Government were prepared to make the effort. Most regrettably, we have done nothing along these lines.

Finally, our Government has done little or nothing to provide moral support to the Soviet Jewish community, in spite of the fact that any trace of world support has invariably provided an indispensable encouragement to Jews and other libertarian dissidents in the Soviet Union.

Perhaps the most striking example of our failure to provide support and hope to those who protest the denial of basic human freedoms is the failure of the U.S. Information Agency to provide Voice of America broadcasts in the Yiddish or Hebrew languages for Jews in the Soviet Union.

Mr. Leonid Rigerman, the physicist who took an active role in the Soviet Jewish protest movement, met last month with officials of the USIA to discuss the impact of the Voice of America on the democratic movement in the Soviet Union. Mr. Rigerman stressed the vital importance which he and his friends in the Soviet Union attached to the Voice of America. But Mr. Rigerman strongly lamented that these broadcasts virtually never informed the many listeners that substantial support for Soviet Jewry and other dissidents existed in the United States, and in other parts of the world. He especially urged the institution of broadcasts in Yiddish, which is the native language of a large percentage of Soviet Jews and is probably understood by three-quarters of them. We have provided native language broadcasts for other Soviet minority groups, such as Estonians, Latvians, and Lithuanians. Our refusal to do so for Jews, who have been the seminal figures in the Soviet democratic, libertarian movement, is simply inexcusable.

I have written to the Director of the USIA urging him to take immediate action to establish Yiddish language broadcasts to the Soviet Union through the facilities of the Voice of America. Some of the Russian language broadcasts could be specifically tailored to the Jewish audience.

In addition, I am cosponsoring legislation which would allow for 30,000 special immigrant visas to be issued to Soviet Jews seeking to flee from the Soviet Union because of religious persecution.

The administration and the Congress can take joint action to demonstrate American concern for the Jews who are the victims of persecution in the Soviet Union. They have suffered more than their share. If our Nation is to stand for what is humane and moral, we cannot tolerate further delay in attempting to bring justice to Soviet Jewry.

AMEX: 50 YEARS INDOORS

Mr. WILLIAMS. Mr. President, this year the American Stock Exchange celebrates its 50th anniversary as an indoor market. In 1921, the brokers moved from the outdoors "curb" into a permanent indoor home. Today's Amex stands on the site of that original headquarters. Of course, there have been significant changes in the business of the Nation's second largest securities marketplace since its early days.

Recently, James T. Prior, business writer for the Hackensack, N.J., Record Call, chronicled those changes in a study of the "Amex: 50 Years Indoors." I wholeheartedly recommend this article to all Members of the Senate who are interested in the growth of our Nation's securities markets and therefore ask unanimous consent that Mr. Prior's article be printed in the RECORD.

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

AMEX: 50 YEARS INDOORS

(By James T. Prior)

A half century ago this month, the New York Curb Market left the curbs of Broad Street to create the indoor securities market place known today as the American Stock Exchange.

On June 27, 1971, the American Stock Exchange marks its golden anniversary as an indoor market. The fantastic growth of the Curb Market had been the very signal for its demise. With the vigorous expansion of the national economy, the curbstone brokers outgrew their quaint open-air marketplace.

Indoors, they instituted trading rules and a constitution and provided a public record of current prices and market activity with a nationwide stock ticker. Through the years Amex, headed by Ralph S. Saul of Ridgewood (who steps down as president June 18), has adopted new technologies.

But 50 years ago, sophisticated electronic equipment was not even a dream of some far-sighted visionary. Instead, traders flooded Broad Street from curb to curb, often overflowing onto the sidewalks and into alleys and doorways, seeking to execute buy and sell orders.

COLORFUL ERA

They wore colorful blazers, crazy caps, colored hats, and other items to be easily identified among the throng by acrobatic telephone clerks who clung to window sills high above the milling crowd.

A buy or sell order was made in this fashion: A brokerage firm lucky enough to rent a room overlooking Broad Street would receive an order to buy 100 shares of XYZ stock. A telephone clerk would hang out of a window, spot the company's trader by his hat or coat, and use hand signals or yell or whatever to get the message across.

Then the trader would go to the specialist in that stock and place the order. Orders were kept by memory or on little slips of paper tucked in hat bands or wherever.

Trading started in America when New York merchants began buying and selling securities in the dusty streets of lower Manhattan after the Revolutionary War. By 1792, some brokers moved indoors, while others remained on the streets, creating an outdoor marketplace that lasted for more than 125 years.

The Gold Rush, the Industrial Revolution, new products, new firms, etc., provided impetus for securities growth. The New York Stock Exchange was relatively conservative and would not trade in mining stocks, new issues, and others. Thus other markets were created.

So winter or summer, rain or snow, several hundred brokers filled the street each day from 10 a.m. to 3 p.m. The stock specialists would pick out a spot next to a lamp post, fire hydrant, mail box, or doorway, and commission brokers would push their way through the mob to reach them.

Tourists competed with brokers for standing room. The police put up barricades to give some semblance of order.

(Please read accompanying story on the Broad Street adventures of the late John Borg of Hackensack, publisher of The Record from 1922 to 1948.)

Soon these wasn't even standing room, let alone trading room on the street. There were not enough window sills to accommodate the small army of telephone clerks. It was becoming impossible to conduct business.

And the weather didn't help as snow and rain made it difficult to write orders. The Edison glass-domed stock ticker was also a deciding factor. For the first time it provided a prompt public record of current curb prices and trading activity.

$250 FEE

The New York Curb Agency was formed in 1908, then three years later it became the New York Curb Market Association. Memberships, limited to 500, sold for an annual fee of $250.

In June, 1919, Curb members voted to move indoors.

With some 500 brokers putting up $1,500 each, the Curb Market bought its present site at 86 Trinity Place, and its indoor home was built.

After more than a century of tying up downtown traffic—from horse to horseless carriage variety—the curb moved onto its first trading floor in a six-story structure that was to be joined by another new 14-story building in 1931. In 1953, it changed its name to the American Stock Exchange.

MANY CHANGES

A lot more has changed than the name.

During the first full year under a roof, curb brokers traded 22 million shares. More than a half billion shares have been traded thus far this year. An average day will see three million shares traded.

Regular membership is a record 650, and associate members number 233. Together, they represent 551 firms with 3,900 offices in more than 850 cities in 27 countries. Some 1,166 companies have stock traded on the Amex, representing 2.86 billion shares.

It might be well to point out the standards for listing on the Amex and its bigger brother, the NYSE.

The pretax earnings power of an Amex listed firm must be $500,000; for the Big Board, $2.5 million. Aggregate market value of publicly held shares for a NYSE listing must be at least $14 million; for Amex listing, $2 million. The American Exchange requires that 300,000 shares be publicly held by more than 900 persons or companies, while the Big Board requires 800,000 shares be held by more than 2,000.

Another aspect which should be cleared up is the term "seat" on the exchange.

BUYING SEATS

Prior to the Civil War, stock and bond issues traded on various indoor exchanges

were traded one at a time, at intervals during the day. Members assembled in the board room in specially assigned seats to await the roll call of securities.

Since the call procedure took a long time, members usually experienced a lot of arduous sitting before their stocks were named. Thus, comfort was the watchword and plush seats the rule of the date.

Today, with continuous markets, where anyone can buy or sell any issue at any time, the term seat signifies membership. But many brokers, who walk 10 or 12 miles a day on the trading floor, would wish otherwise.

Seats have sold from a low of $650 during the early World War II days to a high of $350,000 in 1969. The last sale, April 21, 1971, brought $135,000.

A few days ago, Saul, and his successor, Paul Kolton, dedicated a red granite curbstone in front of 44 Broad St. with the following inscription:

"For more than a century, the outdoor brokers, predecessors of the American Stock Exchange, conducted a marketplace on the curbstones of the financial district, serving investors and aiding the nation's industrial growth. They moved indoors on June 27, 1921, from this site."

HOW ONE YOUNG MAN STRUCK GOLD ON NEW YORK'S OLD CURB EXCHANGE

One of that noisy, weather-beaten band of brokers and clerks who comprised the nation's last outdoor securities market, the old Curb Market, was the late John Borg, president and publisher of The Record from 1922 to 1948.

Born May 24, 1883, in Union Hill, N.J., he was the third son in a struggling family of seven children. He was graduated from high school at 14 and at 17 became the main support of his family when his father died.

It was at that age that he wormed his way into Wall Street by crashing the sacrosanct floor of the Stock Exchange. A guard was ready to toss him out on his ear when a trader asked if he'd like a job. He took it, and worked his way up to become a youthful trader for Williamson and Squire, specializing in American Can.

The depression of 1906 hit hard, and Williamson and Squire asked Borg to take a 50 per cent cut in salary. He refused, arguing that he had earned $70,000 for the firm in a few years. So he struck out on his own with $1,000 in savings, a wife, and a baby son.

He amassed several million dollars in the Curb Market before he left the Street for good in 1923. His accounts are legend—of snowball fights on Broad Street, of his stopping the trading clock for half an hour, and of helping to move the market indoors.

One story of his wheeling and dealing on the market involves his handling of the distribution of 60,000 shares of Mallinson Silk Company. In his zeal he neglected a cardinal principle in stock deals with strangers. He forgot to make Mallinson put his stock certificates in escrow.

When the public sale was started, huge blocks of stock began to appear on the market.

John Borg was not prepared for this development. Three great bear operators of the day, Jesse Livermore, Joe Higgins, and Eddie Breen, heard Borg was in trouble and started selling short.

At this crucial point John Borg was sleeping at night on his glass-topped desk. He faced a loss of $2 million, and his brother Charles a loss of $500,000.

INTEREST AND PROFIT

Borg closed a deal to buy Mallinson's 60,000 shares of 200,000 outstanding at prices from $22 to $30 a share. Within 60 days the stock was at 41, and that's when the trio began selling. The stock hit 31.

About 40,000 shares tumbled onto the market from Mallinson himself. Then Borg had an idea. He asked his friend Harry Content to make large ostentatious bids the next morning to keep off the wolves.

In addition he got Jakie Field (who coined the phrase: "I've seen bulls make money; I've seen bears make money; but I've never seen hogs make any at all") interested in buying his option on the Mallinson stock. In return, Borg got a 20 per cent interest in any profit Field made.

As a precaution to prevent Mallinson from using any of the stock, Borg suggested to Field that after Mallinson countersigned Borg's assignment to him, Field should demand that the 60,000 shares be placed in escrow.

The news of Field's new syndicate and Harry Content's appearance at the Mallinson trading post at the opening caused the stock to open at 33, compared with a closing of 31 the day before. Higgins, Breen, and Livermore decided to get out from under, and the stock closed at 36 under their covering purchases.

The next day Borg unloaded 15,000 shares at 37½. In the course of the week he sold the rest at prices from 36 to 40. As a result he recouped from a $2 million loss to make a net profit of $300,000.

Of all the anecdotes told about John Borg's busy and exciting life, the masterpiece is his unexpected retirement from Wall Street.

One December evening in 1921 he was working in the study of his Prospect Avenue house in Hackensack when his daughter, 12-year-old Dorothy, came in unexpectedly to kiss him goodnight.

Startled, he snapped that he was too busy to be bothered. Then that night he resolved that he had no reason to make more millions.

The next day he announced he was giving his business to his clerks. He said he would turn over the reins in two years. On Dec. 21, 1923, he gave them the business, including three seats on the exchange worth $185,000 each to his three lieutenants.

That's how he became known as the Santa Claus of Wall Street.

But on this 50th anniversary of the move by the Curb Exchange to indoors, it might be a good idea to let John Borg's memoirs of his Wall Street days speak for themselves.

Here is a brief verbatim account from a manuscript left to his son Donald G. Borg, chairman of the board of The Record:

"When I arrived in the Street in the latter part of 1898, the Curb Market, entirely unorganized, congregated on Broad St. north of Exchange Place for the 10 to 3 session every day.

"It was slightly below the old N.Y. Stock Exchange bldg. opposite the Wills Bldg.; which was said to be the first skyscraper in N.Y.C. It was at 15 Broad St. where the high Equitable Trust Co. bldg. now stands.

"To my 17-year-old smalltown mind it was huge. To the best of my recollections it was 12 to 15 stories high; had about 200 ft. frontage on Broad, about 150 on Exchange Place, and had a wing running into Wall St. at about #33. It was built of heavy granite block with, of course, a steel understructure. It looked quite ancient in 1898; so it must have been erected in the 70s of the 19th Century. Just south of the Stock Exchange there was a group of 3-story bldgs, very old, opposite the Mills Bldg.

"In the basement of rambling old bldgs, I think 24, 26, and 28 Broad St., the famous Robbin's Restaurant held forth in a very large floor area. I would say that there was probably 200 brokers active in the Curb Market at that time (1900) supplement by their clerks and messenger boys.

"Everything rolled along noisily but smoothly on dry days, but on rainy days we all crowded into the Mills Bldg. entrance to block the entrance and exit of the rent-paying habitants of that bldg.

"It was a great place of refuge from the elements despite the howls of protest from the tenants who were deprived of their rights by a yelling mob of 200 Curb brokers.

"I think it was in 1902 that at the insistence of the Stock Exchange, the Mills Bldg. management and the police that we moved down Broad St. opposite 25 to 39 on the east and 30 to 44 on the West. The police provided us with stanchions and roped in the area.

"That was in the days of horse-drawn hansom Cabs. John Stanton got us all together one afternoon I think in 1903 or 4 and talked about the horse manure under foot in our trading area. The stanchions were taken in each day after 3 p.m. and replaced at 10 a.m. the next day. In the intervening hours a long line of cabs formed down Broad St. clear through our daily trading area. Horses are no respectors of persons; the brokers exuded verbal crap in the area for five hours each day; so the cab horses exuded the real thing on the street for the other 19 hours daily.

"So John Stanton proposed that we hire a private street sweeper to keep our trading area clean to preserve our shoes, and also our mental poise. (You can't keep your mind alert in trading while slipping around in real horse-manure).

"So the upshot was that not less than 150 brokers kicked in $10 a year to hire a $25 a week private street sweeper to keep us physically erect instead of sliding on our pants in the dung. Although I was not then an official broker, I kicked in my $10 a year to the cause, but this wise-guy Borg always got it back in small pieces from William & Squire's petty-cash account."

JAMES PRIOR

AGRICULTURAL CREDIBILITY GAP

Mr. McGOVERN. Mr. President, if one thing is clear in the farm belt it is the complete dissatisfaction farmers share over the administration's new farm law. Numerous political observers have documented the fact that dissatisfaction with the farm legislation fostered by the Nixon administration was a key factor in Democratic gains in traditional Republican areas in the 1970 election.

This dissatisfaction and frustration continues. Nearly all the mail and calls I receive from farmers, both from South Dakota and across the Nation, expresses their extreme displeasure with the current farm law. I am sure my colleagues have heard this view countless times.

Last week, the National Association of Farmer Elected Committeemen met in Washington. The president of the South Dakota association, Mr. Ned Hunsted of Bath, and the secretary, Mr. Harold Muller of Watertown, made clear what they thought of the present farm law. To say they do not like it would be an understatement. They fear they will be unable to continue to farm unless the farm program is drastically altered to help the farmer. The views of these two men represent the views of many farmers in South Dakota since they are elected by farmers themselves.

Yet the Nixon administration would have us believe otherwise. One of the most respected agricultural journals in my State, The Dakota Farmer, in its July issue included an article complete with photographs, prepared by the ASCS. The thrust of the article was that farmers were extremely satisfied with the current farm program. I suspect it took a little looking around to find two farmers in my

State who were so enthusiastic about the present farm program.

Mr. President, I resent the use of Government funds to portray this type of misinformation. However strongly the administration may want us to believe the current farm program is in the best interests of our farmers, I regret the use of Federal funds to try to create the illusion farmers are happy with the program. This is political propaganda which serves not to help the farmer, but instead attempts to shore up the administration's low popularity with farmers. It would be more to the point for Mr. Nixon to explain why 74 percent of parity was "intolerable to him as a candidate for President, but a much lower level is apparently satisfactory now.

"MELVIN LAIRD AND CBS"

Mr. ALLOTT. Mr. President, the July 10 issue of the New Republic contains a fascinating, clearheaded article on "Melvin Laird and CBS."

The article, written by the New Republic's "Sedulus," demonstrates that "somewhere in all the TV machinery the traditional scruples of editing have been misplaced." He illustrates this with reference to a particularly stunning piece of CBS highhandedness.

So that all Senators can enjoy this fine article, I ask unanimous consent for it to be printed in the RECORD.

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

TELEVISION—MELVIN LAIRD AND CBS

When I was serving my country overseas I was once condemned by my commanding officer to burn classified documents at sunset nightly for a month, and poke through the ashes meticulously, because I had been lax in concealing from enemy eyes a pile of gasoline supply reports that were stamped Confidential. I will go to my grave persuaded that those reports would have been as useful to the enemy (if he had been anywhere near) as the files of my headquarters squadron's dental x-rays, and so I have long nursed a small grudge at the military's ways of achieving privacy. My grudge was of course beautifully sublimated when *The New York Times* recently made off with its truckload of top secret stuff from the now-famous McNamara study, and reminded me that the *Times* gives us a good deal to be thankful for in this age of the bad war. If the intelligence forces of this country in their various brands of haberdashery had had their way the citizenry might never have learned of that war at all.

In the presence of such virtue we are apt to forget that journalists do sin. Even the *Times* people themselves sin, and the lesser orders, such as those who supply tube news, sin mightily. Further, the sinning is so closely tied in with virtuous function that it is easily overlooked. The chief sinning is in the name of virtuous scoops. It is a professedly high-principled disregarding of what public officials and institutions always need and even sometimes deserve, a measure of privacy, a measure of respect. The privacy issue is excessively familiar at the moment—and I don't think I can add much to it except the observation that the man who drove the truck to the *Times* (whose name seems to be Ellsberg) should burn papers for a month—but the issue of respect hasn't been mentioned since the days of Charles Dickens. What, a public official worthy of respect? Unlikely. Yet respect is exactly what I respectfully want to mention.

Respect comes in different shapes and sizes, as does its absence. Maybe a good journalist can't afford to be respectful; to respect an official's wishes is possibly to fail to report that the official snitched the cash box from the church or gave the Bomb to Bali Bali. And yet a respect for the truth that the official may *provide*—as distinguished from the truth that he may be sitting on, trying to conceal—would seem to be basic; somewhere sometime in the relationship between journalist and official an acknowledgement needs to be made of the latter's at least imaginable honesty, intelligence, knowledge, dignity and/or authority—or we may as well give the journalist the official's job.

It is this acknowledgment that tends not to be made in this age of the ubiquitous, doubting, don't-give-me-any-of-your-hand-outs reporter. The official is instead treated shabbily by the press. The demands of newspaper or program merely take precedence over human demands. But the treatment is not less shabby because it is inadvertent, and nowhere is the shabbiness more evident in contemporary journalistic practice than the cutting room. The art of the news snippet has become a mighty one. All tube news is snippet, and to the average viewer the rationale for particular snippetry is seldom clear. In the interest of condensation, relevance and visual excitement the tube news people wield the scissors wildly: they perform extraordinarily severe operations upon their news clips, and do so constantly and conventionally as if there were no other way and no question at all of the propriety of the procedure.

When Melvin Laird was recently asked to take part in a new CBS documentary entitled "POWs—Pawns of War" he said he would do so only if he could be put on live. This condition was found unacceptable. According to the story in *The Washington Post* the CBS News bureau manager for Washington, William J. Small, said that "it is extremely rare that anyone is interviewed live on a documentary," which is certainly true since the genre of the documentary is a film genre, that is, something not live. But Mr. Small went on, and got himself in muddier water: "When newspapers and magazines concede to a similar request by granting Mr. Laird a certain number of column inches to fill as he sees fit, then CBS will consider granting him a certain amount of time to appear live within an otherwise filmed documentary. After such consideration the answer will still be 'no.'" Assuming that these were actually Mr. Small's words, and that they were not surrounded by a variety of qualifications that the reporter chose to omit, I would say that Mr. Small was talking big. His righteous indignation led him astray as he constructed his analogy. Melvin Laird had not asked for space; CBS had asked for Laird. Laird had merely said that *if* he were to be interviewed he would have to impose a condition. And while that condition might not in fact be meetable within the documentary format it is not on other grounds the unreasonable condition that Mr. Small's sarcasm suggests it is. Laird merely wanted to be allowed to speak his *own* piece.

I don't suppose anybody has ever seriously questioned an editor's right to edit in this country except at the level of scholarly publications (where an editor is not permitted to change a comma without consulting the author), but an obligation has traditionally been attached to the right, the obligation to make sure that the editing not misrepresent the edited. This obligation, never as firmly fixed as the right, does now seem to be vanishing in important journalistic places—and my guess is that it never made the scene at all on TV. In other words Melvin Laird was right in assuming that unless he went on live his remarks would probably come out of the snippet factory in a way he had not intended; and his assertion that the sensitivity of the subject in question made it important to him that he say what he wanted to say as he wanted to say it was offensive to Mr. Small because Mr. Small does not recognize the traditional obligation. Snippet artists are increasingly in charge, except perhaps on the dear old *Times* itself, so it is not surprising that Laird's request should emerge in the news as a sort of an oddity. Imagine anybody wanting to control his own words!

A minimal initial *respect* for Laird and Laird's right to say what he wanted to say in his own way would have made Laird's request seem even normal to Mr. Small. But snippeters cannot afford to respect either persons or words when they set themselves down to their really serious snippeting business. For years I have been a casual observer of persons watching themselves or friends on TV—you know, "hurry up, Mom, Joe Blow's on Huntley Brinkley"—and I remember not one single observer in any such case emerging happy. I grant that the self is vain, but the one-sidedness of the reactions observed remains impressive. TV news never, I might say, offering up a law, reports on a speech, or event in a way that insiders to the affair approve. Or, to put the law differently, tube news editing is always aimed at satisfying other interests than the insider's—which is why misrepresentation of the insider occurs as a matter of course, and why it is not even regarded as a vice when it occurs. Yet in all other fields of editing the editor *does* have an obligation to the insider, no matter how self-serving, and that obligation is at the heart of an amicable continuing relationship between an editor and his authors, his sources, his professional life's blood.

Misrepresentation is a vice so obviously built into the simple arithmetic of the snippet art—characteristically one has to whittle down an hour speech to thirty seconds—that obviously one can't impose a high ethic upon it. And even the *Times*, which is opposed to snippeteering and takes pride in its printing of complete texts, also has the capacity to report on a speech or event in a manner calculated to astonish an insider. So one shouldn't expect miracles. But my impression is that most of the major squabbles about TV clipping procedures are, as in the case of Mr. Small's retort, filled with high-minded suggestiveness about the rights of the press rather than appeals to the practical limits of programming, as if it had suddenly become not a necessity but a virtue to chop up people's speeches. Somewhere in all the TV machinery the traditional scruples of editing have been misplaced. And to Mr. Small's possible rejoinder that they were misplaced first by newspapers and magazines I would only have to agree, meanwhile reaching for my boy scout text that tells me two (or more) wrongs do not make a right. Even the glories of the recent *Times* coup—partly shared by *The Washington Post*, the *Boston Globe*, the *Chicago Sun Times* and others (everybody with a Xerox machine wants in)—are not definitive proof that we can send our truckloads to the Press and rest easy.

CONGRESSMAN HOSMER'S IMPORTANT STUDY OF ULMS

Mr. PROXMIRE. Mr. President, Members of Congress for Peace Through Law has initiated a series of studies on a number of military weapons systems and their implications. Research papers have been issued on the B–1 bomber, tactical nuclear weapons, the F–14 fighter plane, MIRV's, and the Cannikin test, among others.

One of the most important papers is

that on ULMS—the undersea long-range missile system—prepared by the distinguished Member of Congress from California, CRAIG HOSMER. Congressman HOSMER arrives at the same basic conclusion that a number of us have arrived at; namely, that this system is of considerable importance, that the full amount for research and development should be appropriated, and that some considerable urgency should be given to evaluating the program because of its great potential.

Because of the excellent quality of his paper I ask unanimous consent that it be printed in full in the RECORD.

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

REPORT ON THE UNDERSEA LONG-RANGE MISSILE SYSTEM (ULMS)

(Prepared by Representative CRAIG HOSMER (R.-Calif.) for Consideration by the Military Spending Committee of Members of Congress for Peace Through Law)

SUMMARY

Previous appropriations totaling approximately $60 million and another $110 million sought for FY 1972 will bring research and development of the ULMS (Undersea Long-Range Missile System) concept to a point of sufficient clarity for Congress to evaluate the advantages and disadvantages of deploying it.

This decision is being forced less by intrinsic potentialities of ULMS than by a possible future need to supplant existing land-based deterrent systems with more survivable forces as they become increasingly vulnerable to larger warhead yields and increasing missile accuracies.

The probabilities within the foreseeable future are quite small that anti-submarine warfare technologies or techniques will be perfected which could impair the relative invulnerability of ballistic missile submarines. ULMS submarines with missile ranges extending to 6000 miles in combination with the Polaris/Poseidon fleet already in being could constitute a stable and powerful deterrent.

Although costly, the ULMS "blue water option" being made available through research and development funding will give the Congress a new strategic defense alternative to consider.

RECOMMENDATION

The full $110 million requested for FY 1972 ULMS research and development should be appropriated, and the Congress should begin preparing itself to examine and evaluate any requirement for deployment of the system.

DESCRIPTION

The Undersea Long-Range Missile System, frequently referred to by the acronym ULMS, is a proposed follow-on to our Polaris/Poseidon ballistic missile fleet. The ULMS program envisages the development of a more efficient, highly survivable, sea based nuclear deterrent capable of launching missiles with a range equivalent to an ICBM from quieter submarines of improved hull and propulsion designs. As presently conceived, this new system will probably consist of 25 submarines each with 24 missiles as compared to our current fleet of 41 ballistic missile submarines each with 16 missiles.

In FY 1970 $10 million was funded for ULMS R&D, another $44 million was appropriated in FY 1971 and $110 million is sought for FY 1972. These funds will bring ULMS to the point of definitive design and the Congress to the point of a decision on whether and how to produce ULMS.

ULMS will optimize the Navy doctrine upon which the Polaris/Poseidon ballistic missile submarine is based, namely that strategic systems should not only be invulnerable but operate outside the continental United States, removed as far as possible from the institutions they are created to protect. As currently envisioned, ULMS will augment the United States undersea deterrent forces but will differ from Polaris/Poseidon in the following major areas:

1. Greater survivability due to ICBM range
2. Greater ABM penetration capability because of ICBM range
3. Greater on-station availability through decreased transit time
4. Total integrated system design
5. Modular construction to decrease maintenance time
6. Extra quiet operation through incorporation of latest technological advances
7. More cost effective than restarting Poseidon construction

Survivability

ULMS will approximately double the 3000 nautical mile range of the Poseidon missile. The major advantage afforded by ULMS' intercontinental range will be increased survivability of the ballistic missile submarine.

The vulnerability of mobile weapons systems is inversely related to the area in which they can maneuver. For submerged ballistic missile submarines within reach of their targets, survivability is enhanced according to the length of the missile's range over deep water. The greater the range of the missile, the further at sea the submarine launch platform can patrol.

For every linear increase in missile range, the area in which the enemy's anti-submarine (ASW) forces must search is increased by the square of the distance. When the Polaris range of approximately 1500 nautical miles was doubled to the 3000 mile range of the Poseidon, the latter became almost four times more difficult to locate. ULMS 6000 nautical mile range will require a further increase in ASW surveillance by another factor of four to encompass a total area of 55 million square nautical miles.

ABM penetration

ULMS' extended missile range which will enhance its survivability also will improve the system's targeting effectiveness.

Shorter range ballistic missile submarines must choose between the survivability of the open sea and the ability to attack multiple, widely separated targets. With an intercontinental range, one ULMS in the Indian Ocean could hit any target in the Soviet Union from eastern Europe to Siberia. Also, while a Poseidon on station in the Pacific could strike only targets in the eastern U.S.S.R., one ULMS in the identical patrol area could retaliate not only against Siberian targets but also against targets as far west as Moscow. ULMS' ability to retaliate against multiple, widely separated areas will provide an excellent means of penetrating even heavy ABM defenses.

The longer range missile planned for ULMS will give the U.S. deterrent coverage over the entire defense perimeter of the Soviet Union. Currently only 9 percent of the U.S.S.R.'s defense perimeter can be penetrated by land based missiles located in the U.S. and less than one-third can be covered by our shorter range Polaris/Poseidon missiles. However, ULMS' all-azimuth penetration capability will greatly complicate the Soviet ABM problem in defending against a U.S. retaliatory strike.

On-station availability

Due to the limited range of Polaris/Poseidon, a portion of its at-sea time may be spent in transit to its patrol area. However, ULMS' ICBM range missile will permit it to operate even from the continental United States and to be within range of some targets immediately upon leaving port. This feature eliminates transit time to and from station, thus more efficiently utilizing ship assets. For example, 85 percent of all ULMS might be on station at one time compared to 60 percent or less of the Polaris/Poseidon fleet.

ULMS' increased operating range means that our dependence upon foreign basing with all its diplomatic complexities and political uncertainties could be reduced or ended. Travel of crews to deployment sites could then be eliminated and logistics chains reduced in complexity and cost.

Integrated system design

The original Polaris submarine was not designed for a sea based deterrent function but was converted from an attack submarine during its initial construction on a crash basis. Although numerous incremental improvements and refinements have since been made, there has not been a major reevaluation of the needs and design specifications of long-range ballistic missile submarines in terms of optimum depth, speed and size characteristics as these may differ basically from those of attack submarines and current range ballistic missile submarines.

ULMS is being designed from the keel up for one purpose—as the backbone of the United States' sea based deterrent. Its missiles, hull, propulsion, sonar, communications and other subsystems will be integrated into one entire system. Among other advantages of redesigning the complete system are that it permits the utilization of modular construction and maintenance and the incorporation of the latest and most advanced submarine technology.

Modular construction

The entire ULMS system is being designed to feature ease of maintenance and maximum access to equipment. By means of modular construction, incrementally planned overhauls will be made during brief in-port replenishment periods. Time spent in shipyards will be minimal. Modular component construction will also give ULMS a phenomenally high at-sea-to-in-port ratio, contributing to the need for fewer ships to meet the sea based deterrent mission.

Quiet operation

Quietness of operation is one of the key elements of the ULMS design. Exploitation and incorporation of new technology and total system design is expected to significantly decrease the operational noise of ULMS compared to that of other submarines.

ULMS's propulsion chain is being designed to be as silent as possible, assisted by a pumpless natural circulation pressurized water-cooled nuclear reactor power plant whose fuel will last for the life of the ship. Probably ULMS will be double-hulled to contribute to quieter operation and will also incorporate the latest quieting technology such as air layering, machinery isolation, absorptive materials and the like.

Should our ballistic missile submarines become more vulnerable in the decades ahead, a probable area would be the detection of ship noise. Acoustical energy and particularly sonar are the preeminent weapons of anti-submarine warfare forces. All submarines emit noise while in motion, but to detect the submarine its sound must be differentiated from other background noise in the ocean. Thus, the quieter the submarine's movement, the less vulnerable it is to discovery and preemption.

As presently envisioned, ULMS could be up to three times quieter than the latest model Poseidon at loiter speed and for evasion purposes travel at speeds still maintaining a reduced acoustic level.

Cost effectiveness

ULMS' high survivability, availability and reliability coupled with an effective maintenance program and system design will contribute to a lower cost per effectively deployed missile, thereby reducing total system cost. The estimated expense of the en-

tire ULMS system, plus ten years of operation is about $5 billion—approximately the same amount expended over the same period on the Polaris/Poseidon fleet.

While the ULMS fleet will probably be comprised of fewer submarines than our Polaris/Poseidon force of 41 vessels, it will nevertheless utilize approximately the same number of deliverable warheads. Thus, 20 inflation years after deployment of the first Polaris, ULMS could be deployed at the same cost, with the same number of warheads, but with substantial improvements both in survivability and effectiveness.

RATIONALE

If the United States is to build more submarine deterrent forces, ULMS is obviously the most efficient system. But do we need more ballistic missile submarines? Whatever its technological or institutional merits, no weapons system is self-justifying. In an era of limited resources and salient domestic needs, the rationale for any strategic program depends upon the political structure and international milieu from which it derives its function.

Three principal arguments for developing an Undersea Long-Range Missile System are being put forward:

1. In the event SALT fails, ULMS will provide a nonprovocative stabilizing hedge against the increasing vulnerability of land based systems and maintain U.S. strategic sufficiency.

2. If SALT is successful, ULMS will provide an invulnerable minimum deterrent umbrella under which significant reductions in strategic forces can be made.

3. At a time when sea based deterrent forces are of increasing importance, ULMS is the natural replacement for those Polaris submarines which may reach retirement age in the 1980's.

Land based system vulnerabilities

The increasing vulnerability of Minuteman and the B–52s has been demonstrated by the admitted need for a Safeguard ABM defense system. Thus, by the mid-1980's, it may be doubtful whether our land based forces could survive a preemptive strike, let alone possess the penetration power necessary to inflict unacceptable damage, even if supplemented by the expensive B–1 bomber and provocative WS–120A, a suggested American counterpart to the Soviet SS–9. Given the mere prospect of such events, it is illogical that we should continue to structure our triad deterrent forces so that 90 percent of our retaliatory capability is vulnerable to preemption and is able to penetrate only 9 percent of the Soviet defense perimeter.

In contrast to the land based elements of our triad deterrent structure, the submarine-launched ballistic missile is neither destabilizing nor vulnerable. There are those who argue against relying more on our sea based deterrent forces for fear that we are putting all our "deterrent eggs in one basket." However, if SALT fails to halt the erosion of our land based systems, a sea based deterrent could be our only invulnerable retaliatory force. Thus, if pessimistic predictions of Soviet intentions are correct, funds will be better spent to improve our most survivable deterrent potential by the development of ULMS than to build or defend more vulnerable systems.

Arms control potential

If an agreement is reached at SALT, the most provocative and vulnerable strategic weapons could be phased out under the protective cover of a sea based deterrent. In fact, as the numbers of retaliatory vehicles on each side are reduced, their relative invulnerability becomes more acute since minor technological improvements or small violations will have far greater impact.

One settlement that might come at SALT could be a ceiling on the total number of each side's strategic offensive launchers, starting with a freeze at current force levels which would be scaled downward at fixed dates as the older forces on both sides reach retirement vintage. Given a limitation of 2000 launchers per side, which would approximate current force levels, we might want to restructure our deterrent forces by adding 600 ULMS while retaining 500 Poseidon launchers and reducing in numbers manned bombers to 200 and land based missiles to 700.

However, with a reduction to 1000 allowable strategic launchers, the value of ULMS to our deterrent capability would outweigh our other systems since neither land based missiles nor manned strategic bombers would be worth the loss of an equivalent number of invulnerable submarine-launched missiles. Because ULMS can be easily verified yet cannot be used effectively as a counterforce weapon against other ballistic missile submarines, ULMS and its Soviet counterpart might thus provide the means for significant strategic arms limitations coupled with a stable nuclear deterrent in the decades ahead.

Modernization

Of primary importance in the preceding discussions is the emphasis we must place on our sea based forces in the next two decades since they will be imperative for deterrence. The hull life of a ballistic missile submarine has been approximated at 25 years, after which time it becomes too costly and self-defeating to refit it. Therefore, should the oldest Polaris submarines which were not converted to Poseidon become candidates for retirement by the 1980's, the number of submarines in our sea based deterrent force will be decreased from 41 to 31.

Given both the strategic deterrent and the arms control potentialities of sea based forces discussed previously, it would seem ridiculous to eviscerate our most stable strategic system through age obsolescence and not develop a follow-on system. Thus, to meet the needs of strategic stability in the decades ahead, we must have the ULMS option open.

CRITIQUE

By offering an efficient system to fulfill sound strategic needs, ULMS has been praised rather than attacked by the traditional watchdogs of military cost effectiveness. Criticisms of ULMS come from two perspectives: (a) those in rival services who, fearing their own project budgets may be reduced by ULMS efficiency, attempt to find strategic weaknesses in ULMS, and (b) those against all military programs who stress their fear of stimulating the arms race or their revulsion against any defense spending. These combined complaints result in five general criticisms of ULMS.

1. *Invulnerability*—Criticism: The possibility of a Soviet technological breakthrough in ASW capability would preclude reliance on a sea based deterrent.

2. *Retaliatory Capability*—Criticism: A minimum deterrent based upon ULMS would not threaten sufficient retaliatory damage to deter the Soviet Union.

3. *Command and Control*—Criticism: Sea based deterrent forces lack the capability to wage a limited nuclear war.

4. *Pacing the Arms Race*—Criticism: Development of ULMS will stimulate the arms race.

5. *Defense Costs*—Criticism: ULMS will cost too much.

It should be noted that while the first three criticisms argue against exclusive reliance on a sea based deterrent, only the last two challenge the need for continued ULMS research and development.

Invulnerability

The fear of a technological breakthrough which would immediately reveal the presence of all submerged vehicles, although implausible, is often postulated as an argument against reliance on a sea based deterrent.

Acoustics, radio, radar, infrared, magnetism and gravity are the principal physical phenomena currently being explored as means to detect submarines. However, the properties of all but the last two of these are so well understood and their sensory possibilities so thoroughly explored that fundamental breakthroughs in sonar, electromagnetic or thermal sensing technology cannot reasonably be expected. Incremental improvements in signal magnification, discrimination and interpretation can be expected as well as amplified signal power and some extension in detection ranges.

The "ensonification" of the oceans by high energy transducers generating acoustic power measured in megawatts has been suggested as a potential breakthrough in sonar technology. Even if feasible, "ensonification" would have uneven degrees of reliability. It could be defeated by acoustic countermeasures and mobile decoys. And, should the worst come to pass, U.S. proximity to the ocean would be an enormous advantage over the Soviet Union in the deployment and operation of such a system.

Indeed, any postulated improvement in ASW detection devices will undoubtedly be accompanied by sensing countermeasures. In fact, after two decades of extensive ASW research and funding, the submarine's invulnerability has benefited more through technological advances than it has lost in ASW detection.

The alternative to qualitative ASW improvements based on unexpected breakthroughs in detection would be a quantitative approach, requiring massive deployment of ASW sensors and extensive numbers of hunter-killer submarines, aircraft, destroyers and satellites. Here the laws of probability rather than those of physics handicap ASW efforts.

Without a technological breakthrough, it would be economically and militarily impossible to deploy enough ASW forces to destroy even a fraction of our sea based deterrent force in a first strike. Unless every ULMS could be tracked continuously and destroyed simultaneously, a preemptive attempt would only invite unacceptable retaliation from the remaining missile submarines. Even if the Soviet Union subordinated all other priorities to ASW efforts, this would require such extensive and visible deployment as to provide the United States adequate warning time to take effective countermeasures.

Seemingly more plausible than the threat of preemption is the counterforce by attrition scenario in which a Soviet hunter-killer submarine force would concentrate on one or two ULMS at a time, silently destroying them. By the time America's national decision makers would suspect the Soviet Union, we would be unable to credibly retaliate because it would be tantamount to suicide.

But even if the Soviets could destroy several of our submarines in this manner, counterforce by attrition could never meet even the minimal requirements of a first strike. Any unreporting submarines would immediately arouse suspicion and establish the attacker's culpability. As use of nuclear warheads to destroy the submarines would be quickly detected, risking American retaliation and the possibility of nuclear escalation. Even the risk of spotting conventional ASW weapons explosions in this circumstance would be great. In any event, should attrition be embraced as a strategy, American attack submarines could serve as escorts for their own ULMS, destroying the Soviet hunter-killers as soon as they began tracking and retaliating in kind against Soviet ballistic missile submarines as well.

Retaliatory capability

Two alleged impediments have been cited by some in expressing doubt as to the ability of an undersea based deterrent to fulfill its retaliatory role. One is that submarine-launched ballistic missiles must be fired se-

quentially, allowing ABM defenses to deal with these incoming warheads individually rather than several at a time. The other is the theoretical possibility of plotting back a sea-launched missile's trajectory to locate, target and destroy the submarine that fired it.

The latter possibility does not exist since the time required to launch all a submarine's missiles is only a few minutes, and the opponent's missile flight times are considerably longer. In the brief minutes involved, the submarine's full load of missiles will have been launched and its retaliatory mission completed before an opponent could possibly locate and destroy it.

Nor does sequential firing present a unique problem to sea-launched warheads. Poseidon and ULMS missiles nest at least 3 and up to 14 or even more individually guided reentry vehicles. Therefore, the moment the missile's nest opens what amounts to a salvo is readied to confront ABM defenses. Additionally, the added thrust of ULMS which gives it intercontinental range and all-azimuth penetration could be employed in such ABM defeating configurations as fractional orbital bombardment and close-in depressed trajectory.

A novel complaint has been lodged against ULMS on the grounds that ultimately it may possess too much firepower rather than too little. Qualitative improvements in missile guidance, it is feared, might upgrade the system and give it a destabilizing counterforce capability against the U.S.S.R.'s land based deterrent.

ULMS would not necessarily degrade the Soviet Union's retaliatory sufficiency. For while the U.S.S.R. has lagged behind the U.S. in deploying strategic deterrent forces at sea, the Soviets have already deployed a ballistic missile submarine very similar to Polaris and are committed to a massive building program besides developing their own underwater long-range missile. In fact, the current Soviet submarine construction program appears to be concentrating less on attack submarines than on the development of a credible sea based deterrent.

If both the Soviet Union and the United States deploy a substantial deterrent at sea, an ULMS counterforce capability against land based missiles will not affect the stability of the strategic balance and Soviet deployment of the provocative SS–9 will prove superfluous.

Command and control

Another criticism against depending mainly upon a submarine deterrent is the possibility of interruptions in command communication, especially during a first strike attack.

Even in the unlikely event part or all of the missile submarine fleet might be out of contact with the national command authority for a few minutes or hours, this would effect only the rapidity of retaliation, a relatively unimportant factor in sea based deterrence. It will not diminish the certainty of retaliation, the fundamental consideration upon which all theories of deterrence are founded.

As our land based missiles become increasingly vulnerable, there will be a greater incentive to launch endangered retaliatory land based forces on warning to avoid preemption. This prospect is exceedingly hazardous.

On the other hand, hair-trigger retaliation is not necessary for sea based deterrent forces which will not be threatened by an impending attack on the continental United States. Thus, delay in reestablishing communications will not impede retaliation but will allow the national command an opportunity to obtain an accurate assessment of the situation and direct a controlled retaliation.

Pacing the arms race

A supposed political disadvantage in committing ourselves to the undersea long-range missile concept is the alleged adverse effect such a decision could have on the current SALT talks. However, of any weapons system now being discussed for deployment in the 1980's, ULMS would be least adversive to SALT.

First, ULMS is not a new spiral in the arms race, either technological or in numbers of weapons deployed, but is merely a stabilizing improvement of a system which has already proven itself nonprovocative and impervious to rapid technological obsolescence.

Second, the Soviet Union, while participating a SALT, is continuing its own development of an advanced underwater long-range missile system.

Third, the immediate decision is only whether to begin development of ULMS. Therefore, if a comprehensive agreement at SALT, limiting all strategic systems, abolishing ABM and controlling antisubmarine warfare development is reached, ULMS can be halted before deployment.

Defense costs

Any weapons system estimated to cost approximately $15 billion is not inexpensive. However, as Senator George S. McGovern (D-S.D.) and Representative John F. Seiberling (D-Ohio), in their report on the B–1 bomber to Members of Congress for Peace through Law stated:

"A persuasive case can be made for purchase of a given weapons system regardless of cost, if it can be shown that that system will have a decisive influence on the ability of the United States to deter nuclear war."

Measured by this criteria, ULMS as currently envisioned will be cost effective. A sea based deterrent relying on ULMS will be able to deter any aggressor. The total cost of ULMS is meaningful, then, only if it is compared with the cost of land based offensive and defensive systems, because a case can be made for ULMS to ultimately replace Minuteman, Safeguard, and our B–52's as well as our retiring early model Polaris submarines. Thus, as the National Urban Coalition concluded after an extensive and critical study of U.S. military spending:

"Since sea based missiles seem to offer the most certain deterrent, it is extremely important that we keep exploring technological frontiers in this field. For the most part, this means a high priority for ULMS research."

Noting that the development of an ULMS prototype is not necessarily a commitment to deployment, the Urban Coalition report emphasized "that insufficient priority is being given ULMS research efforts." This point cannot be overemphasized.

Ballistic missile submarines as complex systems are extremely susceptible to cost overruns should they face inconsistent financial commitments for research and development. However, ULMS is being designed and managed for cost effectiveness. If the waste and technological problems resulting from rush jobs to meet last minute threats are to be avoided in the 1980's, we must commit ourselves now to the adequate and consistent development funding needed to keep the ULMS option open.

CONCLUSION

The vulnerability of our land based strategic systems, our growing reliance upon sea based deterrent forces and the ULMS/Poseidon potential to provide unilateral strategic sufficiency seriously indict the current structure of our redundant triad deterrent force. Therefore, with the need to evaluate the currency of our sea based deterrent. Congress should not only reexamine our land based strategic weapons systems but also the assumptions and doctrines by which these systems are justified.

Of all the strategic weapons systems now being discussed for possible deployment, only ULMS offers the potential of fulfilling U.S. strategic deterrent requirements in the decades ahead. We should therefore encourage full steam ahead on ULMS development by approving the full fiscal year 1972 request for $110 million for this purpose.

THE CANNIKIN TEST

Mr. McGOVERN. Mr. President, this fall the Atomic Energy Commission tentatively plans to set off a 5-megaton nuclear device more than 5,000 feet below the surface of Amchitka Island off Alaska. I oppose this scheduled blast because of the possible ecological, security, and international ramifications of the test, which is code-named Cannikin.

The most immediate objections to Cannikin stem from environmental considerations. The nuclear device to be detonated is 250 times larger than the bomb dropped at Hiroshima, and almost five times larger than anything the AEC has previously exploded underground.

The possible immediate effects of such a staggering underground blast may be the most serious, for many people have voiced concern that the Cannikin explosion will coincide with or even cause an earthquake. The North Pacific is known for its seismic activity, and any tampering with the earth's surface in this area would appear extremely irresponsible.

Another immediate danger of the Cannikin explosion is the possible creation of a tsunami, or tidal wave, such as the one which devastated Crescent City, Calif. The AEC claims that earthquakes or tsunamis are "highly unlikely" to follow Cannikin, but the AEC has no experience with devices the size of Cannikin, and most of its other experience has been at the inland, seismically passive Nevada testing grounds.

After the initial blast, Cannikin will pose the further danger of venting radioactivity into the air and surrounding waters. Since the beginning of underground testing in 1963, one out of every 12 tests has released radioactivity detected in areas removed from the testing site. Last December, the Baneberry test in Nevada venter radioactivity over 13 States in the worst venting incident ever, and that was at a familiar test site. The danger to Amchitka Island, which is ironically part of the Aleutian Islands Wildlife Preserve, is serious. The precious populations of peregrins, eagles, sea otters, seals, and sea lions might be endangered by such venting, or even by the shock of the explosion.

By choosing an island test site the AEC has raised a further possibility that radioactivity from the blast will seep through the surrounding rocks and escape into the ocean, contaminating waters vital to the $80 million a year Alaskan fishing industry. The effect of ocean currents spreading such contamination and perhaps causing an international incident is unpredictable.

Through all of this speculation on possible catastrophes, one fact stands out. The AEC simply cannot give any guarantees that damage, minimal or severe, will not be done to Amchitka's environment. And it should be remembered that even if the test takes place without incident, radioactive material

trapped below the earth's surface remains active for 240,000 years. Between now and the year 241,971 any earthquake or seismic disturbance around Amchitka could result in a disastrous venting of radioactivity. This is quite a legacy for us to leave.

Given the real and serious danger surrounding the Cannikin test, we must ask the purpose of it. We discover the device is planned to be the warhead of the basic Spartan missile for the Safeguard ABM system. But the device to be tested is too big for the improved Spartan missile the Defense Department plans to use now. Dr. Harold Agnew, director of the Los Alamos Scientific Laboratory, could only state that the basic Spartan might be useful in a limited way against tactics the Soviet Union might adopt. This seems slender justification for the AEC's statement that the Cannikin test is of prime significance to our national security requirements.

We must also question the appropriateness of this dangerous test when the whole idea of an effective ABM system is considered skeptically by many scientists and experts in the field.

There are also international issues related to Cannikin. As the New York Times reported on July 4 of this year, the technology exists now to enable seismologists to determine the difference between natural disturbances and underground nuclear explosions. This would eliminate the issue of on-site inspection of defense facilities, which has been a major obstacle to agreement to a total nuclear test ban.

If the strategic arms limitation talks could reach agreement on this issue in light of the new technology, it would seem incredibly reckless to run the ecological risks which are evident in the Cannikin test. Our national and international security would be much better protected by an agreement to end all underground nuclear testing than by a successful Cannikin test.

The choice before this Nation over Cannikin presents in letters written large the choice we face in all of our policies. It presents the opportunity simultaneously to protect nature from man's destructive power and to move mankind one step closer to international agreement for peace. It presents the opportunity for this country to move decisively to subordinate the demands of the Defense Establishment, which seems dubious in this instance, to the undeniable demands of commonsense and foresight. We cannot afford to gamble with our environment any longer, particularly by the explosion of a warhead which may prove useless. Thus, I urge the President to at the very least delay the test until the SALT negotiators can begin a new initiative on underground testing, and failing this, that the Congress act to delay the Cannikin test.

Mr. President, I ask unanimous consent that there be printed in the RECORD two enlightening studies on the subject. The first is a critique of the AEC's Cannikin environmental statement, prepared by the Coalition To Stop the Alaska Nuclear Blast. The second, "The Nuclear Sword of Damocles" by Lenmore Marshall, which appeared as an article in the Living Wilderness, documents the dangers of underground testing in general.

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

A CRITIQUE OF THE AEC'S CANNIKIN ENVIRONMENTAL STATEMENT

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to file an Environmental Impact Statement before embarking on programs that significantly affect the environment. The Impact Statement must cover the following points:

(i) the environmental impact of the proposed action;

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented;

(iii) alternates to the proposed action;

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

The act requires a total disclosure of all information so that it is possible to evaluate the benefits of a project against the risks of environmental damage. It was expected that by requiring a factually detailed study open to hard public scrutiny, the public interest would be served and the environment would be protected.

Though the thought of an environmental impact statement for a 5-megaton nuclear bomb is somewhat incomprehensible (this is the test of a device which is designed to destroy the environment), it is still required, since the experiment is a project of a federal agency, the Atomic Energy Commission, and the test is unquestionably of major environmental significance.

The AEC has filed its final NEPA statement with the Council of Environmental Quality but, unfortunately, the statement provides no basis for making a credible evaluation of the project. There is neither an explanation of the benefits of the test nor a determination of the effect on the environment if everything were to go wrong.

BACKGROUND

Since the 1969 NEPA law went into effect, there has never been an impact statement filed for an individual nuclear test. A Draft Statement was written in November 1970 for the total underground nuclear program carried out in Nevada.

The Cannikin test was originally scheduled for October 1970 and a Draft Statement was issued in June 1970. This statement was severely criticized in Congress, and the $20 million needed to continue the project was not appropriated. Senator Edmund Muskie said that the funds were withheld and the project stopped "because the Atomic Energy Commission failed to file a satisfactory statement on such test's environmental effects."

The test was rescheduled for autumn 1971, and a Redraft Statement was issued at the end of April 1971. Eighteen senators, in a letter to William Ruckelshaus, Administrator of the Environmental Protection Agency; Glenn T. Seaborg, Chairman of the AEC; and Russell E. Train, Chairman of the Council on Environmental Quality; urged that the AEC conduct public hearings "to permit a thorough public review of the benefits and risks involved."

Under Senate pressure, and at the request of Governor Egan of Alaska, AEC hearings were conducted on May 26, 1971, in Juneau and on May 28 and 29 in Anchorage. Besides the large amount of public testimony, Hearing Examiner Robert Miller of the AEC heard the same three hours of statements from the same ten AEC witnesses in both Juneau and Anchorage.

At the end of June 1971, the AEC issued the Final Impact Statement, supposedly improving and refining its previous draft statements, based on inputs from the public and other government agencies. The Statement is fifty-nine pages long, and contains a ten-page bibliography as well as an annex of federal agency comments and AEC responses. It may be obtained by writing Mr. John A. Erlewine, Assistant General Manager for Operations, The Atomic Energy Commission, Washington, D.C. 20545.

There are three main areas of environmental impact that are the crux of the issue: 1) effects on Amchitka; 2) radiation leaking into the surrounding water and venting into the air; and 3) earthquakes and tsunamis. (NOTE: Page numbers in parenthese refer to Final Impact Statement, unless specified.)

EFFECTS ON AMCHITKA

The AEC states that the effects of the explosion will be localized with little long-term damage. "The principle environmental effects of Cannikin are those resulting from occupation of Amchitka by a work force of some hundreds of men." (page 1)

Item: There are forty-four bird species that inhabit Amchitka Island. Fifty-five pairs of bald eagles and nineteen pairs of peregrine falcons nested during 1970. Within four miles of ground zero are eight bald eagle nests and two peregrine falcon nests.

AEC states: In the worst case, nests within four miles could be destroyed resulting from the occurrence of rock and earthslides along the coastal areas. Milrow (the megaton test conducted in 1969 on Amchitka) dislocated 14,000 cubic yards of rock and peat and it is expected that Cannikin will dislocate more. "Extrapolation from Milrow experience indicates that Cannikin may damage one or two eagle or falcon nesting sites so severely that they would be unsuitable as future nesting locations. This amount of damage to nesting sites would not affect the reproduction potential or populations of their species, nor should there be any measurable effects on population density or reproduction potential of the other avian species as a result of the Cannikin test." (page 34)

Point: Dr. Clayton White of Brigham Young University calls Amchitka's falcon population the "most dense in the world right now." Any detrimental effects upon the island's peregrine population would only bring this already endangered species closer to extinction. It is mentioned that the timing of the test is such that hatching will already have occurred, but it is overlooked that the nesting eagles and peregrines will have young in the nest at that time. This fact could compound the population damage.

Throughout the document, the AEC extrapolates from Milrow in the manner of the above AEC quotation. Since there is no reason to believe that a linear or any other simple relation exists (i.e. since Milrow was about one megaton and since Cannikin will be about five megatons, then Cannikin will be five times as destructive as Milrow) between the two, it is therefore not credible to extrapolate from one point.

AEC states: In the worst case, some small scrapfish (three spine stickleback) ranging in number up to a few thousand would be killed. It is possible that some fish in the closest streams will be injured or killed by shock effects, but at worst would affect only a small fraction (one to ten per cent depending on species) of the total island population. Changes of plankton levels in nearby ponds may occur and the draining of one or two ponds is possible.

Note: The shock of the immediate impact causes water in the streams and ponds near ground zero to be "thrown into the air." (page 52) In Milrow, this resulted in strand-

ing on land some of the stickleback fish population. The motion also creates a momentary sharp rise and fall in pressure in the lakes and along the sea coast. This effect killed stickleback in two ponds near Milrow.

AEC studies: The Battelle Columbus Laboratory, under contract with the AEC Nevada Operations Office, initiated ecological studies on Amchitka in 1967. A short-term and long-term post-shot program has been established to document the environmental effects of Cannikin.

Point: Despite contracted studies, Wallace Noerenberg, Commissioner of Alaska Department of Fish and Game, testifying in Juneau on May 26, 1971, had to correct AEC figures. "Both impact statements (Draft and Redraft) use the figure 2500 to represent the total sea otter population on Amchitka. Recent surveys reveal that the population is in excess of 4000 animals. . . . Both reports use the figure 200 otters as residing within the four mile 'impact zone.' Recent surveys indicate a population approaching 600 animals." The June AEC statement reflects the Fish and Game Department's corrections of late May.

AEC states: "Overpressures greater than 100 pounds per square inch may rupture otter tympanic membranes(eardrums) which ultimately can be expected to cause death in otters so affected if they are unable to dive for food." Twenty to 100 sea otters may be killed. (page 36) It is estimated that ten to fifteen per cent of the population will be affected.

Point: Commissioner Noerenberg made several other points concerning the otters. 1) Otters tend to segregate by sex, with sexually active males generally concentrating in "male areas." Two such "male areas" near the blast may be affected; the ensuing loss of mature males will have a much larger effect on the population than a random death pattern of the same number. 2) The ground shock of the blast will affect the large number of otters resting on rocks with possible results of bruising, internal injuries, rib or skull fractures or leg injuries—the effect on pregnant females might also be significant.

AEC states: "The Amchitka sea lion and harbor seal populations are not expected to be affected by Cannikin." (page 36)

Point: Commissioner Noerenberg states that there is great concern for the seal and sea lion population (estimated at 350 to 750 respectively) off Amchitka. "We are of the opinion that pressure effects would be as serious on these animals as on otters, and that the AEC should consider this impact as well."

AEC states: "Bioenvironmental program scientists are confident that populations of commercial fish and shellfish species will not be endangered from Cannikin." There is the unlikely possibility "that casualties may include: hundreds of fish in the near-shore area such as Pacific cod and dusky rockfish; a few salmon in deeper offshore water; hundreds of fish such as Atka, mackerel, lantern fish, rockfish and smelt in mid-water, offshore areas; and thousands of rockfish and Pacific cod in offshore bottom areas." (page 37)

Point: The Alaska Fish and Game Department is much more concerned about the effects of radioactivity leaks than the ground shocks affecting commercial fish. The worth of the Alaska fishing industry is categorized in the report, *Commercial Fisheries Related to Amchitka Island,* by Abrams, Kemp and Kerkwood. Total income of Pacific salmon fisheries in 1970 was $60,034,000; King crab was $13,919,000; shrimp was $2,935,402; Tanner crab was $1.399,918; Dungeness crab was $1,050,194; and scallops was $1,131,254.

Commissioner Noerenberg states, "The 'ownership' of salmon passing Amchitka is international in scope and the consequences of any contamination of these animals would be worldwide in regard to marketing and human consumption problems."

The Alaska Sportsmen's Council, in a letter to the Governor of Alaska, dated June 2, 1969, stated, "In short, a food supply system that feeds a large part of the world—a supply and fishery resource which has never been fully developed—would likely be ruined. How far the contamination might spread with the assistance of the Japanese current is unknown. One thing is certain: If there is any chance whatsoever that the blast will vent, it is too great a risk. The AEC has made no such guarantee. It cannot."

RADIATION LEAKING INTO THE WATER AND VENTING INTO THE AIR

AEC states: "Scientists and engineers do not conceive of any process by which a venting of radioactive material could occur. However, if those experts were completely wrong, the greatest conceivable venting would be a few percent of the total radioactivity produced by this experiment." (page 2)

Point: The AEC has never planned an underground test and expected it to vent radiation and, since the 1963 limited test ban treaty, nations have been prohibited from violating international boundaries with radiation fallout. However, the AEC record of preventing leakage is not good. From 1963 to the end of 1970 "there were 230 announced U.S. underground nuclear explosions at the Nevada Test Site and elsewhere, including five Plowshare cratering tests. Of the non-Plowshare tests, seventeen inadvertently leaked radioactivity detectable off-site." (page 17) In a letter dated March 11, 1971, from Dr. Glenn T. Seaborg, chairman of the AEC, to Senator Gravel, it is stated that "there were approximately forty tests in which some radioactivity was detected only in the immediate vicinity of the firing point."

Point: The AEC's worst case of a few percent venting must be further explained. A percent of the radioactive inventory of the largest underground test in U.S. history certainly deserves a detailed discussion with an exhaustive look at the effects on the environment. A small percentage of a large number is still a large number—and cannot be disregarded by a wave of the AEC's hand.

AEC states: The extensive Nevada containment experience "has contributed to the development of sound test containment procedures. . . . Each time a leak of radioactivity has occurred, there has been careful investigation in an effort to learn the cause so that leaks from similar causes can be avoided."

Point: Judging by the leaks that have occurred and continue to occur (the largest one ever occurred last December), it may be concluded that either the AEC has not done a proper job in studying past failures or that each test is unique in the combination of characteristics such as tonnage exploded, geology, hydrology, climatic conditions, etc., and so the outcome is unpredictable.

The last failure, Baneberry, was exploded December 18, 1970, in Yucca Flats at the Nevada Test Site. The test was less than twenty kilotons and was reported to have leaked radiation over thirteen states and contaminated the clothing of 900 test site workers. "The final total release estimate for Baneberry is approximately three megacuries (3,000,000), reference to R (Release time) plus twelve hours." (Seaborg to Gravel letter, March 11, 1971)

AEC states: "Geological and physical data obtained during two earlier successful low-yield tests very near to the Baneberry site (one had been 2,000 feet to the north and the other about the same distance to the east) had indicated the suitability of the Baneberry site."

Point: How much confidence, then, can be placed in the geological and physical studies that have justified, to the AEC's satisfaction, the Cannikin site? In this light, do the Milrow explosion results have any significance in predicting the outcome of Cannikin? The AEC constantly refers to Milrow in estimating the Cannikin results.

AEC states: "In order to assure containment of radioactivity, it is necessary to (be) . . .(an) adequate distance from faults. . . . The Cannikin site is 3,300 feet south of the Teal Creek Fault and 2,800 feet north of a suspected fault . . ." (page 19)

Point: It should be noted that the Baneberry leak did not occur through a fault. According to AEC reports, the 910-foot deep test split the earth with its own pressure which exceeded expectations because "the earth around the explosive device was more saturated with water than had been expected." If Baneberry (less than twenty kilotons) had enough power to "force gas through the ground to the surface" and to open up a "fissure 315 feet long," why can't Cannikin, in water-saturated rock, push gas 2800 feet to the suspected fault?

AEC stated: No one is likely to know where every single fault is located, but the big ones are known. (This point emerged in a meeting of Fred R. Tesche, AEC Deputy Director, and Senator Gravel's staff.)

Point: The February 1971 quake in Los Angeles occurred along the Soledad Fault, which was considered too insignificant to put on seismic fault maps.

AEC states: "Most of the radioactive material associated with the detonation will be incorporated into and trapped in rock melt, or will be absorbed onto the surfaces of rock material. Most material will therefore be essentially retained in the bottom of the explosion zone. The volatile fission products and tritium are exceptions." (page 22)

Point: There is no documentation supporting the AEC statement that the radioactive materials will be incorporated into, trapped in, or adsorbed onto rather than go into solution under the conditions of salinity, high pressure, and very high temperature.

AEC states: "Those radionuclides not trapped in the solidified rock melt will be susceptible to migration in ground water. Only an insignificant fraction of the trapped radionuclides will be slowly leached from the surfaces of the fused rock." (page 23)

Questions: How much of what radionuclides are there? What is the insignificant fraction? Without knowing how much of what is involved it is not possible to talk about environmental impact.

AEC states: "Tritium in water is of more concern than other radioactive materials since it will migrate at nearly the velocity as the natural ground water." (page 23) Three mechanisms are described whereby tritiated water can migrate to the sea: Mechanism 1 is described as "most likely" and the "migration would take a thousand years or more." Mechanism 2 "is estimated to take over a hundred years." The third mechanism is described as very unlikely and the "contaminated water would reach the sea in about two or three years. . . . This would introduce tritiated water into the ocean with an initial concentration about 1,200 times that of the RCG (Radioactivity Concentration Guide) for water. . . . The assumptions of this model also imply a sharp reduction in adsorption surface and, therefore, at some later time other radionuclides such as strontium, cesium, ruthenium, and antimony would also be introduced into the ocean in concentrations higher than the RCG." (pages 23–25)

Points: No support is given as to why one model is more probable than any other. All proof is embodied in the credibility of the terms "most likely", "less probable", and "very unlikely".

Long Shot (the 80 kiloton test on Amchitka on October 29, 1965, at the time billed as first and last test on the island) released tritium "about one month after the test." It was "detected in three small ponds on the north edge of the surface zero pad and in drainage ditches from those ponds." (page 14)

AEC states: "No leakage of tritium or radioactive noble gases is expected for Cannikin; behavior comparable to Milrow is likely." (page 15)

Point: Assuming the worst Cannikin case of leaking tritium in 2 to 3 years and applying this case to Milrow, we would not see any tritium from Milrow yet because it has been less than two years since Milrow. The Milrow experience with tritium can not be used for predicting Cannikin.

AEC states: Even if the extreme tritium migration model were true "dilution of that water by the sea water would take place rapidly . . . there would be an effective dilution factor of about 100,000 within a few hours." (page 25)

Points: Commissioner Noerenberg stated, "Concerning the one known radioactive element that has leaked on Amchitka, tritium, little is known of its impact on fish. However, a recent paper given by Erickson (from the University of Washington Radiation Laboratory) at the Third National Radioecology Symposium, discusses the impact of both low and high level concentrations of tritium on guppies. His conclusions are that even low levels affect the germ plasm causing changes in growth, sex ratio, ability to withstand stress and courting behavior.

"It is reported in two papers that Silver Salmon fry held in cooled effluent from the pile area at Hanford suffered 100 percent mortality in eight weeks. Even at dilutions of 1:50 increased mortalities were evident."

Polikarpov, in his book Radioecology of Aquatic Organisms (1966, Reinhold Book Div., New York) states among his conclusions: (page 260) a). "The frequency of occurrence of abnormalities in the larvae of sea fishes has been shown to be increased at strontium-90-yytrium-90 concentrations of a trillionth of a curie per liter and above, i.e. at levels that have already been reached in the Pacific Ocean and in the Irish Sea." b) "It has been shown that further radioactive contamination of the seas and oceans is inadmissible, because it entails great risk of a) producing irreversible changes in the hydrobiosphere, b) disrupting the resources upon which fisheries depend and c) producing dangerous levels of contamination in the marine organisms consumed by man"

AEC states: "It is not conceivable that Cannikin would cause release of underground radioactivity from the cavities which remain from the earlier Milrow and Long Shot tests." (page 2)

Point: The above statement contains the entire discussion by the AEC about this project. There are no references, studies, or even explanations as to why this possibility is not conceivable."

EARTHQUAKES AND TSUNAMIS

AEC stated in the Draft Environmental Statement (June 1970), "experience gained by observation of past nuclear detonations and earthquakes combine to provide extremely positive assurance that the Cannikin explosion cannot of itself cause a severe earthquake." (page A–4)

Point: In a letter dated July 21, 1970 to the AEC, Louis Rousselot, the Deputy Assistant Secretary of the Department of Defense commented, "Substitute for '. . . provide extremely positive assurance . . .' the phrase 'indicate that it is highly unlikely.'" The AEC complied

AEC states: ". . . it is highly unlikely that the Cannikin explosion can, of itself, trigger a severe earthquake. Furthermore, the possibility of the Cannikin explosion or an earthquake causing a damaging tsunami (seismic sea wave) is even more unlikely." (page 3)

Point: The Presidential Ad Hoc Panel on the Safety of Underground Testing chaired by Dr. Kenneth Pitzer, former President of Stanford University, made the following points in their November 27, 1968 Report which was withheld for some time by the Atomic Energy Commission: ". . there does not appear to be a basis for eliminating the possibility that a large test explosion might induce, either immediately or after a period of time, a severe earthquake of sufficiently large magnitude to cause serious damage well beyond the limits of the test site. This possibility is more serious for tests of greater than a megaton since the larger initial explosion would lead to greater alteration of the regional stress pattern. Further, it has recently been suggested that the great earthquakes (magnitude 8.5) are actually composed of a rapid succession of earthquakes of magnitude 6.5 to 7.0."

Point: The terms "highly unlikely" and "even more unlikely" as used for earthquakes and tsunamis respectively do not rule out an occurrence of the event. Assuming the worst case that an earthquake and a tsunami do occur there must be a discussion of what will happen. There is none. Therefore the environmental impact cannot be judged and so this Impact Statement is deficient and delinquent.

AEC states: There is "almost one chance in 100 that there will be an earthquake as big as or bigger than Cannikin in the vicinity of Amchitka in any two-week period. For the whole of the Aleutian Islands and Alaskan Peninsula, the probability is higher, more like one in 20." (page 53)

Point: What would happen in the worst possible case if the Cannikin shock of about 7.0 richter scale occurred coincidental to a natural earthquake of 7.0 or greater? What would be the resulting earthquake magnitude? Would this be large enough to set off a tsuanimi?

AEC states: "Most existing experience is from large underground explosions in Nevada." (page 55)

Point: The Pitzer Report states, "Since the Amchitka area in Alaska is still more active seismically, the hazard of inducing an earthquake must be considered to be greater at that location than at either Navada site . . . Amchitka is more seismic than Nevada by at least an order of magnitude."

AEC states: "It is expected that the only observable effect from Cannikin will, again (meaning like Milrow), be a cluster of small aftershocks in the vicinity of the explosion site," (page 55).

Point: The Pitzer Report states that "it would appear that safety can be achieved in the proposed central Nevada and Alaskan test sites only by gradually increasing the yield and thus developing the necessary experience during the test program.' Going from 1 megaton to 5 megaton doesn't meet the definition of gradually increasing.

Pitzer Report states: ". . . there is good evidence that great earthquakes consist of a superposition of smaller (magnitude 6 to 7) events triggered in succession." And, ". . . if the triggered earthquake were a large one (magnitude greater than 8) and the rupture propagated to the east where the population density increases, there could be damage due to ground vibration as well as tidal waves."

BENEFITS

AEC states: The test is necessary for "the development of nuclear weapons technology of prime significance to our national security requirements." (p 46)

Point: On April 20, 1971 Dr. Harold Agnew, Director of Los Alamos Scientific Laboratory, testified to the Senate Committee on Armed Services that 1) the ABM Spartan warhead will be tested in Alaska, and 2) the Spartan warhead "would be useful in a limited way" in high altitude attacks against very large-yield Soviet weapons. To justify the risks in undertaking the test there must be a full discussion of the ABM Spartan system. To hide behind the phrase national security when the ABM system has been vociferously attacked in public for many years is to imply that the test can't be justified.

Point: Dr. Jeremy Stone, executive director of the Federation of American Scientists, a military weapons expert, stated, "Basically, Cannikin is a bureaucratic oversight—an experiment that has been waiting to be cancelled since, in early 1969, the President changed the rationale for the U.S. ABM away from the anti-Chinese defense." Other scientists like Drs. Rathjens and Scoville have called the Spartan an "obsolete" weapon. If the public is to bear the risks the AEC must justify the benefits of this weapon.

CONCLUSIONS

There are few federal projects that have the magnitude and the possible grave environmental consequences as Cannikin. The explosion of a 5 megaton bomb is surely one of the greatest unnatural acts man can perform. The prediction and evaluation of the possible outcomes requires a rigorous scientific discussion (whether laymen can understand it is irrelevant). Such a discourse is required for the Cannikin Environmental Impact Statement.

Unfortunately, the AEC's Impact Statement is more of a public relations type press release than a scientific document. It appears it was written to allay fears instead of to present information.

Some specific faults—

Though the Table of Contents seems to indicate a certain organization to the document this is misleading since the small quantity of information per subject that is contained is scattered in random disarray throughout the statement. It seems that many different people wrote the document and didn't know what the others were doing.

There are statements that are made in the summary that are nowhere else supported or referenced in the text.

The statements cover insignificant, irrelevant points in great detail and fails to provide any information or credible answers to the questions of greatest magnitude.

The statement does not provide enough data or discussion to determine the environmental impact of the Cannikin project. It therefore does not comply with the intent and the letter of the National Environmental Policy Act.

THE NUCLEAR SWORD OF DAMOCLES

(By Lenore Marshall)

(NOTE.—The author wishes to express her appreciation for Miss Egan O'Connor's valuable assistance in research.)

A short while ago another nuclear accident occurred. An underground weapons test, supposedly self-contained, produced a radioactive cloud that traveled at least 450 miles, with fallout at its site that affected hundreds of people who had to be evacuated and decontaminated, and for whom ultimate damage cannot yet be ascertained.

During the years since Hiroshima—the short years previous to this newest atomic accident (which was the 17th underground test that has leaked, according to Atomic Energy Commission announcements)—we have recognized to our sorrow and terror that our entire planet has joined the wilderness in its struggle for survival; not only the wilderness but the whole world is in peril. Nothing, no matter how remote, is immune. Great tracts of fertile land, plant life and animal life in forests, plains, oceans, rivers, and lakes, have been joined by human life in the danger of extinction. The greatest threat to the continuance of animal, vegetable, and human existence comes from the nuclear sword of Damocles that hangs over our heads.

By great good luck, despite the minor accidents, there has not yet been a massive release. However, since sources of nuclear contamination are proliferating, the chances of a major disaster are also increasing; such a disaster could devastate a number of states and cause thousands more cases of cancer and genetic defects and deaths. There is a

fundamental difference between radioactive pollutants and other pollutants such as DDT, NTA, oil, and automobile exhaust. All the latter are stable compounds, and there are possibilities of eliminating them or of rendering them harmless. But radioactive atoms are deranged atoms whose high-energy emissions from the nucleus cannot be stopped or, presto, made innocent by a lawsuit or a wave of a wand; they taper off at their own rate—240,000 years for radioactive plutonium 239, which happens to be a basic element in both the military and peaceful application of nuclear energy.

Cockroaches are said to withstand the effects of radiation quite nicely. Other animals, wild or otherwise, fare worse.

Since there is no way to turn off radioactivity, nuclear pollution is in a class by itself. Therefore, to whatever extent is possible, we must prevent any more of it from occurring.

We are already bearing the legacy of some earlier activities—radium from uranium mine wastes eroding into the Colorado and into the other rivers, plutonium 238 in the atmosphere from a misfired navigational satellite (1964), and fallout from the atmospheric nuclear bomb tests. They are all, of course, still with us. For instance some of the radioactive cesium 137 will still be around 300 years from now and radioactive carbon 14 another 57,000 years. The strontium 90 fallout created by atmospheric tests was enough to work its way into the bones of almost every child tested for it in the Northern Hemisphere, according to Anthony Smith (*The Body*). Since all radiation exposure is assumed to be harmful, whether it comes from bombs, medical X-rays, nuclear power plants, rocks, or the stars, what counts is the amount we accumulate and which we can still limit. The only hopeful thing to be said about this peril is that it is still possible to control it, keeping doses of radiation to safer permissible levels.

The biggest radioactive burial ground in the world lies in Nevada only 75 miles from Las Vegas, and consists of 250 square miles of contaminated desert surface pocketed with deadly plutonium 239. Under the surface, as well, lie hundreds of pools of radioactivity; some radioactive tritium is contained in the waters beneath the surface. This no-man's-land is mentioned in a paragraph within a report of the Atomic Eenergy Commission to the President's Council on Environmental Quality. If an earthquake or some other disaster, man-made or natural, were to strike this land, there is no knowing how vast would be the damage.

This is only one of many instances of pollutant destruction related to A.E.C. blasts and experiments. There is no way of estimating how much radioactivity is being released to the environment from all sources; however, what is known is that the amount of radioactivity and the damage from it are adding up. Since 1957 the A.E.C. to date has conducted over 200 tests in Nevada, plus two in Mississippi and two in Alaska. During 1970, through October 14, the United States detonated 23 underground bombs, the Russians six. An estimated 33 per cent of the underground explosions vent some radioactivity into the air and, probably, gases seep to the surface eventually from all of them. Regarding Alaska, an A.E.C. contractor has calculated that the MILROW test in October 1969 could start discharging radioactive hydrogen into the ocean in six years and continue discharging for the subsequent 66 years. In 1966 ecologist G. G. Polykarpov warned that the oceans already have all the radioactivity that they can tolerate and that fish embryos show damage. Nonetheless new underground tests, the largest we have ever held, are being planned for Alaska, and in an active earthquake zone.

From sources other than nuclear bomb tests the danger and the damage proliferate. There are about 20 experimental nuclear power plants in operation in the United States now; the A.E.C. expects to license 450 to 650 more in the next 30 years. Each plant accumulates in one year as much long-lived radioactivity as in several hundred Hiroshima bombs. Construction and active preparations are presently occurring in 28 states and in Puerto Rico. Peaceful "Plowshare" underground bomb tests, proposed by the hundreds, would create contaminated gas, oil, and possibly copper for nationwide distribution. Pilot projects have been blasted in Arizona and Colorado; Wyoming is probably next. Nine "Plowshare" excavation bomb experiments for building canals and harbors have produced contaminants; a recent one produced radioactive air as far from the Nevada test site as Boise, Idaho. Thus the "peaceful atom," a kindly-sounding benefactor, may require a bit more assessment.

Radioactive material is being more and more widely used in industry, raising problems of disposal. In Florida, the country's first commercial nuclear sewage disposal plant is using radioactive cobalt. Storage of radioactive wastes is a mammoth problem. Altogether, there are over 100 million gallons of high-level radioactive waste stored in tanks in South Carolina, Idaho, Washington, and New York states. Storage tanks tend to disintegrate under the intense radioactive bombardment and heat; so far, 60,000 gallons have leaked from such tanks into the ground. The A.E.C. is working on techniques for solidifying the waste, but the process is so expensive that the A.E.C. hopes to dump millions of gallons of *un*solidified waste into underground excavations along the Savannah River. At the A.E.C.'s Hanford installation, there are open "dribble trenches" for so-called "low level" wastes. In March 1970, ducks drinking from these trenches were found to be so radioactive that eating them would give a person five times the annual "permissible" dose of radiation. And oysters at the mouth of the Columbia River are reconcentrating radioactive zinc released far upstream at Hanford. In New Mexico, radioactive waste is pumped into deep wells, stored, and allowed to seep into desert soil. Monitoring has sometimes been casual. At one commercial plant in West Valley, New York, after official denials of hazard, a group of citizens found radioactive levels in a creek to be 30,000 to 100,000 times higher than levels permitted by the A.E.C. During a test of the nuclear space rockets in Nevada in 1965, levels of air contamination on U.S. highway 95 between Reno and Las Vegas rose temporarily to 200,000 times their normal level.

When plutonium 239 falls on the test site in Nevada, the land is fenced off and posted. The problem is how to confine that plutonium to that fenced-off place, against wind and oxidation, for the next 240,000 years—when it will no longer be able to hurt us. Near Denver, Colorado, local scientists have proven that significant amounts of plutonium have escaped from the Rocky Flats plant where warheads are manufactured. After denying the possibility, the A.E.C. has confirmed the findings.

A recent medical report in the *Journal of the American Medical Association* states that among the young people of Rongelap Atoll in the Pacific who were accidentally exposed to fallout during the 1954 tests, the majority have developed thyroid abnormalities, many of them malignant.

Today's environmental crisis proves that much modern technology now actually functions to the detriment of society. It has become disoriented from society. Science and scientists are not omniscient; in fact many scientists are attached to special interests in government and industry. As Doctors John W. Gofman and Arthur R. Tamplin[1] say of science and technology: "They offer credibility to the proposed ABM system and thereby offer thinkability to a nuclear war; they create the illusion that if we really get into trouble with our environment, science and technology will be able to rescue us; and they divert the scientific manpower away from more meaningful programs." Thus, within the fact that there are seismic, tidal wave, and radioactive hazards from nuclear weapons-testing underground, there lies the greater danger that weapons-testing is part of a general framework of thinking that war is thinkable.

Doctors Gofman and Tamplin continue: "Science in itself is not bad or good; that is why it has no ethics. Without application, science is meaningless. But most of science in this country is meant to be applied, and hence the government, hand in glove with industry, rules over science by controlling the purse strings. . . . Quite obviously we need a mechanism for effectively criticizing present day science and technology, and for articulating a new set of priorities that would lead science and technology to fulfilling the needs of society. . . . They must offer alternative programs that represent routes to the solution of the needs of society." Doctors Gofman and Tamplin propose an Adversary Center to consist of a group of distinguished scientists who would criticize any new application of science until it has been impartially scrutinized. In terms of the human condition, an Adversary Center would assist technology, and would base its rationale on the continuance of life of the human species. It would take up arms against the concept of the obliteration of man and of his beautiful earth, his wilderness and his cities, and of the civilization he has built.

It is argued that the country's increased need for electrical power necessitates nuclear plants and that defense needs necessitate further weapons development. As for the latter, since we already have means for overkill beyond that of any other country, and since the continuance of the arms race leads to a deadly tit-for-tat psychology that can only end in catastrophe, the sooner a moratorium on development and accumulation of nuclear weapons is called the safer we shall be. If the world aims at universal disarmament, perhaps elephants and seals and eagles and sparrows and pine trees and fish and roses and children will survive. A moratorium on the burgeoning nuclear reactor business must similarly be called.

What are some of the alternatives? Without nuclear energy would there be brownouts? Would a million sparklers around advertisements be cut in half? Would the electric carving knife not cut? The answer is that we *can* obtain the power we need. The lights will not go out. Even if this were the case, one must ask which is more important: more lights or life itself? Moreover *there are safer alternatives* to nuclear electricity. There is the further development of fossil fuel, which may be better utilized and made "clean" by means of new processes. There should be investigation of magnetohydrodynamics (MHD) and work on fusion and geothermal energies. Promising work is being done to develop the use of solar energy; it is said that the sun's heat falling on Death Valley alone could solve a multitude of power needs. Certainly, much electric energy that is wasted today could be conserved.

The public is entitled to demand information from the government and to say, Stop! to nuclear danger until plans are submitted for impartial scrutiny. There are a

[1] "A Proposal to Establish an Adversary System of Scientific Inquiry," in *Environmental Action Bulletin*, January 2, 1971.

number of citizen groups which are fighting for safety from nuclear pollution. Two new committees have recently been launched, one to act as a clearing house and action center to bring about safeguards, the other as an information and educational center. They are, respectively, Task Force Against Nuclear Pollution and Citizens Committee for Nuclear Responsibility. They may be reached through Suite 1200, 111 East 58th Street, New York.

The marvel of our mass society, of our intricate civilization, of our establishments and vast impersonal structures, is that the individual can always do something. The individual has always performed miracles, and he still can. He can save his wilderness, he can save animal and vegetable life, he can save himself. He can understand his predicament, and if he has the will to do so he can take steps to save what he loves; one man—one woman—can start to build a bridge whereon others may walk. Will individuals tackle this new proliferating danger before it is too late?

COMMERCIAL PRODUCTION OF VEE VACCINE

Mr. TOWER. Mr. President, I have written to Secretary Hardin this afternoon requesting his immediate attention be focused on the commercial production of the VEE vaccine and approval by both his Department and Public Health officials that the vaccine be provided to all horse owners for protection of their animals. I ask unanimous consent that my letter be printed in the RECORD.

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

U.S. SENATE,
Washington, D.C., July 20, 1971.

Hon. CLIFFORD M. HARDIN,
Secretary, U.S. Department of Agriculture, Washington, D.C.

DEAR MR. SECRETARY: I want to express my appreciation for the time given me and various members of my staff during the past month and a half while Texas was experiencing the outbreak of Venezuelan Equine Encephalomyelitis.

It appears that adequate supplies of vaccine are now being made available in Texas and surrounding states to prevent the spread of VEE. This, among other measures, will help the immediate situation existing in Texas, and hopefully will prevent the nation from experiencing the tragedy existing in my home state. With this fresh in our minds, I would prevail on your authority and interest in asking that you exercise with the necessary expediency approval for VEE vaccine to be manufactured on a commercial basis for distribution to every state in the nation. Horse owners throughout our nation are living in fear of the spread of VEE and are demanding all necessary methods of prevention be exercised before they too lose horses.

Surely as a result of the large numbers of horses vaccinated in Texas, the United States Department of Agriculture and Public Health officials can now approve the vaccine for public use. This action can further prevent the heart break and economic loss that has resulted in Texas from accompanying VEE to the remainder of our nation.

Your immediate action will be appreciated and may I be kept informed on the progress of this action.

Sincerely yours,

JOHN G. TOWER.

SOME POPULAR MYTHS ON YOUTH

Mr. HARTKE. Mr. President, recently an article appeared in the Wall Street Journal which examined some of the currently popular myths on youth. It was written by Landrum Bolling, president of Earlham College in Richmond, Ind.

President Bolling is a distinguished educator and public servant, a former newspaper editor and war correspondent, and—above all—a man with a deep and abiding concern for world peace.

His article makes it clear that the current rebellion of youth is not a transient phenomenon. Our society and its institutions are being changed because increasing numbers of young people are demanding that they change. The lesson for those of us in positions of public leadership is clear: we must listen to the younger generation. Theirs is a politics based less on material considerations than on esthetic, moral, and spiritual values.

Mr. President, I commend this article to my colleagues for its perceptive insight, and I ask unanimous consent that it be printed in the RECORD.

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

[From the Wall Street Journal, June 28, 1971]

SOME POPULAR MYTHS ON YOUTH

(By Landrum Bolling)

Everybody over 40 is an expert on the youth problem, and much of what everybody knows about that problem just isn't so. Consider these widely held viewpoints:

1. That youth discontent is the result of Communist influence.

The truth is that the Communists are as puzzled by today's youth as are the capitalists. In Communist countries the establishment is resentful toward most young people and, far from knowing, how to direct the forces of youth discontent in capitalist countries, the Communists don't know how to cope with their own young people at home. Long hair, beards and rock music distress Communist bureaucrats in Moscow, Prague or Warsaw no less than bankers in Elmira, Keokuk or Cheyenne. Student agitation against the established order, though less demonstrative in Communist countries than in America and France, is widespread in the Soviet Union and its satellite countries.

2. That America's youth discontent is caused by the Vietnam war and will fade away when the war and the draft are ended.

A lot of us would like to believe this, but the problem is not that simple. Youthful discontent is powerful in countries not involved in the Indochina war, and American youth are unhappy about many other things besides Vietnam and the draft—and will remain so long after the war is finished. Ending the war will surely improve the state of mind of the young—and of their elders. However, protest against the war, though serious, is but one of many symptoms of a deep-seated disaffection of the young—and of the disaffection of a lot of the rest of us.

3. That more money spent on education, housing and the care of the poor will eliminate discontent among the young.

Young people do indeed attack their elders for what they consider niggardly handling of social problems. A few of the more perceptive complain with equal reason about the unimaginative and inefficient way the "establishment" uses the money it already spends on these aspects of our troubled life. While the young undoubtedly favor a higher rate of spending on education and social welfare—and are thoroughly turned off by talk of the need to "hold down inflationary pressures"—they are so convinced of the wrongness of vast national spending on war, the space program and the SST that merely moderate and "reasonable" increases in appropriations for education and welfare will fail to impress them very much. Moreover, the current young do not have the innocent belief that their New Deal parents have, or once had, that increased federal financing will solve all problems.

4. That a new all-out program of liberal reform will win back the young.

The truth is that few of the young show any sustained interest in working to correct the defects in current national policies and programs. The assassinations of the Kennedy brothers and of Martin Luther King, the disappearance of Lyndon Johnson's domestic reformism in the swamps of Vietnam, disillusion with their one-spring hero Eugene McCarthy, and boredom with most of the political choices of recent memory—these are the factors, at least in their minds, that cause the young to be skeptical and hesitant about responding to some new liberal battle-cry. Though a mini-minority loudly, and at times violently, proclaim their intention to bring down the system, most disaffected youth have little faith in either drastic revolution or the plodding ways of reform. Among them there is widespread apathy and a sense of impotence and hopelessness toward all proposed solutions to the situations they deplore. They just don't see any answers to the problems of pollution, urban decay, racial conflict and war—and they don't think their elders do either.

5. That this generation's rebellion is essentially the same as all earlier manifestations of youthful revolt against the elders—and will soon pass.

Not so, say the most thoughtful historians, psychologists and social anthropologists—and a lot of commonsense parents and grandparents. The discontent is deeper, more widespread, and more far-ranging in its effects than any "normal youth revolt" ever known heretofore. Even among the "straight kids" who shun both violence and the hippie culture there is great uncertainty about values, attitudes, life styles and goals of family and community. Few American parents can be sure of what their teen-age children really believe about fundamental purposes and values. The elder generation can surely not believe any longer that, "after sowing a few wild oats," today's young will comfortably settle down into the same proper, well established life pattern of their parents.

6. That the trouble with today's youth is that they have lost interest in religion and must be won back to the old-time faith.

The fact is that this is probably the most open and seeking generation of young people with respect to spiritual matters we have known in this century. Their searches are taking some of them down some pretty bizarre byways: Zen Buddhism, Hindu mysticism, witchcraft, astrology. Yet many are caught up in a re-discovery of simple old-fashioned emotional religious orthodoxy now largely abandoned by the mainline churches. Pentcostalism is the fastest growing wing of American Protestantism, and many young people, including college students, are part of that growth.

However, many sophisticated, highly intelligent young people are turning their backs on the materialistic, scientific objectivism of their largely secularized parents, grandparents and teachers and affirming the reality of the spiritual, the esoteric, the supernatural, the transcendent. In part, they are revolting against what they consider the too aridly intellectual, against the perverse misuses of reason. But also, in a variety of ways, they are carrying on man's eternal quest to find the diving element in life and to relate themselves to it.

7. That the youth have lost all sense of ethics and morality and need basic training in how to distinguish right from wrong.

Some have, and do. This is also true of too

many people in all age groups. Yet to be certain about the real standards of ethics and morality of a given group of people at a particular time is difficult. Whatever you say will produce an argument. Some claim that this is the most truly moral generation in this century, the most idealistic young people who ever lived. Others are convinced that they have been corrupted into every imaginable form of wickedness. What probably is true is that today's youth are, like all human beings through history, a mixture of good and evil, idealism and selfishness, morality and immorality

In some aspects of ethics and morality this is one of the most austere and puritanical generations in the memory of living man. Their standards of honesty, integrity and social responsibility are often severely demanding. Their most common criticism of the older generation has to do with charges that their elders are dishonest, hypocritical and irresponsible. In this there is much humorless, morally arrogant self-righteousness. Too often they are blind to their own hypocrisy. Too many of them have not learned about the inherent weakness and finitude of all human beings, including themselves. Still, for all their confusion and occasional self-deception, it must be said that this generation of young people is profoundly concerned about ethical and moral issues. The established structures of church, school and family are not working very well in transmitting the accumulated wisdom from the past on basic value questions. Perhaps the greatest challenge facing home, school and church is to find ways to engage all age groups in a shared and honest exploration of the eternal questions of purpose, meaning, ultimate value of religion, morality and ethics. The old simple methods of Sunday school indoctrination are widely rejected. The most famous last words must surely be those that begin, "Now, when I was young—." The better substitutes are yet to be found.

These assorted popular myths about the young can give the older generation little guidance for dealing with the problems of the generations. But if we examine those myths seriously, we are compelled to search for new strategies for trying to cope with our fundamental social problems of which youth discontent and the conflicts between the generations are but symptoms. Those strategies, I believe, must involve us in developing ways of bringing younger and older people into creative, productive teamwork for the common good, and in making some significant changes in the pattern and quality of education.

INVASION OF TEXAS BY DEADLY HORSE DISEASE

Mr. TOWER. Mr. President, as I am sure Senators are aware, Texas has been invaded by a new and deadly horse disease. Venezuelan Equine Encephalomyelitis has caused horse deaths by the hundreds in my home State and has created alarm and dismay among the residents of Texas. This morning I received a full report on the events leading up to the outbreak of VEE in Texas. In addition the reports conveyed in detail what has been done to combat the disease and prevent its spread. The report is from Secretary of Agriculture Clifford M. Hardin, and I ask unanimous consent that the report be printed in the RECORD.

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

DEPARTMENT OF AGRICULTURE,
Washington, D.C., July 20, 1971.

DEAR SENATOR: Due to rapid developments concerning Venezuelan equine encephalomyelitis, and continuing action being taken by the Department of Agriculture over the weekend, I decided on Saturday morning to hold a press conference Saturday afternoon at 3:00 p.m. to release this information to the public.

We are anxious to keep the public fully informed about our efforts to fight this disease.

I thought that you might be interested in the accompanying materials that were released to the press on Saturday afternoon.

These additional things have happened since Saturday:

1. Yesterday, officials from the Department of Agriculture and officials of states surrounding Texas met and agreed to proceed with plans for vaccination of all horses in Texas and in the four surrounding states.

2. Vaccine is being processed on an emergency basis and enough will be on hand to vaccinate all the horses in Texas and the four adjacent states.

3. Our count this morning indicates that 202,000 horses have been vaccinated in Texas up to now.

4. Negotiations are underway this morning to write contracts with commercial spray applicators. Meantime, the Air Force is stepping up its spraying schedule.

We will keep you informed with new developments.

Sincerely,

CLIFFORD M. HARDIN,
Secretary.

USDA COMBATS HORSE SICKNESS

WASHINGTON, July 20.—Negotiations are underway to employ aircraft applicator companies to spray approximately 3.3 million acres in Texas and Louisiana for mosquitoes in the fight to control Venezuelan equine encephalomyelitis, the U.S. Department of Agriculture reported. An additional 3.3 million acres in Texas will be sprayed by the U.S. Air Force.

Contracts will be let by USDA's Agricultural Research Service to spray malathion insecticide in the following areas: 730,000 acres in Cameron and Calcasieu Parishes of Louisiana; 1,600,000 acres along the coast from Port Lavaca, Tex., to Brownsville—including the City of Corpus Christi; a second application on 1 million acres in the Rio Grande Valley, from Brownsville to Sullivan City, Tex.

In addition, in Texas, the Air Force will apply malathion on 2,400,000 acres in Fort Bend, Wharton, Jackson, and Matagorda Counties and dibrom insecticide on 900,000 acres in Chambers County and portions of Liberty County.

Also today, USDA placed a Federal quarantine on the States adjoining Texas: Louisiana, Arkansas, Oklahoma, and New Mexico. The regulation requires that horses intended to be moved outside those States must be individually identified and be accompanied by a health and vaccination certificate showing that the animals have been vaccinated at least 14 days previous to movement. Texas was placed under Federal quarantine July 13.

Other regulation changes issued today formalize the June 18 order restricting the importation of horses from countries of the Western Hemisphere, except Canada.

ARS officials reported that 202,000 horses have been vaccinated out of an estimated 1 million horses in Texas. As of today, 391,000 units of the vaccine had been sent to Texas to add to the 290,000 made available there. In addition 100,000 units each are being sent to Louisiana, Oklahoma and to Arkansas and 80,000 to New Mexico.

USDA has had no confirmation to date of the presence of the disease outside Texas. A network is being organized to retrieve information on the number of sick and dead animals. There are an esimated 1.5 million horses in the five States affected: about 1 million in Texas; 200,000 in Oklahoma; and 100,000 each in Louisiana, Arkansas, and New Mexico.

At a meeting of USDA officials and State Veterinarians in Dallas, Tex., Sunday, the State officials agreed to a required vaccination program for horses in their States.

PRESS CONFERENCE—VENEZUELAN EQUINE ENCEPHALOMYELITIS, SECRETARY OF AGRICULTURE CLIFFORD M. HARDIN

Officials of the United States Government will meet with officials of Mexico on Monday, July 19, at Brownsville, Texas, and across the border at Matamoros, Mexico.

This will be primarily a technical meeting to discuss mutual cooperation with respect to Venezuelan equine encephalomyelitis. The representatives of the United States Department of Agriculture at that meeting will be: Ned D. Bayley, Director, Science and Education; Francis J. Mulhern, Associate Administrator, Agricultural Research Service; Robert S. Sherman, Director, Animal Health Division, Agricultural Research Service.

There will also be representatives from Health, Education and Welfare and the Department of Defense.

Here in brief is what has happened up to now as we moved against this disease:

1. Early in March, the Department of Agriculture sent a scientist to Mexico to assist in diagnosis of suspected VEE infection in the Tampico, Mexico, area.

2. Representatives of the Department of Agriculture met on May 12, 1971, with Mexican officials regarding the outbreak in that country.

3. The Department of Agriculture placed two men in Mexico shortly thereafter to work full time with Mexican authorities on diagnosis, vaccination, and spraying programs.

4. The Department of Agriculture furnished Mexico 200,000 doses of vaccine, assisted in travel expenses for vaccination in Northern areas, added three additional veterinarians, and offered malathion for spraying.

5. The Department of Agriculture authorized the use of the experimental vaccine for horses in Texas, and vaccination started on June 28.

6. The Department of Agriculture started spraying for mosquito control in Texas on July 10 with the assistance of Department of Defense and Public Health Service.

7. On July 13 this Department quarantined the entire State of Texas so that horses could not move to other States unless they had been vaccinated 14 days before crossing the State line.

8. On July 16, I announced a national emergency and directed additional action be taken in this outbreak.

I would like to report to you now what the situation is in Texas as of our last report:

A. Approximately 4,000 herds of 152,000 horses have been vaccinated since June 28.

B. We have sent a total of 233,000 doses of the vaccine to Texas.

C. There are approximately 1,000 suspicious cases of the diseases in horses in Texas with approximately 800 deaths.

In view of the rapid spread of this disease, and the urgency of the situation, I am today announcing the following actions:

1. *The vaccine is released for use in Texas and in States adjoining Texas and will be delivered when States are prepared to use it.*

Additional distribution centers for the vaccine have been established in Texas. As soon as distribution and use have been organized in Louisiana, Arkansas, Oklahoma, and New Mexico, the vaccine willl be delivered there. The rapid spread of the disease necessitates the release of the vaccine to the States adjoining Texas in order to slow the spread of the disease and provide protection in advance of disease incidence. Since the

vaccine is still experimental, waivers will be required of the horse owners.

2. *A commercial company has been contracted with to help process the vaccine. As a result, Sunday night, 450,000 additional doses, will be available for use in Texas. Department of Defense has released an additional 1 million doses to USDA for immediate use and will provide the seed material for another 1 million doses.*

The Government has contracted with a Philadelphia firm—The National Drug Company—to process the vaccine. This will make possible an additional 450,000 doses by tomorrow. This is in addition to the quantities being processed at our Beltsville, Md., laboratory. The processing involves the dilution of the material and preparation of lots suitable for field use. The Department of Defense has made available a total of 2.6 million doses of the vaccine.

3. *Vaccination will now be on a free basis.*

A standard rate will be established for vaccination services provided by veterinary practitioners. These costs will be borne by the Government at no expense to the horse owner. Previously, no standard rate was established and the cost of vaccination was borne by the horse owner. The vaccine must be administered by a veterinarian.

4. *State veterinarians will meet with USDA officials in Dallas on Sunday, July 18, to establish procedures for a program of vaccination and vector control in Texas and adjoining States.*

The Department has contacted the state veterinarians of Texas, New Mexico, Oklahoma, Arkansas, and Louisiana, and invited them to meet with its animal health officials. The meeting, scheduled for 1:30 p.m., Sunday, July 18 at the Love Field Holiday Inn, will serve to develop procedures for coordinating the vaccination and mosquito control efforts throughout the region. We believe that this meeting will resolve the current problems of vaccine distribution to the States. Vaccination of horses will continue to be done on farms and ranches. Although it might expedite vaccination to set up centers, we believe the hazard of spreading the disease by moving horses to these centers is too great to take this step.

The meeting is a planning session and therefore will be closed to the press and public. However, the Department will be prepared to brief the press following the session.

5. *A special task group will review the situation in Texas to determine priority for spraying for vectors, with attention to the area from Brownsville north into Louisiana. Contracts will be let for commercial application of malathion in addition to application by the military.*

The Department is working closely with the U.S. Air Force and other agencies of DOD to establish a buffer zone against VEE by spraying mosquitoes in their principal breeding grounds northward from Brownsville, along the Gulf Coast to Cameron Parish, Louisiana. Although final plans have not been made, the area will extend for about 100 miles up the coast, and inland about 30 miles. Special attention will be given to rice-growing areas. The total acreage is in the neighborhood of about 4 million acres. The Air Force, which has carried out the emergency spraying of about a million acres along the Texas-Mexico border, will initiate work in this new spray area. At the same time, the Department is contacting commercial spray operators to put this control program into their hands as soon as possible. We expect to treat the area twice at 6-day intervals to interrupt the life cycle of the carrier mosquitoes. Spraying will begin next week.

6. *A regional headquarters is being established at Houston, Tex., to coordinate the program with the States, the U.S. Public Health Service, and the Department of Defense.*

The Department is establishing a regional emergency disease headquarters at the Field Inn North Motel, 11211 Highway 75, Houston, Tex., to coordinate the program with the States, the U.S. Public Health Service, and the Department of Defense. Dr. R. E. Omohundro, Association Director of the Animal Health Division, Agricultural Research Service, will be the USDA coordinator. He will have a staff of experts dealing in the fields related to vaccination and vector control. Operational sections will include investigations and inspection, vaccine application, mosquito abatement, and quarantine. In addition, animal health and extension service representatives from Texas, Oklahoma, New Mexico, Louisiana, and Arkansas will be invited to participate at the regional headquarters.

7. *U.S. officials will meet with Mexican officials on Monday.*

As I indicated earlier, officials of the United States will meet Monday with representatives of the Mexican Government to discuss the VEE situation. Dr. Ned Bayley, our Director of Science and Education, will head the USDA group, which will also include Dr. Frank Mulhern, Associate Admin. of the Agricultural Research Service, and Dr. Robert Sharman, Director, Animal Health Division, Agricultural Research Service. The Surgeon General's office, the Department of Defense, and the Department of State also will be represented. The meeting will include a review of the situation in both countries, and actions that can be taken of mutual benefit. One session will be held in Brownsville, Tex.—the other directly across the border in Matamoros, Mexico.

8. *Vaccine for other States will be made available when the disease is found at any place in an adjacent State or in the State itself.*

Vaccine for other States will be made available when the disease is found at any place in an adjacent State or in the State itself. The emergency staff will have the capability of establishing an extended vaccine distribution network of trained personnel to handle this contingency should the disease continue to spread.

9. *Intensive surveillance is requested in all States in order that detection and reporting of the disease may be carried out as rapidly as possible.*

Intensive surveillance is requested in all States in order that detection and reporting of the disease may be carried out as rapidly as possible. We will cooperate with the States to establish a surveillance and feedback system to trace down as soon as they may occur reports of sick horses resembling encephalomyelitis. Qualified animal disease diagnosticians will be made available to evaluate these reports so that prompt followup action can be taken.

DEPARTMENT OF AGRICULTURE,
Washington, D.C., July 17, 1971.

Memorandum to: Commissioners, Secretaries and Directors, State Departments of Agriculture, Livestock Sanitary Board Heads, and State Veterinarians.

The attached statement prepared at the direction of Secretary Hardin on Saturday, July 17, is to notify you of actions being taken by USDA in its all out program of horse vaccination and vector control to retard the spread of Venezuelan Equine Encephalomyelitis.

State veterinarians from Texas, Louisiana, Oklahoma, Arkansas, and New Mexico will be attending the July 18 meeting in Dallas to discuss vaccinations and vector controls in their States.

We would like to stress the importance of intensive surveillance in all States in order that detection and reporting of the disease may be carried out as rapidly as possible.

We will do everything possible to keep you informed of any new developments.

EDWARD H. HANSEN,
Deputy Assistant to the Secretary Intergovernmental Affairs.

ACTIONS BEING TAKEN BY U.S. DEPARTMENT OF AGRICULTURE TO RETARD SPREAD OF VENEZUELAN EQUINE ENCEPHALOMYELITIS

Through use of emergency funds available to the Department, the following actions are underway in an all out program of horse vaccination and vector control to retard the spread of Venezuelan Equine Encephalomyelitis:

(1) The vaccine will be delivered for use in Texas and in States adjoining Texas and will be released when States are prepared to use it.

(2) Negotiations are underway with a commercial company to prepare vaccine, in addition to the supplies now available from the Department. By Sunday night, 450,000 additional doses will be available for use in Texas. Department of Defense has released an additional one million doses to USDA for immediate use and will provide the seed material for another one million doses.

(3) Vaccination will now be on a fee basis.

(4) State veterinarians will meet with USDA officials in Dallas, Texas on Sunday, July 18, to establish procedures for a program of vaccination and vector control in States adjoining Texas.

(5) A special task group will review the situation in Texas to determine priority for spraying for vectors, with attention to the area from Brownsville north into Louisiana. Contracts will be let for commercial application of malathion in addition to applications by the military.

(6) A regional headquarters is being established at Houston, Texas, to coordinate the program with the States, the U.S. Public Health Service and the Department of Defense.

(7) U.S. officials will meet with Mexican officials on Monday.

(8) Vaccine for other States will be released for use when the disease is found at any place in an adjacent State or in the State itself.

(9) Intensive surveillance is requested in all States in order that detection and reporting of the disease may be carried out as rapidly as possible.

THE NEW PALESTINIAN REFUGEES

Mr. RIBICOFF. Mr. President, I am certain that many observers of the Middle East scene have been struck by the irony of scores of Palestinian guerrillas crossing the Jordan to Israel not to wage war, but to find refuge from fellow Arabs.

Sworn to the destruction of Israel, these Palestinians have demonstrated by their deeds, rather than their usual inflamatory rhetoric, whose mercies they prefer.

Never a military threat to Israel, and confining their assaults to civilian targets, these forces posed a much greater danger to King Hussein's throne. Now, in the aftermath Jordan's all-out offensive against the remaining terrorist nests, more Palestinians, on both sides of the Jordan, will undoubtedly realize that their future well-being ultimately lies in seeking peace with Israel, rather than in perpetuation of the dream that Israel could be destroyed by the force of Arab arms.

Mr. President, no one should really be

surprised by this reversion to the instinct of self-preservation displayed by these Arab terrorists. Nor should anyone be surprised by the humane and correct treatment they can expect to receive from their Israeli captors. While Israeli prisoners of war in Egypt and Syria have been tortured, mutilated, and in some cases literally torn apart by Arab mobs, the far more numerous Arab POW's have been treated in a civilized manner. Despite their barbarous attacks on marketplaces, hospitals, and schoolbuses, not a single convicted Arab terrorist has been executed by Israel.

Some Senators will recall the Israeli convoys of food and medical supplies sent to aid the Arab victims of the crackdown on the Palestinians last year. It is also known that many Arabs living in Jordan regularly go to Israel for medical care.

Mr. President, Israel's enlightened occupation policies in the areas she has administered since the Six-Day War offer real hope for future peaceful coexistence in the Middle East. By her efforts to ease tensions, lessen animosities, and bring prosperity and peace to the Arab residents within her enlarged borders, Israel has quietly becn sowing the seeds of a harvest of peace. The lack of armed Israeli troops on the streets of East Jerusalem, and the flow of produce trucks across the Jordan are doing more to bring peace to the Middle East than the sometimes frantic efforts and initiatives by our own diplomats. Their "powder keg" mentality has recently resulted in the application of both subtle and not too subtle pressures on Israel by the State Department to permit reopening of the Suez Canal on Soviet-Egyptian terms. I would hope that some of these diplomatic energies would be diverted into more productive channels. And the recent events in Jordan furnish an excellent opportunity.

Now that King Hussein has finally dealt with the Palestinian forces in his midst, it would be wise if some diplomatic pressure were exerted to encourage Jordan to reach a peaceful settlement with Israel. The United States, it should be remembered, is not only Israel's, but also Jordan's principal military supplier. In fact, while Israel has already paid, or is obligated to pay for all her arms purchases here, Jordan gets her jets, artillery, and tanks free.

Surely the State Department might consider applying a gentle nudge in the direction of peace to King Hussein. With the Arab world in a particular state of disarray, this could be an auspicious time for an Israeli-Jordanian settlement.

Mr. President, I ask unanimous consent that two news articles appearing in today's Washington Post and Mary McGrory's article in the Washington Star on July 12 on the peace prevailing in Jerusalem be printed in the RECORD.

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

[From the Washington Post, July 20, 1971]

JORDAN SAYS GUERRILLAS ROUTED

(By Yuval Elizur)

JERUSALEM, July 19—Seventy-two weary, terrified Palestinian guerrillas have crossed the River Jordan into Israel in the past 48 hours and put themselves at the mercy of their nominal archenemies, the Israelis.

The mass surrender is unprecedented. There have been isolated cases of disgruntled or harried Arab gurrillas giving themselves up to their enemy in the past, but never in such numbers.

At first, Israeli officials played down the political and military significance of the mass flight. Israel was not anxious to appear as a factor in the internal Arab struggle or even to add to the anti-Hussein propaganda.

Today, however, as the struggle seemed in its final stages, the policy apparently changed. Newsmen were allowed to interview the commandos and the minister of defense, Gen. Moshe Dayan, himself joined the interrogators.

The Jerusalem Post commented:

"It must be one of the strangest compliments ever paid to a country nominally at war with its neighbor, and the target of a terrorist movement, that hardcore terrorists should seek sanctuary with the enemy rather than face their government at home."

Fifty-five Arabs had crossed the Jordan by yesterday. Seventeen more arrived on the Israeli West Bank this morning.

More may still be hiding in the matted underbrush of the East Bank of the Jordan and may still cross into Israeli-held territory if they are not detected first by the search parties of King Hussein's Arab legion.

They came in groups of three and four along a six mile stretch of the northern Jordan valley looking for the Israeli patrols.

Some carried their personal firearms and hand grenades. The first to cross, on Saturday, still maintained a semblance of a retreating fighting unit. Those who came yesterday and today resembled refugees from a major disaster.

They were tired and hungry. Some were using their white undershirts as makeshift white flags to denote their surrender. Some were shouting for help as they waded through the shallow waters of the Jordan River.

Each of the commandos who surrendered had his story of woe and despair, telling his Israeli captors the events of the last 10 days, ever since the Jordanian army started storming the stronghold of the guerrillas in the Jerash-Ajlun area in northern Jordan.

A film shown on Israeli television gave some hint of the drama that took place in the villages and fields on the East Bank of the Jordan.

Photographed through a telescopic lens, it showed Jordanian army patrols interrogating villagers in the fields, presumably asking them the whereabouts of the fugitive commandos. Another film showed men being hauled away into a truck and beaten.

Speaking in the Israeli parliament, Foreign Minister Abba Eban said today it was ironic that a U.N. committee should be gathering evidence on alleged Israeli atrocities against the Arabs in the occupied territories while Arab fighters flee to the Israelis to escape the wrath of their own brethren.

NEWS SERVICES REPORTED

Three Arab guerrillas who surrendered told Defense Minister Moshe Dayan they would be willing to join the Israeli Army, an Israeli newspaper, Yediot Aharonot, reported.

The paper said that when Dayan asked them, "What do you want to do here in Israel?" the men replied, "We shall do anything, Mr. Minister. If you want, we shall become soldiers in the Israel Army."

Acording to one captured guerrilla, hundreds of his comrades were making their way toward the Jordan River.

Another, Mohammed Abu Abed, 19, said "Five days ago, in Ajlun, they told us the Jordanian legion was bringing tanks and artillery. We didn't think it was to be used against us. That day they opened very heavy fire on us . . . Whoever could run, ran."

[From the Washington Post, July 20, 1971]

2,300 HELD, BASES SHUT

AMMAN, JORDAN.—Prime Minister Wasfi Tell today said there were no longer any Palestinian commando bases in Jordan and that 2,300 guerrillas have been rounded up and taken to an army camp northeast of the capital.

The premier told a news conference that only some 200 of the 2,500 commandos based in Jordan were still at large "but we shall find most of them".

He said the government would screen the commandos and release the "true guerrilla who works for liberation" while imprisoning or expelling those wanted by the authorities or those who "call for destroying the Jordanian regime."

Tell's comments came after a week of bitter fighting between King Hussein's army and the commandos.

Jordan last night renounced Cairo and Amman agreements with the commandos and the army kept up its drive to expel the guerrillas.

Iraq retaliated by closing its border and air space to Jordan and in Cairo, the authoritative Al Ahram newspaper urged other countries to pressure Jordan "to stop current massacres . . . which aim at liquidating the Palestine revolution." There was no reaction from the Egyptian government.

Tell told reporters: "Henceforth, we shall not allow anyone not believing in liberation first to operate as a guerrilla in this country, and we shall not condone the presence of groups with ideological tendencies."

A Jordanian government spokesman announced in Amman last night that the Jordanian government would no longer tolerate the presence of Marxist guerrilla organizations in Jordan.

The Popular Front for the Liberation of Palestine and the popular Democratic Front for the Liberation of Palestine were banned, he said.

"These Marxist ideologists . . . say openly that liberation of Palestine should be preceded by liberation of the East Bank of Jordan," the spokesman said.

Tell accused the guerrillas of attacking army convoys and citizens in the Jerash and Ajlun areas of northern Jordan for the past month.

"Our casualties in the 20 days before the recent battles totalled 16 dead and 19 wounded among the military and nearly 20 dead and over 50 wounded among the civilians," he added.

Asked to comment on the Iraqi government's decision to close its border with Jordan and request the recall of the Jordanian ambassador, Tell said that so far he had only seen news reports of this.

"I believe that our brethren in Baghdad have replied on lies and pressures originating with Abu Amman (the cover name of commando leader Yasser Arafat. I am sure that once they get hold of the facts things will return to normal," he said.

Meanwhile, remnants of the commando units straggled across the River Jordan to surrender to waiting Israeli troops.

One captured commando spoke of hundreds fleeing toward the river and heaps of bodies on the battlefield after an army offensive with tanks, artillery and armored cars.

[In the past 48 hours, 72 guerrillas have surrendered to Israeli troops after wading across the shallow Jordan River and more are said to be preparing to cross, according to sources in Israel. The sources said no decision has yet been made on the final status that Israel would accord the fugitives.]

The executive committee of the Palestine Liberation Organization said Jordanian troops had executed and buried alive wounded men with "inconceivable hatred and cruelty."

The committee appealed to the Arab nation and to the world to denounce "this barbaric action by the Jordanian authorities, which severed all links with our nation . . ."

[Officials in Amman professed to be unworried by other Arab reaction, AP reported. Sudan denounced Jordan's campaign against the guerrillas. A Cairo newspaper accused Hussein of being "an obedient tool" for Israel.]

[From the Washington Star, July 12, 1971]

EMBATTLED JERUSALEM SAFER THAN DISTRICT

(By Mary McGrory)

The traveler coming back from Jerusalem can't be expected to hold the floor for any length of time in Washington.

The initial interest is there: Imperiled, occupied city, menaced nation, ancient hatreds, smoldering feuds, terror, violence. People are willing to listen.

Actually, no.

As a matter of fact there was more action in my block of Connecticut Avenue the week before I left than there has been in Jerusalem for the last year. My bank had been knocked over for the fourth time; the nice old gentleman in the jewelry store on the corner died in an ambulance on the way to the hospital after an early evening holdup during which he had been bound and gagged. He was a refugee from Communist oppression in Hungary.

AN ALL-ARAB WORLD

I try to tell about walking through the Damascus Gate (built by Suleiman the Magnificent in the 16th century) and into the all-Arab world of the bazaar: robed figures, white headdresses, veiled women, surging past carcasses of lamb, caftans, old keys, diamonds, chickens, postcards and religious medals.

"Israeli soldiers all over the place, I suppose?" they ask.

Actually, no.

The only men in uniform visible on the covered streets are Arab policemen.

"Lots of war damage still?" they want to know.

Actually, no.

TOURISTS BOILING IN

The Jewish quarters (yes, there is one in Jerusalem) got pretty battered during the shelling of 1967, but it doesn't look much worse than upper 14th street and reconstruction is going on in Jerusalem. One of the biggest debates in Jerusalem is over the proper style of architecture for the site.

"I suppose the tourist trade has fallen off," they say barely listening now. "War, fear, uncertainty, and all."

Actually, no. Thousands and thousands of students come boiling in from all over the world, supplementing the flood of pilgrims to the homeland. Every El-Al flight is jammed and their precautions, with bodies and baggage, certainly bespeak peril. The El-Al frisk is the ultimate.

BE SURE TO SAY HELLO

The passengers are agog, mad to learn Hebrew, work on a kibbutz, help build a new nation. The kibbutzim couldn't handle the tide this summer, so hundreds of young Americans toil in the temple digs in the shadow of the Wailing Wall, laboriously sifting the dirt trundled to them by Arab workers. They are filthy, sunburned, happy. They feel wanted and needed.

At my hotel, which is run by an English family born in Jordan, the staff is Arab. Our days and nights were punctuated by the five calls to prayer from the nearby minaret. One learns not to say "shalom." "Mahabath," is in order. Hello is safest.

Under the lemon trees in the garden, the foreign correspondents talk the night away, raising their voices over the pre-recorded benediction which comes from the minaret at 3 a.m. The "crisis," recorded in headlines from Cairo and the Knesset, and visiting U.S. senators, get little attention. An example of Israeli intransigence is cited: The telephone bills to Arab households are written in Hebrew, which the Arabs cannot read. They do not pay, the service is cut off. It seems a minor grievance.

LETTER FROM WASHINGTON

All is not perfect, one is told. Robbery is on the rise. "But they just take the car radio or whatever," explains a pretty red-haired housewife, recently resettled from Brooklyn. "They don't hurt you."

A letter comes from Washington: A young woman has been raped and strangled in an alley near The Star; two coeds have been raped on Capitol Hill; a father and son are shot dead in a traffic argument across the river in Virginia.

My friend thinks he should carry a gun when he walks the dog. It sounds like a capital menaced, divided, occupied, crumbling.

LIFE GOES ON

A young Israeli in the Information Ministry explains, with some pride, why Jerusalem is peaceful. Tactfully, he says, "Our countryside is more troubled, while your cities are."

One reason is that the energetic mayor, Teddy Kollek, is determined to make Jerusalem a showcase of Arab-Israeli cooperation. Another is that the Arabs, in spite of what Sadat says, are finding existence under Israeli occupation rather better than it was before. They get free medical care. There is talk of restitution for Arab land taken in the 1948 war. Not much, but it could be the beginning of an excuse to stop hating.

"It is a case," he says, "of daily living superseding political rhetoric. Life goes on here."

So shalom.

BRIGHAM YOUNG UNIVERSITY FOLK DANCERS SHINE IN EUROPE

Mr. BENNETT. Mr. President, at a time when our country is receiving much criticism because of the activities of some of our young people, it is refreshing to hear of accounts where the youth of our Nation are representing the United States in a manner to make us proud.

Recently the "American Folk Dancers" from Brigham Young University returned from a successful 9-week Defense Department tour of 11 European countries where they appeared before 50,000 people in live audience performances and reached 45 million viewers through European television.

I received a copy of a letter from Mr. John Kinnear, director of Brigham Young University programs, who accompanied the group, telling of the response of the people of Europe to this fine folk-dancing group. He also enclosed a copy of an editorial which appeared in a Wyoming newspaper applauding the group. Mr. President, I ask unanimous consent that the letter and editorial be printed in the RECORD.

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

JULY 9, 1971.

Mr. MARK B. LEWIS,
Director, Office of Cultural Presentations, Department of State, Washington, D.C.

DEAR MR. LEWIS: I have just returned to my office after over ten hectic weeks abroad. You will remember that I accompanied our "American Folk Dancers" on a nine week tour. I also joined the Brigham Young University Ballroom Dance Team at their Royal Albert Hall performance in London, May 28.

I am taking the liberty of enclosing a report on the Brigham Young University American Folk Dancers European tour, March 31–June 4. We estimate that we reached a total of 45,000,000 viewers during our three national television performances in Spain, France, and Norway. While in Paris, the American Folk Dancers appeared at Parley II (the second largest theater in that city), with John William the very popular spiritual/folk Negro performer from the Ivory Coast. The television show, also done in conjunction with Mr. William, was filmed at the French star's very lovely suburban Paris home. This program will be shown to all the French speaking people in the world including those French speaking countries of Africa.

In addition to the television performances, we estimate that we reached over 50,000 people in live audience performances. One of the highlights of the entire tour were the last two performances in Ljubljana, Yugoslavia where 8,000 people watched the shows. There was a tremendous rapport between our American students and the Yugoslavian students present. At a party following the performances, the American and Yugoslavian students had a tremendous interchange that I believe was one of the finest experiences of the tour. It might interest you to know that they were touted everywhere as one of the finest representations of America that people had ever seen. Mayor Moshe Flimann of Haifa, Israel, asked, "Are these American students? They are not like the American students I have seen around Haifa!" An American student we met at the Hebrew University in Jerusalem was so thrilled to see his country represented by our young, clean-cut people, that he couldn't contain himself. He is one of 800 Americans studying there, and, apparently, he felt he could not freely admit he was American because of the poor impression some of the U.S. students were making on the Israelis. After seeing the "Ready Europe Here They Come" article in the current issue of *Life*, (July 9, 1971) I can see why our students made such an impact and represented the majority of college-age Americans in such a positive way.

We had official receptions and presentations for the Minister of Tourism and Information, Madrid, Spain; the Mayor and City Council, Toledo, Spain; the Mayor and City Council, Pireaus, Greece; the Mayor and City Council, Haifa, Israel; the Folk Dance leaders, Tel Aviv, Israel; the Town Director, Valkeakosk, Finland; the Mayor and City Council, Izegem, Belgium.

The students performed at three Kibbutzims in Israel—the Kibbutz Ein-Gev, Kibbutz Ajelet-Hashachar, and Kibbutz Yagur. We were received with exceptional warmth and enthusiasm all through Israel.

In Yugoslavia, we had performances in Belgrade, Skopje, Kragujevac, Tuzla in Ljubljana. In Finland we had performances in Valkeakoski, Lahti, Yvaskkyla, Turku, and Helsinki. In the latter country we played to almost capacity houses each night.

In addition to the success of the American Folk Dancers tour, our Brigham Young University Ballroom Team won the British Open Amateur Modern Ballroom Championships in Blackpool, England, May 18. This was the first time an American team had competed abroad and that the United States was represented at these championships. Our winning team earned a ten minute standing ovation. Later, May 28, at the World's Amateur Modern Ballroom Championships in the Royal Albert Hall in London, 8,000 spectators watched our American team win a challenge match against the BBC formation trophy winners from Penge. This performance was televised by BBC–TV and reached 15,000,000 people in Britain. The Ballroom Dancers then went on to give an exhibition at the World's Amateur Latin Ballroom Championship at the famous *Deutschlandhalle* in Berlin. The

master of ceremonies there announced them as being "probably, the finest formation team ever seen in Germany."

Our Program Bureau "Young Ambassadors" have just returned from a nine-week Defense Department tour of military bases in Germany. This was extremely successful. Also, our Program Bureau "Sounds of Freedom" singing group returned just a week ago from a four-week Defense Department tour in the Caribbean. They are already, tentatively, being given invitations to return to the Caribbean during the Christmas vacations.

I think that the finest summation of the success of all of these tours is found in an editorial from Cheyenne, Wyoming, "Putting Their Best Feet Forward" (attached). I think this sums up the situation rather distinctly.

Once again, thank you for your kindness. I hope this report will be both interesting and informative.

Sincerely,

JOHN G. KINNEAR,
Director, Office of University Programs.

PUTTING THEIR BEST FEET FORWARD

Last week, Brigham Young University, one of the member schools in the Western Athletic Conference, brought one of its touring dance troupes here for an hour and a half show at Storey Gym.

Approximately 1,000 persons witnessed this spectacle. Then a couple of days ago we ran a picture and story in this newspaper about two young men from our state who are members of another BYU dance team that currently is touring 10 countries in Europe. This dance team also was mentioned by the master of ceremonies at the event here last week.

While our state university competes with BYU in athletics, in which we win some and lose some, the really remarkable thing about the school at Provo are these touring exhibition dance troupes.

Apparently everyday in the year, one of a large number of these dance troupes from BYU is on tour some place in the world, chiefly in North America or in Europe, sometimes several of them at a time. Great emphasis have been placed on athletics in colleges and universities of this country, but nowhere have we seen a school that employed exhibition dancers as has Brigham Young University for putting its best foot forward.

This unique and unusual project combines both cultural as well as obvious public relations features; entertainment and enlightenment, a stirring of the soul and of the pulse. The nearest thing to it we have seen is the El Ballet Folklorico Nacional de Mexico from the University of Mexico which came here on tour last year, and which drew lavish praise and attention at the time.

Brigham Young University's dance presentations are somewhat different, being more extensive and divided into more numerous troupes; and also offer a greater variety of national folk dances. But both are excellent.

And both were, in their appearances here, highly inspirational from the standpoint of young people doing something most impressive.

We call attention to this because it is to be hoped that both, and BYU in particular since it is closest, can send these rather remarkable ambassadors of culture and education back to our community at some date in the near future. We also note the BYU troupe's appearance because it is a project that is worthy of emulation in other educational quarters of this country. For if people can be inspired to dance and sing, or do so for others, the world may be a lot better off than it currently is with its frowns, worry lines and grimaces.

THE FINANCIAL SQUEEZE OF HEALTH CARE

Mr. KENNEDY. Mr. President, during the field hearings which our Health Subcommittee has been conducting around the country, many people have come forward to tell of their tragic experiences with health care services in America. Personal experiences of the health care system ranged from tragic neglect to the best possible care—sometimes with bills attached in the amounts of tens of thousands of dollars.

A three-part series this week in the Washington Post, by Mr. Stuart Auerbach, discusses the financial costs of health care for American citizens. The first article discusses the cases of three individuals who discovered their insurance was inadequate to pay for their hospital bills. Mr. Auerbach then compares five of the proposed health plans and the coverage these plans would provide.

The second article in the series explains how "prepaid group practice" works—one payment for comprehensive health care. This type of medical service is possible because members of the group average less time in the hospital and receive better preventive medicine.

The third article focuses on "Ameriplan," the American Hospital Association's plan to reform health care in the country. "Ameriplan" concentrates on improving the medical services available in rural areas by tying smaller hospitals into the technology being developed in large research hospitals and initiating new programs of preventive medicine.

I believe that Mr. Auerbach's articles provide valuable information needed for reforming our present health care system. I ask unanimous consent that they be printed in the RECORD.

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

THE FIGHT TO HEAL THE HEALTH INDUSTRY

(By Stuart Auerbach)

THE MAJOR BILLS

Here are the provisions of the major health care reform bills currently before Congress:

The Nixon administration plan would require private health insurance coverage for all workers and their families which meet federal minimum standards. In addition, low income families would be covered by a federal insurance program that is not as complete as the requirements for private coverage. It would encourage prepaid group practice as a way to reform the system.

The administration estimates that the employer-employee insurance would cost $7 billion more than present expenditures. The family program for the poor would cost $3 billion, with about $1.8 billion saved because of the discontinuation of Medicaid.

Sen. Edward M. Kennedy's health security bill would establish a government-run national health insurance program that would provide virtually complete medical care for all U.S. residents. It would be financed by taxes on employees, and employers and general revenues. Money would go first to prepaid group practice plans and the plan would emphasize strict quality controls.

Kennedy estimates it will cost $57 billion, the administration says it will cost $77 billion. Kennedy says most of the money is already being spent by Americans for inefficient and ineffective health care.

The American Medical Association's Medicredit would give tax credits for the purchase of health insurance and the federal government would buy the insurance for the poor. Included is coverage for catastrophic illness. Its cost is estimated at $14.5 billion.

Sen. Russell B. Long's catastrophic health insurance program would supplement private coverage. Benefits would begin after 60 days hospitalization or $2,000 in doctors' bills. It would be paid for by the federal government, and its cost is estimated at $2.5 billion.

The health insurance industry's national health care bill would provide federal aid for state insurance programs for the poor and high risk cases and set federal minimum standards for health policies. It would cost an estimated $2.4 billion.

Lyle Mattox, a Chicago carpenter, spent his life savings paying 15 days of hospital care. His medical expenses forced him on the welfare rolls.

James Rieger, who works in a clothing manufacturing plant, owed a Cleveland hospital close to $20,000 after his wife almost died while giving birth. His health insurance covered only $350 of the bill, and he had to declare bankruptcy.

Leonard Kunken, who sells health insurance, found his company's best policy paid no more than $40,000 of medical expenses for his son Ken, who broke his neck and severed his spinal cord while playing football. Kunken estimates his yearly medical bill will be about $100,000.

These are true examples illustrating one part of the nation's health crisis—the inability of both rich and poor to pay for their medical care.

More than a dozen bills have been introduced in Congress in attempts to solve all or part of the health problem. But no more than five of them have any chance of gaining serious consideration.

The bills differ widely in their cost and their effect on American medicine. The American Medical Association's Medicredit, for example, merely sets up a way to finance health care without attempting to reform the way medicine is practiced.

The cradle-to-grave national health insurance system supported by organized labor, on the other hand, would radically change medical practice in the country by emphasizing prepaid group practice. The government would pay virtually all medical bills.

While pushing some reforms—notably encouraging prepaid plans (called health maintenance organization)—the administration bill is mainly aimed at making it easier for Americans to pay for health care.

Plans that appear most likely to pass provide some form of federal financing for "catastrophic" illness—the extreme sickness, like Ken Kunken's, that no private insurance policies cover.

Two key members of Congress—Sen. Russell B. Long (D-La.), chairman of the Senate Finance Committee, and Rep. Wilbur Mills (D-Ark), chairman of the House Ways and Means Committee support this plan. It is also part of the AMA and the administration bills.

But paying for health care is only part of the problem.

The health crisis, most experts agree, includes a shortage of doctors and other medical personnel their concentration in business sections of cities and the suburb; their absence from urban slums and rural areas; no assurance of quality medical care; a higher rate of disease and death in the U.S. than other industrialized western countries; a fragmented non-system of health care, and spiraling costs that have increased 50 per cent since 1960 to a 31 per cent rise in the cost-of-living index.

Up to now, federal programs have just added to the inflationary pressures by pouring more money into medical care without

attempting to make the nation's $70 billion-a-year health industry more efficient.

Both the administration bill and the cradle-to-grave national health insurance plan, sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich), attempt more than the others to tackle some of these other problems.

But the thing that affects Americans most directly is the high cost of medical care.

Rich and poor alike become financially strapped by hospital charges that average about $150 a day here and doctor bills that have risen at twice the rate of the already inflated consumer price index.

In an effort to drum up wide support for his national health insurance bill, Kennedy took his Senate health subcommittee across the country, listening to complaints from people who either couldn't get medical care or who couldn't afford the care they got.

The hearings developed testimony from people such as Mattox, Rieger and Kunken—middle and upper middle class Americans driven to the wall by high medical costs.

Rieger, for example, had health insurance through the Cleveland clothing manufacturer where he worked. But it only covered $350 in maternity benefits. (Hospital and doctors' bills for a normal birth average more than $900.)

Mrs. Rieger's birth was far from normal. Her heart stopped during delivery, then she caught pneumonia and her lungs collapsed. She spent two months in the intensive care unit of Cleveland Metropolitan General Hospital, a city operated facility. The baby, two months premature, also spent two months in the infant intensive care unit. The total bill was $20,000.

"All my insurance paid was $350," Rieger told the subcommittee. "Times were hard enough as it was. There was nothing else I could do but go into bankruptcy."

The hospital, he says, wanted him to borrow the money from a finance company. He said he'd try to pay part of the bill from his $120 a week take-home pay "because they saved my wife's life and my baby's life."

Mattox, 52, couldn't get medical insurance because of his history of high blood pressure. While in the emergency room at St. Elizabeth's Hospital in Chicago because he didn't feel well, Mattox suffered a coronary occlusion—a blockage of the blood vessels leading to the heart.

He was hospitalized for 15 days at a cost of $1,500 plus $150 in doctors bills.

"My wife withdrew all of our savings (12 years worth while raising two children) and paid those two bills," he said.

Now he is on welfare and the state-federal Medicaid program is paying his medical bills.

He is trying to start work again. But if he gets sick again, Mattox will have to go back on welfare.

Kunken is a special case—a man who never thought a medical tragedy would floor him. A moderately well-to-do insurance salesman, he lives in Oceanside, L.I., a suburb of New York. He bought his company's major medical insurance policy for his family—the best one offered.

But when his 20 year old son Ken, a junior at Cornell University's engineering school broke his neck playing 150-pound football, the policy benefits melted away under medical bills that ran $6,500 a month.

Ken is undergoing rehabilitation treatment in New York; even though he can't move any muscles below his neck, his mind remains sharp and keen.

How would the leading health reform programs proposed in Congress help James Rieger, Lyle Mattox and Leonard Kunken?

Proponents of the five plans most likely of passage were asked how their bills would help those specific cases. They supplied the answers to The Washington Post.

The major plans are the cradle-to-grave health insurance bill, the American Medical Association's Medicredit, the administration's bill, the health care act proposed by the insurance industry and Sen. Long's catastrophic insurance bill.

Here is how they would work in the case of James Rieger:

The administration bill would have paid at least $17,200 of his $20,000 medical bill. His employer would have had to pay as much as 75 per cent of his health insurance coverage, which would offer more complete maternity benefits.

The catastrophic bill would not have covered the Rieger case because mother and infant were not hospitalized long enough.

The Kennedy-Griffiths bill would cover 100 per cent of all costs.

Medicredit would cover the total costs except for $50 deductible on the hospital bill. These costs would be deducted from the Rieger family income tax payments.

The Health Care Act would cover $19,000 of the bill, leaving Rieger to pay $1,000. This would be under the group coverage supplied by the clothing manufacturer which would have to meet new minimum standards.

Here's how the plans would work in the case of Lyle Mattox:

The administration bill would cover at least $1,087.50 of his bill if, as a self-employed person, he had bought health insurance coverage that would be available to him.

Catastrophic bill would not have covered him because his hospitalization was too short. The Long bill requires hospitalization of at least 60 days or a doctors' bill of more than $2,000.

The Kennedy-Griffiths bill would cover all costs.

Medicredit would give deductions on the amount of income tax owed for all but $250 of the bill.

The Health Care Act would have covered all but $110 of Mattox's bill. He would have been eligible for a special pool coverage.

Here's how the plans would work in the case of Ken Kunken:

The administration bill would pay $50,000 of the first year's expenses and at least $2,000 a year after that.

The catastrophic bill would cover all expenses after $2,000.

The Kennedy-Griffiths bill would cover all costs.

Medicredit would provide tax deductions for all but $250 of the expenses of the first 60 days of hospitalization. Beyond that, the family would have to pay $4,625 of the estimated expenses.

The Health Care Act would not require insurance plans to include coverage for an unmarried son over age 18, but some plans may include him. If so, he would receive full coverage except for $1,000.

It seems obvious that some health care reform measures will pass Congress before the 1972 election.

Those people, like Kennedy, who feel the system needs a total overhaul are hoping the reform will go beyond mere tinkering with the financing of doctor bills.

But, looking at past history it appears unlikely that major revisions will be made. A 1932 government report, reprinted by HEW last year, concluded:

"The problem of providing satisfactory medical service to all the people of the United States at costs which they can meet is a pressing one.

"At the present time, many persons do not receive service which is adequate either in quantity or quality, and the costs of service are inequitably distributed. The result is a tremendous amount of preventable physical pain and mental anguish, needless deaths, economic inefficiency and social waste.

"Furthermore, the conditions are largely unnecessary. The United States has the economic resources, the organizing ability and the technical experience to solve this program."

The same lines could be written now, almost 40 years later.

PREPAID HEALTH CARE COMES INTO ITS OWN

(By Stuart Auerbach)

Betty had a slight summer cold. Nothing special, just the normal childhood sniffles with a minor sore throat.

Many parents wouldn't bother bringing Betty to a doctor. But her father didn't hesitate. He took her to the Group Health Association here for a checkup. The visit didn't cost him anything: GHA is a pre-paid group practice plan, and he pays by the year whether he goes to the doctor or not.

This idea is currently the darling of people trying to reform medical practice in the country. Even the Nixon administration, under the less controversial name of Health Maintenance Organization, has made it a cornerstone of its health reform effort.

HMO's, or pre-paid group practice plans, are supposed to provide better health care—with an emphasis on preventive medicine—at a lower cost.

This is true, its proponents say, even when parents bring in patients such as Betty for minor ailments. Actually, the doctor was glad to see Betty. The checkup didn't take long and it gave him a chance to catch any possible major illness early, when it is easier to treat.

In Betty's case, the doctor noted that she wheezed when she coughed, indicating that she may be developing allergies.

That was duly placed on her medical record. If the wheezing persists, doctors will begin treating her for allergies.

In 1970, GHA doctors saw patients about a half-million times. But the 75,000 members only spent a total of 43,500 days in the hospital.

This is about half the rate of hospitalization of a similar group of patients here treated by private doctors under the traditional fee-for-serve form of medicine.

The same trend has emerged among members of the Kaiser-Permanente health plan, which serves about 2.1 million people in Hawaii, California, Oregon, Colorado, Washington and Ohio. Kaiser patients have far lower hospitalization rates than patients covered by standard health insurance policies.

This is a key factor in keeping medical costs down. At rates that can go as high as $150 a day here, hospitals are far more expensive than out-patient treatment.

This is borne out by studies of another pre-paid plan, the Group Health Cooperative of Puget Sound, Wash., where Dr. Frank Newman reported that the average member of his plan paid $143 a year for medical care compared to a national average of $226.

"We like to believe that the reason for this lower hospital experience is our preventive medicine program," says Frank C. Watters, GHA's executive director.

This includes diabetes, cancer and glaucoma screening tests for adults and a strong immunization program for children. Members get periodic physical examinations.

"We do GI (Gastro-Intestinal) series here," says Watters. "A solo practitioner would put someone in the hospital for a GI series."

It's not always the doctors' fault for the needless hospitalization of patients. Most private health insurance policies cover tests done while a patient is in a hospital, but fail to cover the same tests done in a doctor's office at a fraction of the cost.

For years, the words "prepaid group practice" couldn't be spoken in polite medical circles.

GHA, fighting both the American Medical Association and the District of Columbia's insurance commissioner, had to go to the U.S. Supreme Court before it won the full right to operate 34 years ago. Even now, its doctors sometimes have problems getting licensed in Virginia—a medically conservative state.

But for the most part things have changed. Prepaid group practice is the common thread in most of the proposals before Congress to reform the nation's ailing health care system.

The Nixon administration, which first adopted the idea under the name of Health Maintenance Organizations to cut the costs of medicaid and medicare, now consider HMOs the key force in its effort to remold American medical practice.

The cradle-to-grave national health insurance bill sponsored by Sen. Edward M. Kennedy (D-Mass.) and Rep. Martha W. Griffiths (D-Mich.) also looks toward prepaid groups as the main way to bring better medical care at a lower cost.

The American Hospital Association's Ameriplan, not yet introduced in Congress, focuses on a hospital-based health care system that can easily be converted to prepaid groups.

And while the AMA isn't in love with the concept, it doesn't oppose the idea, either. Its House of Delegates urged the government last month to go slow before spending large sums to start HMOs across the country.

The sudden interest in pre-paid groups developed as a means to control the spiraling costs of medical care—increasing at a rate 20 per cent higher than the national cost-of-living index.

Besides decreasing the rate of hospitalization, experts say the pre-paid group practice uses the doctor's time more efficiently by giving him para-medical assistants, and makes it easier for a patient to get comprehensive care because a number of specialists are working together.

The solo practice of medicine, President Nixon said in his special health message in February, gives doctors "no economic incentive . . . to concentrate on keeping people healthy.

"A fixed price contract for comprehensive care reverses this illogical incentive. Under this arrangement (HMOs), income grows not with the number of days a patient is sick but with the number of days he is well."

It may save money, but does pre-paid group practice actually mean better medical care for its members?

Two days spent visiting GHA's main clinic at 2121 Pennsylvania Ave. NW indicated a real concern by doctors for the health of their patients. Care was swift, but not rushed. Examinations appeared complete, in many instances more complete than most doctors give.

For instance, Dr. Philip C. Brunschuyler took a smear of pus and sent it to the laboratory for tests when he treated a little boy with an infected thumb. He also took a smear when treating a girl with a sore throat.

A little girl who complained one Friday of a burning sensation when urinating had a urine specimen taken the next day to make sure she didn't have a kidney infection. On the next Monday, she was to told to return for another test.

The doctors seemed to know their patients, despite claims by detractors that pre-paid group practice breeds impersonal medicine. Indeed, many patients have their own doctors within the group whom they see regularly, except for emergencies.

"We encourage patients to have their own doctor," Brunschuyler says.

GHA also places a heavy reliance on nurses. They give injections, dress the wounds, prepare the patients for examinations and screen all telephone calls.

"This frees the doctor to practice medicine," says Dorothy Fowler, GHA's chief nurse.

The GHA staff also includes two social workers and a dietician to help members with special problems.

GHA, however, lacks one component that many experts feel is necessary for a true HMO: its own hospital that would give it more complete control over costs.

Instead of building its own hospital, GHA decided at the beginning to give its members the extra measure of quality care provided by the university hospitals in the city.

But now, with medical costs rising so fast, GHA is considering starting its own 125-bed hospital for less serious cases, thereby saving as much as 25 per cent of its $6 million yearly hospital bill.

This means that GHA is growing. But Watters wants to make sure it doesn't grow so fast that it can't provide quality care for its members.

He also worries that the new popularity of prepaid groups—or HMOs—will mean that too many are started too fast without proper planning. This, he says, could give the entire concept a bad name.

The Nixon administration, though, thinks America should press forward on HMOs.

It would like to see a network of 1,700 HMOs spread across the country caring for 40 million Americans by 1976. By 1980, the administration says, there should be enough HMOs to cover 90 per cent of the population.

To accomplish this, the administration has asked Congress to appropriate $45 million to be used in fiscal 1972 to start HMOs in urban slums and rural areas that need better health facilities.

In addition, the President asked Congress to approve a guaranteed loan program to help private organizations set up HMOs in slums. The loan funds would grow from $300 million next year to a total of $4.2 billion by 1976.

Furthermore, James Cavanaugh, a former HEW health official now working in the White House, wants to use the $15 billion that the federal government spends on Medicare and Medicaid to promote HMOs.

Watters fears this sudden burst of enthusiasm may sink pre-paid group practice if it is not accompanied by intelligent planning.

"I'm afraid," he says, "that with all the current emphasis on HMOs physicians, consumers and others may have gained the impression that all they have to do is gather a group of doctors together, decide to form a pre-paid group, apply for funds from HEW and start the program."

Not so, he says.

A pre-paid group requires strong leadership; a base membership of at least 5,000 that can grow to 30,000 in three years; interested doctors and other medical personnel, and money.

Nevertheless, says Watters, "Pre-paid group practice is the most promising answer on the scene today to solve in part some of the problems we have in the health care delivery system."

City-Country Hospital Confederation Aids Rural Care

(By Stuart Auerbach)

PHOENIX, ARIZ.—On a Thursday morning this spring, Mrs. Alvin Reidhead gave birth to premature triplets in the small hospital at Holbrook, 200 miles from here.

As births of premature triplets go, the delivery was routine. But the infants were all high-risk babies—weighing less than the 5½ pounds the doctors feel is necessary for survival.

All three Reidhead triplets—Vikki, Nikki and Ricki—survived, thanks to a unique hospital network that provided them with the newest, most sophisticated care available anywhere.

They were born in the 25-bed Holbrook Hospital under the care of Dr. Robert Joseph Haley Jr., an old-time general practitioner who has helped deliver three sets of triplets in his lifetime.

But he had a backup in this case that went far beyond what is available to most GPs practicing in remote, small-town hospitals.

For Holbrook Hospital is part of Samaritan Health Service, a confederation of nine Arizona hospitals stretching from the booming suburbs of Phoenix to the rim of the Grand Canyon, 250 miles from here.

Good Samaritan Hospital in downtown Phoenix, a leading medical center, is the focus of this two-year-old experiment to find new ways of providing medical care to both rural and urban residents of one of the nation's fastest-growing states.

The experiment is being watched with growing interest by hospital officials and health planners across the country who see it as a way to insure that the hospital remains the center of health care delivery.

It is the prototype of Ameriplan, the American Hospital Association's program to reform health care in the country.

Under Ameriplan, hospitals would change from institutions that only care for people who arrive at their doors to ones that reach out into the community to find the sick and that run programs of preventive medicine.

They would emphasize out-patient care as well as in-hospital treatment. And they could be easily converted to the prepaid group practice-health maintenance organization concept that is so popular with health reformers.

"It's a direction in which the voluntary hospital and private medical systems can go to save themselves," says Stephen M. Morris, president of Samaritan Health Service. He is also president-elect of the AHA and an architect of Ameriplan.

"I think if we continue to go the way we are now," he adds, "we're going to lose the whole ballgame. The public is simply not satisfied with either our financing mechanism or our delivery mechanism."

Ameriplan would establish a national network of hospital-based corporations that would provide medical care to all residents of a given area in much the same way that Samaritan Health Service helps hospitals in outlying communities such as Holbrook.

For example, when the Reidhead triplets were born, Samaritan Health Service mobilized its full facilities to keep them alive.

Mary Flemons, the head nurse at Holbrook Hospital, had just returned from a refresher course at Good Samaritan and was up to date on the care of high-risk new-borns.

To bolster her, Joanne Junasz, a pediatric nurse at Good Samaritan, drove to Holbrook with extra supplies. And the health corporation rushed three Isolettes—baby-sized incubators—from Phoenix to Holbrook.

Meanwhile, Dr. Haley at Holbrook conferred twice daily by phone with experts in the care of the newborn at Good Samaritan.

The triplets thrived on the round-the-clock care they received at Holbrook. But the hospital's small staff was physically overtaxed; doctors and nurses there couldn't maintain the care the infants needed and still treat their other patients.

So the Reidhead triplets were flown to Good Samaritan in the health system's ambulance plane. They stayed there until they gained enough weight and strength to go home.

Samaritan Health Service has done more than just take care of cases too complicated for the smaller hospitals. Indeed, a good part of consortium's job has been keeping

these hospitals supplied with doctors and nurses.

One man, David W. Graef, spends much of his time recruiting doctors for the outlying hospitals.

"Some Friday nights when there are no doctors I get one by Saturday. I call everybody I know who has the weekend off," says Graef.

The big problem is the isolation of the small towns. And when the doctors like it, the wives usually don't.

"I'm convinced if they'd stay there a while, they'd love it," says Graef, who has even tried advertising for doctors in conservation magazines.

The problem of finding doctors to locate in small towns is a national one, with vast stretches of rural America without medical help. In many towns, the only physician is elderly and unable to find a replacement so he can retire.

Morris thinks a hospital-based network, such as Samaritan Health Service, could help solve the problem of getting more doctors for rural America.

"I kept two hospitals open in northern Arizona by being able to move doctors there and relieve them when needed," he says.

Samaritan Health Service also improves the ability of the small hospitals to practice sophisticated quality medicine.

Now they can offer medical tests that are impossible to perform in a small hospital laboratory. A car now makes a circuit of each hospital daily and picks up samples to be tested in the Good Samaritan laboratory. The results are telephoned back to the individual hospitals.

Dietitians from the health service's headquarters here travel to the smaller hospitals and help them plan their meals. Other experts help set up better billing systems and community relations campaigns—services that the small hospitals couldn't afford on their own.

And all the doctors and nurses at the outlying hospitals can take refresher courses at Good Samaritan, in much the same way that Mrs. Flemons from Holbrook had done before the birth of the Reidhead triplets.

Bringing sophisticated medical care to the vast, sparsely populated regions of Arizona is only one part of Samaritan Health Service's activities.

The consortium also has taken three hospitals in the suburbs of Phoenix, one of the fastest growing areas of the nation, under its wing.

Doctors at these small suburban hospitals also have the benefit of backup from the specialists at Good Samaritan. For example, they can get the complicated analysis of blood gas levels done in minutes through Good Samaritan's laboratories, and experts at Good Samaritan can diagnose from electrocardiographs transmitted from one hospital to the other over telephone lines.

"It's helped upgrade the quality of medical care—at least in my hospital," says Raymond L. Tate, administrator of the 62-bed Northwest Hospital in nearby Glendale.

"Major benefits have ensued to the small hospitals. The strengths of Good Samaritan have been made available to us."

Meanwhile the corporation is saving money by centralizing training, purchasing, insurance coverage and administrative functions.

Morris says that the 1970 budget for all the hospitals together was $40 million. If the nine hospitals had been operating separately, he says, their total budgets would have been $44 million—10 per cent higher.

Furthermore, he says, costs at his hospitals are rising slower than the national average. In 1969, the first year of the health service's operation, its bills increased 8 per cent compared to the national average of 12 per cent. In 1970, the Samaritan Health Service increase was 9 per cent; the national average for hospitals, 15 per cent.

Although the idea of a coordinated network of hospitals had been in Morris' mind for years, Samaritan Health Service got its start in the spring of 1968 when Southside Hospital, in a nearby suburb, was in such dire financial shape that Good Samaritan bought it at a bankruptcy sale.

Northwest Hospital, also in financial trouble, asked to join the system next.

Other hospitals asked to join in; Samaritan Health Service officials say they have not solicited other hospitals to join.

While health experts from all over the country come here to study Samaritan Health Service, local doctors and hospital officials have greeted the experiment with some reserve.

At local hospital administrator meetings, says Tate, "I don't get a lot of praise or support. They just say, 'Don't rock the boat. Don't rock the boat'."

Morris has alienated many Arizona doctors, who are especially conservative, by saying publicly that Samaritan Health Service's concept will end the traditional fee-for-service practice of medicine for a single doctor.

The system also lost some medical allies who feared that too many of the strengths of Good Samaritan were being drained to help the smaller hospitals. "This hurt," says Nelson.

While Samaritan Health Service continues to gain strength here, other hospitals around the country are trying their own versions of the idea.

George Washington University Medical Center in Washington, for example, has taken a section of the city and promised to provide full medical care for anyone who lives there.

And, in Chicago, Rush-Presbyterian-St. Lukes Medical Center announced last month that it is forming a unified health care system that will tie 20 community hospitals to it.

The plan includes the reactivation of Rush Medical College and the use of Presbyterian Hospital as the backup facility for the community hospitals. The network will cover 1 million to 1½ million residents of Chicago.

Morris says these experiments are important.

"If we can demonstrate to Congress that the private sector can deliver health care, the public will accept," he says, "I think that Congress will give us a chance."

BUREAU OF LAND MANAGEMENT 25 YEARS OF CONSERVATION PROGRESS

Mr. JORDAN of Idaho. Mr. President, this month, on July 16, the Department of the Interior's Bureau of Land Management observed its 25th anniversary. This fine conservation agency is the product of a Government reorganization effort at the end of World War II during another period of great change in our national life and the Nation's conservation movement. It is thus fitting while we are now considering further reorganization of the Government's structure for management of the Nation's natural resources, under President Nixon's leadership and program for the decade of the environment, that we also salute the accomplishments of this significant group of conservationists.

From 1812 to 1849, the management of the public lands of the United States was in the Treasury Department—symbol of the Nation's basic attitude then toward the public lands. In 1849, when the Department of the Interior was created, the General Land Office formed the foundation for the new Department. In that Department, several services were subsequently developed for public lands and minerals, for surveying, for grazing administration, for public land timber protection and for public use. In 1946 the management of all of these functions and the resources of almost half a billion acres of public land were brought together under the Bureau of Land Management.

The State of Idaho has played a key role in the record established by the Bureau in the advancement of management of the public lands. Three of its able sons have been called to serve as Directors of the agency—Edward Woozley of Malad, who served from 1953–1961, Boyd L. Rasmussen of Glenns Ferry, who served from 1965 to July 5, 1971, and Burton Silcock of Burley, who was appointed Director by Secretary Morton on July 6, 1971.

Ed Woozley and Boyd Rasmussen have served with great distinction and have been honored for their efforts. Burt Silcock, the first Director whose principal professional life has been devoted to the Bureau, shows great promise for the future, having completed a highly successful assignment as BLM State Director in Alaska—the largest State in the Union and containing the largest segment of the public lands.

I had a long acquaintance with Ed Woozley when he was Idaho's Public Land Commissioner and a cordial working relation with Ed as BLM's Director while I was Idaho's Governor. My acquaintance with him grew closer when he joined my staff after service with my predecessor in the Senate, the late beloved Henry Dworshak. Ed retired in 1969, after three careers in public service and is now living in retirement in Long Beach, Calif.

My close acquaintance with the 12 million acres of public lands in Idaho and the men and women responsible for their management, has given me full appreciation of the work of the Public Land Law Review Commission where I had the honor to serve as one of the representatives of the U.S. Senate.

Idaho's 12 million acres of public lands are indicative of the tremendous value of the public lands. We still have in the public domain in my State a tremendous variety of terrain—including lands with a rich soil which with the careful application of available water, can contribute to America's food production requirements in the future as they have done in the past under the Homestead and Desert Land Entry Acts, land disposal programs administered by the BLM. Most of the public land in Idaho is forage land, the habitat of a variety of wildlife species and domestic livestock. The High Desert in southern Idaho is scenic and bountiful. It produces Chukar partridge, sage grouse, mule deer, and an increasing antelope population. The High Desert is excellent grazing land which with needed conservation investments could sustain even larger numbers of both game and livestock in harmonious relationship.

The Big Desert Country around Idaho

Falls is key winter habitat for mule deer and big horn sheep. Here in this volcanic country is the "Great Rift"—a 40-mile-long crack in the Earth's surface where lava flowed only 2,000 years ago.

The Birds of Prey Natural Area which the Department of the Interior is establishing after full discussion of the proposal with the public will be a "first" for the public lands. Here is a vital habitat for the prairie falcon and the golden eagle.

The public lands of Idaho are rich with the lore and history of America's cultures. The Nez Perce, Shoshone, Bannock, Coeur d'Alene and other tribes flourished in Idaho, an area rich in basic resources. One can find today on the public lands superb archeological examples of these cultures.

The early American explorers found in Idaho routes to reach the Pacific. Bonneville and Lewis and Clark opened the way—the Oregon Trail—and The Ogden Trapper Trail are also a part of this heritage of America's development. Over 300 historic and archeological sites have been identified on the public lands in Idaho.

Traditionally, people have associated the public lands with livestock. The public lands are vital grazing lands. In Idaho alone, 800,000 cattle, sheep and horses graze on these lands—one of the many important multiple uses of these lands.

Minerals have always been an important public land resource. Gold, silver, zinc, and lead are essential to our economy, and make significant contributions to America's mineral needs. Idaho still leads the Nation in silver production. Garnets are produced commercially and rubies, diamonds, sapphires, thunder eggs and agates are sought by the rockhounder.

BLM has more than 500,000 acres of commercial forest and woodland in Idaho. These are managed for their broad forest values, especially watershed protection, recreation and game habitat, as well as timber production in appropriate balance. These forested acres contribute to our magnificent scenery, and enhance the lives of all who dwell nearby.

The public lands are the public's resources—vital to America's continued growth. Their local values are vital to our welfare. However, these lands and resources reach out to spread their beneficence across the land. The roads of Idaho on one of our typical delightful summer days abound with travelers from every State and many lands abroad who have come to the "Gem State." Our public lands are one of our basic attractions and economic resources, and annually attract more than 1 million recreational visitors.

So I salute the Secretary of the Interior, Rogers C. B. Morton, Assistant Secretary Harrison Loesch, who now has primary responsibility in public land management, Burton Silcock, BLM's new Director, and another native son, Bill Mathews, BLM Idaho State Director, and all who have preceded them and the Bureau employees of today for their efforts to make their lands and resources fulfill our people's needs.

To these able and dedicated people we owe much for their contributions to the art of public land management. These include the introduction or improvement of many of the concepts of modern natural resource management—multiple use, public participation, environmental protection, comprehensive land use planning, and intergovernmental cooperation.

Those who use the public lands, especially those who serve on BLM's State and district advisory boards, contribute to the continued flow of benefits from the land by their deep and abiding interest and advice in their wise use and management.

As we enter into this challenging decade it is to the future we must look and there is much for us to do. To look at the future, we might return to the past and recall the observations of Congressman Burton French of Idaho speaking February 7, 1933, on the floor of the House on H.R. 11316, a forerunner of the Taylor Grazing Act.

As I see it, however, the astounding value of the public domain lies in uses that have been overlooked, for the most part, in the discussions that have occurred upon this subject. These uses are as watersheds and for the control of stream flow, uses as deterrent to floods, uses for natural storage for irrigated lands, uses for game and for recreation, uses for forage and range, uses as forest areas, and finally, uses as gigantic regulators of climatic conditions of interest alike to the people under reclamation projects and in rainfall belts. Indeed, the values of these lands are such that the welfare and prosperity of the people of a mighty empire are dependent directly upon the fidelity with which the lands that we call the public domain are administered.

Watersheds are often of more value to other States than to the one in which they are situated. The people of the Mississippi Valley have a more vital interest in the watersheds that feed the tributaries of the Father of Waters than the people of the upper reaches are conscious, at least, that they possess. The people of the Nation have a constant interest in an adequate supply of timber, in game life, in expanses of domain for recreation. They have an interest in the control of the range and in forest control and management. They have an abiding interest in the value of the range for watershed with all that it means for reclamation, for flood control, and for modification of climate.

Congressman Burton French closed his support for the concepts of the Taylor Grazing Act saying:

The greatest benefits that will flow out of the public domain will go to the people of the country regardless of State lines, and most of those benefits are of such character that they can not be measured in money values from year to year. It may well be that the necessary cost of administering the public domain will be far in excess of the fees or other items of income that would be assessed properly against the land within a State if the areas were under state control.

Each era of public land management has been marked by its achievements. After the Taylor Grazing Act was enacted in the 1930's, Ferry Carpenter, its first administrator, charted new routes to reach its goals. In the 1940's BLM was created as a public land agency and some of the diverse programs of these public lands were placed under one administration. In the 1950's the congressional policy on the Outer Continental Shelf was determined, and BLM, under Ed Woozley, was assigned important leasing responsibilities.

In the 1960's the Public Land Law Review Commission undertook a comprehensive review of policy, law, regulation, and administration of the public lands. This 5-year study of the thousands of laws, administrative orders, and policies dealing with the 755 million acres of public lands was completed in mid-1970 with publication of the Commission's report, "One-Third of the Nation's Land."

Many bills growing out of this study are already before the Congress and much significant legislation will be enacted during this decade. The House Interior Committee will devote all of next week to public hearings on a broad basic policy bill introduced by Congressman WAYNE ASPINALL, who also chaired the Public Land Law Review Commission. The Senate Interior Committee has been considering far-reaching land-use policy legislation, and later this fall will consider Senator HENRY JACKSON'S Public Domain Lands Organic Act of 1971. Bills have also been introduced to reform our grazing and mining laws.

Hence, this decade, when BLM enters its second quarter century, is destined to be a significant one for both the administrative agency, the public domain, and the public land States. It is also a major challenge to the Congress, as we work with President Nixon and Secretary Morton in this mutual effort to reform public land policy and structure to meet the future needs of Americans.

A DOUBLE LESSON

Mr. HARTKE. Mr. President, the action last week of the House Foreign Affairs Committee cutting off aid to the repressive Governments in Greece and Pakistan furnishes additional proof that the Congress is in no mood to repeat the mistakes which led us into the Vietnam tragedy. As in Vietnam, our present aid policy in both Greece and Pakistan is rooted in short-term strategic considerations to the exclusion of what should be our long-range commitment to the restoration of humane and constitutional governments in these two ravaged countries. Happily, the House Foreign Affairs Committee has acted with foresight in recognizing that a simplistic foreign policy based solely on military considerations ultimately benefits neither the recipient countries nor the United States.

Last Sunday the New York Times noted that the action of the House committee went a long way toward restoring "a long absent balance between the executive and legislative branches in foreign affairs." I share this judgment and am hopeful that this critical House action will be repeated in the Senate.

Mr. President, I invite the attention of Senators to the Times editorial and ask that it be printed in the RECORD.

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

A HOUSE COMMITTEE REBELS

A majority of the House Foreign Affairs Committee has finally rebelled against stale and spurious arguments of the Defense and

State Departments and voted to cut off aid to the military regimes of Greece and Pakistan. Rather than attempting feverishly to overturn the decision in the full House, the Nixon Administration should try to understand what this usually docile committee majority was telling it with these votes.

Chairman Thomas E. Morgan and Colleagues of both parties were endeavoring first of all to reassert the proper role of this committee in the shaping of foreign policy. The Administration henceforth can expect many more such challenges from both houses as Congress strives to restore a long-absent balance between executive and legislative branches in foreign affairs.

Secondly, the majority was rejecting the notion that it is always unwise for the United States to rock the diplomatic boat by suspending military or economic aid to dictatorships that fail to make good their commitments to their own oppressed people. In voting to cut off nearly $132 million in aid to Pakistan, the committee was taking a stand previously advocated by the World Bank in light of the Yahya Khan regime's bloody repression in East Pakistan. Aid could be resumed under certain conditions but in any case the cutoff would not bar the use of $100 million approved earlier by the committee for refugee relief.

Action to halt aid to Greece resulted directly from testimony last week before a Foreign Affairs subcommittee headed by Representative Benjamin Rosenthal of Queens. Here some members learned, evidently for the first time, that the 1967 coup had not been an action of military leaders to head off Communism, as so frequently represented, but "an open mutiny within the armed forces and a rebellion by those mutineers against their King and the constitutional Government of Greece."

The man who said this was Col. Oliver Marshall, now retired, American Defense and Army attaché in Athens, 1963–67. He sees "the greatest danger to future Greek-American and Greek-NATO relationships" in the widely-held belief that "the United States supported this military mutiny and continues to do so." In other words, by sustaining the junta this country will jeopardize its own and NATO's security rather than protect it.

Colonel Marshall advocated an all-out effort to convince Greeks that the United States does not back the junta and to persuade the junta to keep its promise to restore democratic government. Contradicting the State-Pentagon line, he said this effort should take priority over "our immediate military needs on Greek soil."

In the Greek case, the President can resume aid if he reports to Congress that the overriding security requirements of the United States justify it. Even then, however, the military aid would be resumed at the current annual level of $80.3 million rather than the $118 million the Administration requested.

The Foreign Affairs Committee has projected the national interest on a broader canvas than that employed by the State and Defense Departments. It would be foolhardy for the Administration to ignore the meaning of its actions.

CAPTIVE NATIONS WEEK

Mr. JAVITS. Mr. President, every year since 1959 Americans have designated the third week in July as Captive Nations Week to express concern for Eastern Europeans under Communist control, and we as Americans at this time should commend the spirit which has sustained them in their continuing struggle and rededicate ourselves to the restoration of their freedoms.

The fundamental human rights of equal justice, human dignity, and individual liberty—which are our constitutional heritage—elude one-half of Europe's people. The brave endurance of these people and their persistent quest for liberty command our deepest sympathy and support.

In view of relaxing tensions between the United States and the Soviet bloc and efforts toward unity in Western Europe, we should renew our commitment to freedom in Eastern Europe. We need not accept as a condition for normalization of relations the continued domination of the Soviet Union over the Eastern Europeans, but rather should urge the evolution of Eastern Europe out of its present "satellite" posture, as free and independent nations.

The Polish food riots in December, the struggle of Czechoslovakia in the face of the Soviet military occupation and earlier movements in Hungary, Poland, and East Germany, reflect the Eastern Europeans' courage and determination. This week, we renew our support of their efforts to regain the inalienable basic rights of freedom and self-determination which we so highly prize in Americans.

TWENTY-FIFTH ANNIVERSARY OF THE NATIONAL PETROLEUM COUNCIL

Mr. McGEE. Mr. President, a few nights ago, here in Washington, I attended a distinguished gathering marking the 25th anniversary of the creation of the National Petroleum Council.

Created in 1946 in order to provide advisory information to the Department of Interior, the Council has for a quarter of a century distinguished itself in service to the country. The rollcall of its members is the rollcall of a group of dedicated Americans who are knowledgeable about their industry and the important role it plays in the Nation's security and stability. We in Wyoming, Mr. President, are especially pleased with the quality of leadership representatives of our State's petroleum industry have given to this organization from the outset. Today, H. A. "Dave" True, Jr., of Casper, Wyo., serves as its vice chairman. Other Wyomingites active in the National Petroleum Council include Glenn E. Nielson of Cody, one of its more senior members in length of service, Thomas F. Stroock of Casper, and Richard Keith Lisco of Casper.

Mr. President, I ask unanimous consent that a part of the National Petroleum Council's 25th anniversary dinner program be printed in the RECORD.

There being no objective, the excerpt was ordered to be printed in the RECORD, as follows:

TWENTY-FIVE YEARS

What do you say about an experiment? Possibly discuss why it came about. Definitely tell whether or not it has succeeded. Emphasize the good that has come of it. Give recognition to those who made it a success. Recommend whether it should be continued.

As an experiment, the National Petroleum Council has been a success . . . possibly beyond expectations. It was innovative in 1946 when the President of the United States suggested that the Secretary of the Interior establish the Council . . . probably a little bold for the times. Today it is still unique, not quite so bold in these modern times, but a solid success.

The idea of an advisory body is not particularly new. Leaders of government have sought the counsel of experts throughout the ages. An advisory body on a permanent basis to a leader in the U.S. Government, however, was largely untried, except in times of war.

The idea of an advisory body to the Secretary of the Interior, focusing on an industry deeply involved in the security and well-being of the nation, worked in times of war . . . why not in times of peace—hence the National Petroleum Council.

Studies for the government by committees and councils seem to be inherent in the extremely difficult process of good government. The National Petroleum Council also does studies, but at the request of the Secretary of the Interior, in order to help solve a problem, prepare for emergencies or look to the future.

After twenty-five years it might be possible for an advisory group to grow out of touch with the times, lose its drive, or become set in its ways . . . most seem to last only through one study. Interesting that the Council has been active through nearly 200 studies . . . and taken on new significance, not less.

Issues of importance to the nation are dealt with squarely by Council study groups . . . by no means always in agreement with the views of Government, but hopefully always fair and always concerned.

Twenty-five years has seen many distinguished, dedicated and sincere leaders in the industry come and go as members of the Council. All of them have tried to do something good for their industry and their nation.

That's really what the National Petroleum Council is anyway—in an age when not only government, but also industry in general is much maligned and misunderstood, it is something good about an industry.

CAPTIVE NATIONS WEEK

Mr. DOMINICK. Mr. President, for the last 12 years, beginning with a presidential proclamation by the late President Dwight D. Eisenhower, the United States has observed Captive Nations Week in remembrance of the struggle of the peoples of Eastern and Central Europe for the sovereignty denied them for two decades by the Soviet Union. Unfortunately, our observance of Captive Nations Week has too often been a passive denunciation of Soviet subjugation of these formerly independent peoples, a reiteration of our commitment to their future freedom, and not much more than a kind of anniversary celebration of historical events.

In recent weeks, I have been talking about the United Nations as an instrument of peace and have cited its worthwhile goals as set forth in its charter, which reads in part:

To reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained.

In my previous remarks on the U.N., I have been addressing the folly of admitting a government which has con-

tinually demonstrated its unwillingness to live up to the terms of the charter. But we cannot ignore the fact that a charter member of the United Nations, the U.S.S.R., is also violating the principles under which the world body was established, and this is the very reason that Captive Nations Week is necessary. Therefore, it is time to urge that the United States and all members committed to the principles of the United Nations Charter take a strong position against the continuing actions of the Soviets in depriving the nations of Eastern and Central Europe of their legitimate autonomy.

Just one example of the violations of which I speak is the Soviet-led invasion of Czechoslovakia in 1968. By this action, the U.S.S.R. flagrantly superseded the principles of international law as incorporated in the U.N. Charter in the following ways:

First, violated the sovereignty of a member state of the United Nations—article 2, section 1;

Second, violated article 2, section 4, prohibiting the use of military force in the relations between individual members of the United Nations;

Third, violated the principle of self-determination of peoples—article 1, section 2;

Fourth, was in conflict with a number of resolutions of the General Assembly of the United Nations, particularly resolution 2131 (XXI) adopted at the meeting of December 21, 1965, upon the Soviet Union's own motion. This resolution prohibits intervention in the domestic affairs of any state, and it guarantees the protection of its independence and sovereignty.

The Soviet invasion of Czechoslovakia is another crime against the right of a small country to determine its own destiny and aspirations. Over the years, Poland and Hungary have served as similar examples of oppression, both economically and culturally.

At a time when the United States is putting strong emphasis on opening communications with former adversaries in hopes that it will lead to world peace, we must not forget that many so-called sovereign states are being denied that same right. An enduring peace in the community of nations can only come about when the Captive Nations take their rightful place in the world as sovereign and independent states. If they remain economic and social pawns of the Soviet Union, they perpetuate a degradation of international law and make a mockery of the United Nations and its charter.

SECRETARY STANS OFFERS ENERGY SOLUTION

Mr. HANSEN. Mr. President, it is gratifying that what has variously been termed the U.S. energy problem, the energy crunch, and the energy crisis is receiving more and more attention from the press, the Congress, and the President and his advisors on energy.

Last month the President sent an energy message to Congress that emphasized the urgency of both long- and short-term planning and a concerted effort by both Congress and the executive if this Nation is to continue as the world's industrial leader.

The growth rate necessary to provide the jobs for the millions of new workers coming into the job market each year can be provided only by ample and dependent energy to power the engines of industry and the wheels and wings of progress.

Our total strength will reflect the industry, the jobs and the services we are capable of sustaining in the United States. America proved long ago that power is the result of brains and energy applied to natural resources.

The Nation is still bountifully blessed with natural resources including oil and gas which provide 75 percent of our energy and must for the foreseeable future continue to furnish the largest share.

Last week the National Petroleum Council conducted its 25th annual meeting in Washington and issued its initial appraisal of the U.S. energy outlook through 1985.

Volume 1, a summary of a comprehensive study of environmental conservation problems as they relate to or have an impact on the petroleum industry, was issued at that meeting.

The results of the initial appraisal, the report said, "particularly towards the end of the period, 1985, are not attractive."

The report continued:

> Fortunately our basic potential energy resources, particularly for coal, nuclear fuels, petroleum liquids and natural gas, are very large and could support much higher levels of output than projected in this initial appraisal.

Warning of a sharp rise in national dependence on foreign energy sources and an acute shortage of gas if U.S. Government policies and the economic climate in the energy industries do not change significantly, the report said, however, that the United States can maintain an adequate energy base. Forthcoming reports will develop analyses of changes in industry and/or Government programs and policies necessary to maintain energy self-sufficiency.

Secretary of Commerce Maurice H. Stans, who has long been an advocate of ample and dependent energy for the Nation, put the issue of environment and the antipollution movement in its proper perspective during the NPC meeting.

The title of his speech before the council was "Wait a Minute."

Secretary Stans' speech is one of the most realistic I have heard and I believe, in view of the continuing controversy of progress versus the environment and the responsibility of the Congress to do its part to insure the Nation's welfare and security, all Senators could benefit from the most excellent analysis Secretary Stans has made of the problem.

As the able Secretary said in his speech:

> But what I am talking about is the necessity to recognize that the pollution problem exists in a real world, and it calls for balance and objectivity.

His speech gave the issue that balance and objectivity.

Mr. President, I ask unanimous consent that the text of Secretary Stans' speech be printed in the RECORD.

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

WAIT A MINUTE

(Address by the Honorable Maurice H. Stans, U.S. Secretary of Commerce)

Mr. Brockett, members of the National Petroleum Council, I am very pleased to be with you this morning, to share this podium with my Cabinet colleague, Secretary Morton, and to talk to you about one or more of the matters affecting your industry.

You are the leaders of a great industry which is a very key element in the American economy and as Secretary of Commerce during the last two years I have regarded it not only as a duty of my office but as a special privilege to work with you, your associates and members of the industry in many matters of importance to the country.

I suppose your relationships with the Interior Department are more direct than those with Commerce, but my interest in your industry is no less for that fact. The oil matters in which I have participated in one way or another, and the general prosperity of your industry, are both part of the total overall economy.

America runs on oil, so you and the country have concerns and responsibilities that inevitably interrelate and intertwine.

When I was asked to speak today, I was told I could talk on any subject of my choice. I realize that Secretary Morton has already covered many of the topics that would be of interest to you—energy policy and matters of that type—and for that reason I would like to take a broader subject to explore, one that is of direct interest to your industry but that also has an extension far beyond the oil industry and relates to American business throughout the economy.

I am speaking of the matter of environment and the antipollution movement in the country. It is a very emotional one in many quarters. It is a political one in many quarters. The public is demanding action; actively, vocally, impatiently, demanding immediate action. And this is what presents the difficulties.

Now, we all know that the environment ultimately has to be cleaned up, that pollution has to be dealt with.

President Nixon has declared that the nation has been long overdue in halting its abuses of the air, land and water. He has made a commitment to eliminate pollution and to cleanse the atmosphere and conditions in which we live.

The question is, how do we go about doing this? And in the most sensible way?

PRIORITIES

Understandable as the public's interest is for immediate solutions, and justified as the impatience of the public may be, we have the obligation to see the problem in the whole, not just piecemeal.

We cannot have single track minds in which the environmental issue overrides everything. But that is how some of the people would have us look at our problems.

If we settle for quick, immediate solutions to one set of problems, we can catapult ourselves into others that are much more serious, and we are beginning to find that out.

So we have to begin to look a little farther down the road.

I think it is high time for the entire nation to weigh the needs against the demands and say: "Wait a minute, what are our priorities?

We need to weigh the requirements against our resources and say: "Wait a minute, which can we afford? Which can we achieve?"

We need to weigh technological capabilities

against the timetables and the options and say: "Wait a Minute, how can we get there from here?"

We need to weigh environmental goals against economic reality and say: "Wait a Minute, how do the benefits compare with the costs?"

PROBLEMS

In other words, the problem is: how do we develop public and private policies in which economics and technology are factored into every environmental assessment?

Let me start at this point.

Industry has been indiscriminately accused by some of ignoring the pollution problems of our times and being responsible for most of them.

The charge is dead wrong and it is unfair.

The fact is, without denying industry's share of the blame, that many of the worst polluters are outside of industry—municipalities, other governments, agriculture, and the public itself. Witness the fact that hundreds perhaps thousands of American communities pour untreated sewage into waters every day.

RESPONSE

Moreover, American industries, almost across the board, have launched vastly complex and expensive efforts to help clean up the air, water and landscape of the country.

For example:

The chemical industry in 1970 spent $600 million for pollution abatement.

The iron and steel industry has spent more than a billion dollars on air and water facilities, and almost two-thirds of that in the last two years.

The automobile industry currently is investing a quarter of a billion dollars a year in pollution research and development.

The electric industries will spend two-thirds of a billion dollars on pollution control this year alone.

Your own petroleum industry is spending more than $500 million in pollution control this year, and in addition is developing expensive facilities in other countries to reduce the sulphur content of fuel oils being shipped here.

The oil and tanker industries are working closely with the government to eliminate oil discharges and accidental spills into the oceans.

The fact is that, on average, American companies will have increased their pollution control spending by almost 50 percent this year over last year. They will spend some $18 billion over the next five years to meet the requisite standards.

Unfortunately business has failed to make these achievements credibly known to the American people, and the idea still persists in many quarters that business is doing nothing and what it does do is only because it is being dragged across the line. Neither is true. Business has been working at pollution control for a long time.

PRESSURES

So we have come to a troubled time by a very direct route.

Critics press the public to insist upon quick solutions to these complex problems.

The people, in turn, press the Congress. Timetables have been imposed, and regulations applied, giving some people a false feeling that the problems will all go away if we only put enough squeeze on business to act.

The trouble is that in the development of these pressures reason sometimes gets lost and extremes become the result.

Many of the results have been beneficial to be sure, but some have been ill-conceived and harmful to people, to business, and to the country.

PHOSPHATES

I would like to give you a few examples, starting with detergent phosphates—the washday ingredient that has recently come to typify the pollution villain.

State and local governments all over the country have begun to ban the sale of detergent phosphate on a crazy-quilt basis, geographically.

But in the rush, perhaps someone should say: "Wait a Minute, what are we really doing here?"

Laws to ban phosphate detergents may give the public the notion that the problem is solved, while nutrients, including phosphates, continue to flow into the lakes and rivers from other sources—agricultural and natural as well as manmade. And some of these cannot be controlled.

So if people assume that just a legal ban on phosphate detergents will do the job, they may only lull themselves into negelecting far more significant scientific efforts to help purify our waters through phosphate removal techniques in municipal waste treatment plants.

DANGERS

Then—and this is perhaps even more important—some hastily devised phosphate substitutes can be more harmful and dangerous than many people believe the phosphates are.

One substitute developed by manufacturers at a cost of many, many millions of dollars, was temporarily put aside at the request of the government because there were concerns it might create some health hazards. Additional safety tests are now being completed and the situation may be changed.

But some of the other substitutes now reaching the public contain caustic materials that are dangerous, especially to children. If those products get in their eyes, they can blind—or if they are accidentally ingested, they can maim or even kill.

To limit these risks, the FDA has instituted labeling requirements for caustic detergents.

Unfortunately, the fact is that small children creeping on the floor next to the washing machine can't read those labels.

Some chemical substitutes for phosphates also wash out the flame-proofing in children's cotton sleepers which the textile industry has been working hard to develop.

Now, my purpose in citing these points is not to defend phosphates, or the industries that use them, or the products that contain them.

Instead, it is a way of saying:

"Wait a Minute." Before we rush helter-skelter into immediate responses to such problems of nationwide concern, isn't it prudent first to take the time to know what we are doing? To weigh all the factors and the consequences involved?

POWER PLANT SITINGS

For another example, take the siting of new electric power plants.

It is all too familiar to many of you, I am sure. If anything, it is even more difficult than siting new refineries.

The nation's need for more electric power is rapidly outrunning our capacity to generate it. The answer would seem to be simply to build more power plants.

But in many areas of the country it has become almost impossible to do so. As many as 40 approvals may be necessary, many of them involving environmental grounds, and even the last one can be reversed as easily as the first.

We all know that New York City has had these troubles for years.

Houston is another case in point. It has all the ingredients of growth except enough electric power. But it can't start to build a new generating plant it urgently needs because the effluents, even after costly cooling, would raise the temperature of the waters that receive it some two degrees above the temperature that would support present marine life.

Isn't it time someone said: Wait a Minute.

If we fix the right priorities—if we integrate our environmental, technological and economic interests—*all* of them can be served without one dominating the other.

The President has urged the Congress to enact legislation to resolve the power plant siting problem, and wants public agencies designated to assure public discussion of plans, proper resolution of environmental issues and timely construction of the facilities.

DDT

Another case at point is insecticides.

We all know there are valid arguments against some of them, but in the rush away from them, we can create massive new problems.

For example, in New Jersey, without DDT, more than one million oak trees have been blighted and face destruction by the Gypsy moth.

Without DDT, forest insects are running rampant in Sweden, eating away the raw material of that country's biggest industry.

In Ceylon, without DDT, malaria cases have become far more prevalent, involving 10 percent of the population. Without DDT in India there would be 100 million cases of malaria each year instead of a few hundred thousand.

In parts of the United States, without DDT, insects have made it increasingly difficult to grow lettuce, lima beans, sweet corn, and so on.

Now, in time, perhaps, substitutes for present insecticides can be developed and proved out. But in the meantime, most of the substitutes are uncertain or don't even exist.

The whole question is whether by precipitous action we will create an expensive gap between the present means and the later solutions.

Again, this is not a brief for DDT. This is just a way of saying:

Wait a Minute. Before we act precipitously and ban products for one reason, shouldn't we at least be certain that the cure is not worse than the disease?

ONE-INDUSTRY TOWNS

What about one-industry towns? Today a growing number of small communities across the country are fearful that they will lose their economic life if their single sustaining industry is forced to close, either because of rigid environmental protection controls or because they can't cope with the economic cost of complying.

Isn't it time for someone to say "Wait a Minute"?

Are the environmental dangers so imminent, so critical, that we have to throw thousands of productive people out of work? Are the dangers so great, so immediate, that whole communities must be run through the economic wringer?

Isn't it time that we first measure all the evidence, recognizing legitimate concerns on the one hand, weighing them fairly against valid considerations on the other, then act reasonably and carefully to protect both the environment and the jobs? It may take a bit longer but the end result would be far more satisfactory.

SST

For another example, Congress killed the SST.

But shouldn't we as a nation have said "Wait a Minute"? Are we so afraid to build just two experimental airplanes that we would willingly sacrifice thousands of jobs, jeopardize the economic health of an entire city, forgo the technological advantage of an entire industry, and deny major benefits to our balance of payments?

Isn't it time we weigh our potential against the risk in every reasonable case?

PIPELINE

What about the Trans-Alaska Pipeline? Some of you have an interest in that.

Again, people have said, "Let's not build it because of the possible adverse consequences to the environment."

No one suggests that we ignore these possible dangers. Everyone agrees that we must take every known precaution to protect the environment.

But there is another side of the coin, the nation's need for the oil and the benefits to Alaska.

Isn't it time somebody says on things like this, "Wait a Minute"?

We already have the technological means to provide reasonable protection against dangers to the Alaskan environment. Are we so afraid of what might happen that we will sacrifice the enormous new sources of oil we need for our homes, our cars, our jobs, our country? Will we sacrifice potential jobs for thousands of people who would be employed in the shipping industries, in Alaska and elsewhere? Will we turn our backs on all of the economic benefits to that state and to the country?

The risks are recognized, but isn't it time we recognize that other considerations also must be taken into account in the national interest?

EMISSION STANDARDS

And what about the tougher emissions standards for transportation? Certainly they should be sought and should be achieved.

But—wait a minute—in the past decade the amount of hydrocarbons given off by an automobile has already been reduced by 80 percent, carbon monoxide emissions by 70 percent. And with existing capabilities, these improvements can continue.

But a mandatory standard of the Clean Air Act demands a 90 percent reduction below the remaining emission levels by 1975.

For hydrocarbons, that level is as much as foliage gives off in the average yard of the average American home in the average suburb.

One person has estimated that every car would have to be parked for two days after getting its tank filled—literally—because gasoline going from the pump to the car gives off at least twice the daily allowable hydrocarbons for that car.

Spreading one ounce of house paint uses the same daily quota of hydrocarbons.

Burning up two logs on the fireplace likewise uses the daily quota.

The list of examples could go on.

The Environmental Protection Agency report to Congress last week said that we do not have the technology to comply with some of the standards that have been set in accordance with law.

To try to achieve these standards will result in millions of dollars of added costs, which inevitably have to go into higher consumer prices.

If we try to solve our environmental problems more quickly than our technology permits, not only will we raise costs sharply and suddenly, but we will also increase the number of false steps that we take along the way. The incomplete state of our knowledge leads directly to pitfalls that can't be foreseen.

So isn't it time to say: Wait a minute. Let's weigh each need against the technological realities and let's not impose any more arbitrary deadlines that can't be met with the technology in sight.

Let's do the things we can do first, while making orderly progress against the others.

OFFSHORE DRILLING

What about offshore drilling? Certainly we should take every possible practical step to stop polluting the oceans.

But—wait a minute.

Before we make offshore drilling too difficult let's recognize that by the end of this decade, offshore wells will have to provide 30 percent of our oil. And it will also provide much of the low-sulphur fuel that is urgently needed for clean air.

PROPOSALS

As all of you know so well, there are many other matters which we could cite and say "Wait a Minute." These examples make the point.

Let me give you some specifics as to guidelines in dealing with these matters in the future.

First, a determination of the economic impact should be required before environmental acts are mandated.

The public must know what the costs will be, what the alternatives are, and whether it will get its money's worth.

Second, a technological determination should be prepared in connection with any governmental action, indicating the time required to carry it out.

Third, we must avoid panicky, ad hoc approaches to the problems of air, land and water pollution, and develop feasible, long-range plans to deal with them on a balanced basis of regular, gradual improvements, always with consideration of the public interest and of the economic and technological factors involved.

Fourth, government should study whether companies and industries can finance the improvements that they are being required to make without prejudice to their financial security or their normal capital improvements, and consider whether assistance might be required.

Fifth, the Congress should be urged to support all of the President's environmental improvement plans relating to other than the business areas, so that industry's progress will be matched by progress in municipal disposal and other nonindustrial pollution problems.

Sixth, coordinated methods should be developed for governments to reach prompt and conclusive decisions on power plant locations, as proposed by the Administration, in order to end those critical delays.

And finally, antitrust attitudes should be reviewed to determine the possibility of cooperative industry attempts, working together to resolve environmental problems.

OBSERVATIONS

Let me add this set of simple observations before I finish.

First, none of the major problems we face can be resolved instantly. All of them are too complex. They call for long-range programs and careful consideration of priorities and financing.

Second, business alone cannot be held responsible for all of our pollution. The burdens of responsibility and cost must be shared by all levels of government, by agriculture and by the public.

And third, the technology we need in order to solve our problem must still be developed in many fields. We have a tremendous flow of uncoordinated, uncertain, imprecise data about the environment, and industry faces a severe shortage of environmental engineering specialists.

Fourth, we have to achieve greater conformity of state and local actions dealing with pollution control before we bog down the whole country in conflicting regulations and deadlines.

MANKIND

Finally, we have to recognize that even our manmade problems, in some instances, are essential to satisfying human existence on this planet. After all, every new birth brings us instantly a new polluter. But even the most ardent of the environmentalists have yet to call for "no new starts" there.

Here again I suppose we could say, "Wait a Minute."

But what I am talking about is the necessity to recognize that the pollution problem exists in a real world, and it calls for balance and objectivity.

I can reduce it all to absurdity:

If we had no cars on the street, there would be no automobile pollution.

If we built no power plants, we would have no pollution from utilities. If we had no phosphate detergents, we would have no pollution of our waterways, and so on.

But what kind of country would we have left?

The line between that kind of nonsense and the kind of sense we need to resolve the problem requires a sense of reality in dealing with the economic and technological factors, and with the impatience of those who would like to clean up the country overnight.

CONCLUSION

The time has come to bring these things into focus and stop overheating the view that we are killing ourselves today.

Without pause or equivocation, we must continue to halt pollution of the world, but we must do it realistically, soundly.

I have support for this point of view from people like Dr. Philip Handler, President of the National Academy of Sciences, who just a few weeks ago said this: "My special plea is that we do not, out of a combination of emotional zeal and ecological ignorance, romanticizing about the 'good old days' that never were, hastily substitute environmental tragedy for existing environmental deterioration. Let's not replace known devils by insufficiently understood unknown devils."

So all we seek fundamentally in all these considerations is a balancing of values, a weighing of proper priorities, a measuring of the costs against benefits.

And, gentlemen, if we approach our problems in that spirit of balance and fairness, we can meet our ecological needs, clean up the country, and do so without undue economic risks for anyone, all within the framework of continued technological progress.

That is the way I think we ought to do it.

STATE DEPARTMENT APPROPRIATIONS FOR FISCAL YEAR 1972

Mr. KENNEDY. Mr. President, in at least one important respect, the legislation we passed yesterday was as significant for what it omits as for what it contains. The omission offers a noteworthy footnote to President Nixon's dramatic recent announcement of his proposed visit to China.

Until now, for 18 successive years, the State Department Appropriations Act has contained a general provision, always in the same unchanging language, that has read as follows:

> It is the sense of the Congress that the Communist Chinese Government should not be admitted to membership in the United Nations as the representatives of China.

Now that provision is gone, quietly struck out of the bill on a point of order raised on the floor of the House of Representatives a month ago by Representative SIDNEY YATES, of Chicago.

As the accompanying table indicates, for the past 14 years, the provision has appeared as section 105 of the State Department Appropriation Act. It first saw life in June of 1953, when Senator Styles Bridges of New Hampshire, the chairman of the Appropriations Committee, offered the provision as a Senate floor amendment to the appropriations bill of that year. Senator Bridges' amendment was essentially identical to a Senate resolution introduced by Senator MCCLELLAN at the beginning of the previous Congress, and approved by the vote of 91 to 0 on January 23, 1951.

As in case of the McClellan resolution, the Bridges amendment was unanimously and overwhelmingly adopted in the Senate—by the vote of 76 to 0 on June 3, 1953. Twenty other members of the Senate, absent for the vote, recorded themselves that day in favor of the provision.

Long after the passions of the Korean war had subsided, section 105 lived on in the annual appropriation bill as a silent reminder of a bygone era. It was never discussed in the Senate or House reports, and it was rarely mentioned in the floor debates. Now, at last it has passed quietly from the scene, and almost no one mourns its loss.

I ask unanimous consent that the table be printed in the RECORD.

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

LEGISLATIVE HISTORY OF SECTION 105 OF PAST STATE DEPARTMENT APPROPRIATION ACTS

Fiscal year	Bill	Public Law	Date signed	Section
1972	H.R. 9272			(1)
1971	H.R. 17575	91-472	Oct. 21, 1970	105
1970	H.R. 12964	91-153	Dec. 24, 1969	105
1969	H.R. 17522	90-470	Aug. 9, 1968	105
1968	H.R. 10345	90-133	Nov. 8, 1967	105
1967	H.R. 18119	89-797	Nov. 8, 1966	105
1966	H.R. 8639	89-164	Sept. 2, 1965	105
1965	H.R. 11134	88-527	Aug. 31, 1964	105
1964	H.R. 7063	88-245	Dec. 30, 1963	105
1963	H.R. 12580	87-843	Oct. 18, 1962	105
1962	H.R. 7371	87-264	Sept. 21, 1961	105
1961	H.R. 11666	86-678	Aug. 31, 1960	105
1960	H.R. 7343	86-84	July 13, 1959	105
1959	H.R. 12428	85-474	June 30, 1958	105
1958	H.R. 6871	85-49	June 11, 1957	105
1957	H.R. 10721	84-603	June 20, 1956	110
1956	H.R. 5502	84-133	July 7, 1955	110
1955	H.R. 8067	83-471	July 2, 1954	110
1954	H.R. 4974	83-195	Aug. 5, 1953	111

[1] No provision.

RUSSIA DENIES JEWISH EXODUS

Mr. PROXMIRE. Mr. President, the Government of the Soviet Union has taken another step to sabotage the Soviet Jews' struggle for freedom. According to last night's Washington Star, the number of Soviet Jews leaving Russia dropped from an average of 36 a day to an average of five a day.

The Soviets are selling freedom. In order to leave the Jews must pay 4,000 rubles or $4,440—3 years' wages for the average working man—for the required documents.

This is just one more step by the Soviets in their campaign to persecute the Jewish population in that country. Although the Soviet Union is trying to convince the world that it does not discriminate against Soviet Jewry, the facts prove differently. As long as the world sits back and idly watches, the Russian Government will continue its "anti-Jewish" campaign. This body must do everything in its power to assist the Soviet Jews' move toward freedom.

I ask unanimous consent that the article from the Evening Star be printed in the RECORD.

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

JEWISH EMIGRATION CUT BY SOVIET LAID TO ARABS

Moscow.—The Soviet government has drastically reduced Jewish emigration to Israel, cutting the number of daily departures from an average of 36 to 5.

Unofficial Soviet sources blamed the new restrictions on Arab criticism and on a bureaucratic snarl that developed after emigration was greatly increased in March.

The Soviet Union's Arab allies were upset over the increased flow of Russian Jewish emigrants, fearing they were swelling the ranks of Israeli military units.

The informants said the low level of emigration is likely to continue until the department that handles the emigrants is reorganized to take care of the load.

Meanwhile, Jewish sources reported that the Jews who do get out are being required to pay 4,000 rubles—$4,440 at the official rate—for exit visa, passport and renunciation of Soviet citizenship. And one source said the government is now confiscating the deposits of Jewish emigrants in the state savings program, which takes 10 per cent of all salaries.

"We have managed so far, and we will not let that stop us," said one Jewish source.

In March the Soviet government allowed Jewish emigration to increase from 83 to 1,500 a month following Jewish demonstrations in Moscow and international criticism of the trial of 10 Jews who planned to hijack a plane to get to Israel.

FEDERAL ELECTIONS CAMPAIGN ACT OF 1971

Mr. MANSFIELD. Mr. President, I move that the Senate turn to the consideration of Calendar No. 223, S. 382, so that it may become the pending business.

The PRESIDING OFFICER (Mr. CASE). The bill will be stated by title.

The ASSISTANT LEGISLATIVE CLERK. A bill (S. 382) to promote fair practices in the conduct of election campaigns for Federal political offices, and for other purposes.

The PRESIDING OFFICER. The question is on agreeing to the motion of the Senator from Montana.

The motion was agreed to and the Senate proceeded to consider the bill which had been reported with amendments.

Mr. PASTORE. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. The Senator will state it.

Mr. PASTORE. Mr. President, what is the pending business?

The PRESIDING OFFICER. The pending business is S. 382, the Federal Elections Campaign Act of 1971.

Mr. PASTORE. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. CASE). Without objection, it is so ordered.

ORDER FOR ADJOURNMENT UNTIL 9:45 A.M.

Mr. BYRD of West Virginia. Mr. President, I ask unanimous consent that when the Senate completes its business today, it stand in adjournment until 9:45 a.m. tomorrow.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER FOR RECOGNITION OF SENATORS MAGNUSON, JACKSON, AND SYMINGTON TOMORROW

Mr. BYRD of West Virginia. Mr. President, I ask unanimous consent that, after the recognition of the two leaders under the standing order tomorrow, the following Senators be recognized, each for not to exceed 15 minutes, and in the order stated: Messrs. MAGNUSON, JACKSON, and SYMINGTON.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER FOR TRANSACTION OF ROUTINE MORNING BUSINESS TOMORROW

Mr. BYRD of West Virginia. Mr. President, I ask unanimous consent that at the conclusion of the order recognizing Senators on tomorrow, there be a period for the transaction of routine morning business, with statements limited therein to 3 minutes, for not to exceed 30 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER TO LAY UNFINISHED BUSINESS BEFORE THE SENATE TOMORROW

Mr. BYRD of West Virginia. Mr. President, I ask unanimous consent that, at the conclusion of the transaction of routine morning business on tomorrow, the Chair lay before the Senate the unfinished business.

The PRESIDING OFFICER. Without objection, it is so ordered.

QUORUM CALL

Mr. BYRD of West Virginia. Mr. President, there will be no further votes today.

I suggest the absence of a quorum. I hope that it will be the last quorum call of the day.

The PRESIDING OFFICER. The clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. BYRD of West Virginia. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

PROGRAM

Mr. BYRD of West Virginia. Mr. President, the program for tomorrow is as follows: The Senate will convene at 9:45 a.m.

Following the recognition of the two leaders under the standing order, the following Senators will be recognized in the order stated, each for not to exceed

15 minutes: Senators MAGNUSON, JACKSON, and SYMINGTON.

At the conclusion of the remarks of the able Senator from Missouri (Mr. SYMINGTON), there will be a period for the transaction of routine morning business, with statements therein limited to 3 minutes, the period not to exceed 30 minutes, following which the Chair will lay before the Senate the unfinished business, S. 382, a bill to promote fair practices in the conduct of election campaigns for Federal political offices, and for other purposes.

Mr. MANSFIELD. Mr. President, will the Senator yield?

Mr. BYRD of West Virginia. I yield.

Mr. MANSFIELD. May I have the attention of the Senate? I think that the Senate should be informed that the joint leadership have taken it upon themselves to try to work out a time limitation on the pending business, and if that time limitation can be achieved, we hope that the Senate will go along with the joint leadership. Otherwise, I think we are going to be in quite a mess.

The Senate will recall that the joint leadership last week and earlier this week stated that the next order of business, following the disposal of the business today, would be S. 2308, a bill to authorize emergency loan guarantees to major business enterprises. The Senate will go out very shortly. In the meantime, we are trying to work out an agreement. I would hope that the Senate would exercise restraint, especially on the Democratic side, to give us a chance to work out of the impasse in which we find ourselves, because if there is going to be a stalling operation on either side, it will be the Senate that will suffer, and legislation which should be passed will perhaps not even be considered.

Remember, we are not going out definitely on August 6. We are going to come back; and I would hope that no one would take advantage of that month's vacation, recess, or absence to unduly delay legislation at this time.

I do not believe in filibustering, but if others want to speak, that is their business. As far as I am concerned, I ordinarily believe in cloture—not always—but I do think that we do have responsibilities affecting other pieces of legislation. The HEW appropriation bill will be reported shortly; the public works appropriation bill will be reported shortly; the Sugar Act extension will be reported shortly; and there will be other important legislation to consider.

So I plead with my colleagues on both sides of the aisle to use restraint and to look at the situation in which the leadership finds itself in trying to expedite legislation without impinging on the rights of any Member of this body. That is all I have to say.

ADJOURNMENT UNTIL 9:45 A.M. TOMORROW

Mr. MANSFIELD. Mr. President, if there be no further business to come before the Senate, I move, in accordance with the previous order, that the Senate stand in adjournment until 9:45 a.m. tomorrow.

The motion was agreed to; and (at 4 o'clock and 48 minutes p.m.) the Senate adjourned until tomorrow, Wednesday, July 21, 1971, at 9:45 a.m.

NOMINATIONS

Executive nominations received by the Senate July 20 (legislative day of July 19), 1971:

DEPARTMENT OF DEFENSE

Frank P. Sanders, of Maryland, to be an Assistant Secretary of the Navy.

FEDERAL POWER COMMISSION

Rush Moody, Jr., of Texas, to be a member of the Federal Power Commission for the term of 5 years expiring June 22, 1976, vice Lawrence J. O'Connor, Jr., term expired.

U.S. TAX COURT

William A. Goffe, of Oklahoma, to be a judge of the U.S. Tax Court for a term expiring 15 years after he takes office, vice Norman O. Tietjens, retired.

HOUSE OF REPRESENTATIVES—*Tuesday, July 20, 1971*

The House met at 12 o'clock noon.

Right Reverend Bishop Papken, Armenian Orthodox Church of America, Washington, D.C., offered the following prayer:

Almighty God, Father of all, make this glorious House of our Nation Your House.

Lead, enlighten, and strengthen the leaders of our country, and make them tools of Your divine will.

Giver of wisdom, plant in their hearts and minds not the love of power, but the power of love.

Put in their hands the sword of Your righteousness to fight the good fight as champions of peace and justice.

Save us from our external enemies as well as from internal killers such as disunity, racial hatred, from calamities of crimes and drugs and every kind of seen and unseen evils.

Thanks and glory to Thee forever. Amen.

THE JOURNAL

The SPEAKER. The Chair has examined the Journal of the last day's proceedings and announces to the House his approval thereof.

Without objection, the Journal stands approved.

There was no objection.

MESSAGE FROM THE SENATE

A message from the Senate by Mr. Arrington, one of its clerks, announced that the Senate had passed with amendments in which the concurrence of the House is requested, a bill of the House of the following title:

H.R. 9272. An act making appropriations for the Departments of State, Justice, and Commerce, the judiciary, and related agencies for the fiscal year ending June 30, 1972, and for other purposes.

The message also announced that the Senate insists upon its amendments to the bill (H.R. 9272) entitled "An act making appropriations for the Departments of State, Justice, and Commerce, the Judiciary, and related agencies for the fiscal year ending June 30, 1972, and for other purposes," request a conference with the House on the disagreeing votes of the two Houses thereon, and appoints Mr. MCCLELLAN, Mr. ELLENDER, Mr. PASTORE, Mr. HOLLINGS, Mr. FULBRIGHT, Mrs. SMITH, Mr. HRUSKA, Mr. FONG, and Mr. YOUNG to the conferees on the part of the Senate.

The message also announced that the Senate had passed bills of the following titles, in which the concurrence of the House is requested:

S. 635. An act to amend the Mining and Minerals Policy Act of 1970.

RIGHT REVEREND BISHOP PAPKEN, ARMENIAN ORTHODOX CHURCH OF AMERICA

(Mr. DANIELSON asked and was given permission to address the House for 1 minute.)

Mr. DANIELSON. Mr. Speaker and Members of the House, we are indeed favored today to have as our acting Chaplain, the Right Reverend Bishop Papken.

The bishop has been in the United States since 1946 and has been a citizen since 1951. Following his arrival in the United States, he served for several years in various parishes throughout the United States. He was head of the California diocese and the Armenian Church from 1957 to 1963. He was then head of the Pennsylvania diocese from 1963 to 1969, when he came to Washington and entered into his present duties.

He has made more than 10 trips to the Holy Land, and to Armenia, in furtherance of his ministry, and I am grateful that he can be with us here today.

"FISHBAIT" DAY

(Mr. SIKES asked and was given permission to address the House for 1 minute and to revise and extend his remarks.)

Mr. SIKES. Mr. Speaker, this is "Fishbait" Day, the gentleman whose stentorian tones and commanding appearance so often thrill the galleries and stir the House from its routine endeavors, is having a birthday. On today, the Honorable William M. Miller, Doorkeeper of the House of Representatives, is 62. For most people, that would be considered a lot of years, but not for the gentleman known by the remarkable sobriquet of "Fishbait." He is perennially young.

"Fishbait" has been a fixture of the Congress longer than just about anybody. He came in 1933, and that makes him about as permanent as anything around here except the Capitol Building itself. When I arrived as a new Member of the 77th Congress, he was already established