

FIRST USE OF NUCLEAR WEAPONS: PRESERVING RESPONSIBLE CONTROL

HEARINGS
BEFORE THE
SUBCOMMITTEE ON INTERNATIONAL SECURITY
AND SCIENTIFIC AFFAIRS
OF THE
COMMITTEE ON
INTERNATIONAL RELATIONS
HOUSE OF REPRESENTATIVES
NINETY-FOURTH CONGRESS
SECOND SESSION

Review of Legislative Proposals
Past Deficiencies and Current Adequacy of Command
and Control System
Desirable Objectives for an Effective Command
and Control System
Nonproliferation Aspects
Executive Branch Policy

MARCH 16, 18, 23, AND 25, 1976

Printed for the use of the Committee on International Relations



U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1976

69-909

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price \$2.80

H461-52
48

COMMITTEE ON INTERNATIONAL RELATIONS

THOMAS E. MORGAN, Pennsylvania, *Chairman*

CLEMENT J. ZABLOCKI, Wisconsin
WAYNE L. HAYS, Ohio
L. H. FOUNTAIN, North Carolina
DANTE B. FASCELL, Florida
CHARLES C. DIGGS, Jr., Michigan
ROBERT N. C. NIX, Pennsylvania
DONALD M. FRASER, Minnesota
BENJAMIN S. ROSENTHAL, New York
LEE H. HAMILTON, Indiana
LESTER L. WOLFF, New York
JONATHAN B. BINGHAM, New York
GUS YATRON, Pennsylvania
ROY A. TAYLOR, North Carolina
MICHAEL HARRINGTON, Massachusetts
LEO J. RYAN, California
DONALD W. RIEGLE, Jr., Michigan
CARDISS COLLINS, Illinois
STEPHEN J. SOLARZ, New York
HELEN S. MEYNER, New Jersey
DON BONKER, Washington
GERRY E. STUDDS, Massachusetts

WILLIAM S. BROOMFIELD, Michigan
EDWARD J. DERWINSKI, Illinois
PAUL FINDLEY, Illinois
JOHN H. BUCHANAN, Jr., Alabama
J. HERBERT BURKE, Florida
PIERRE S. DU PONT, Delaware
CHARLES W. WHALEN, Jr., Ohio
EDWARD G. BIESTER, Jr., Pennsylvania
LARRY WINN, Jr., Kansas
BENJAMIN A. GILMAN, New York
TENNYSON GUYER, Ohio
ROBERT J. LAGOMARSINO, California

MARIAN A. CZARNECKI, *Chief of Staff*

SUBCOMMITTEE ON INTERNATIONAL SECURITY AND SCIENTIFIC AFFAIRS

CLEMENT J. ZABLOCKI, Wisconsin, *Chairman*

L. H. FOUNTAIN, North Carolina
JONATHAN B. BINGHAM, New York
DONALD W. RIEGLE, Jr., Michigan
GERRY E. STUDDS, Massachusetts

PAUL FINDLEY, Illinois
ROBERT J. LAGOMARSINO, California

GEORGE R. BERDES, *Subcommittee Staff Consultant*
DONALD R. FORTIER, *Minority Subcommittee Staff Consultant*
SHELLY A. SHELTON, *Staff Assistant*

CONTENTS

	Page
Foreword	v
PART I—REVIEW OF THE LEGISLATIVE PROPOSALS REGARDING FIRST USE-FIRST STRIKE OF NUCLEAR WEAPONS	
March 16, 1976	
Rapporteur summary	3
Hearing:	
Witness:	
Hon. Richard Ottinger, a Representative in Congress from the State of New York.....	9
Material submitted for the record:	
Texts of various legislative proposals renouncing first use-first strike of nuclear weapons.....	7
Statement by Hon. Bella S. Abzug, a Representative in Congress from the State of New York.....	27
Responses by Mr. Ottinger to questions submitted subsequent to the hearing.....	29
PART II—A REVIEW OF THE COMMAND AND CONTROL SYSTEM BY WHICH THE PRESIDENT HAS DELEGATED HIS AUTHORITY TO USE NUCLEAR WEAPONS: PAST DEFICIENCIES AND CURRENT ADEQUACY	
March 18, 1976	
Rapporteur summary.....	30
Hearing:	
Witnesses:	
Vice Adm. Gerald E. Miller, U.S. Navy (retired) and former Deputy Director of the Joint Strategic Target Planning Staff....	46
Dr. Herbert York, University of California and former Chief Scientist of the Advanced Research Projects Agency, Department of Defense.....	58
Material submitted for the record:	
Responses by Admiral Miller and Dr. York to questions submitted subsequent to the hearing.....	87
PART III—COMMAND AND CONTROL: WHAT OBJECTIVES SHOULD AN EFFECTIVE SYSTEM SEEK TO ACHIEVE?	
and	
FIRST USE: NONPROLIFERATION ASPECTS	
March 23, 1976	
Rapporteur summary.....	90
Hearing:	
Witnesses:	
Dr. Henry Rowen, Stanford University.....	106
Phillip J. Farley, Brookings Institution, and former Deputy Director of the U.S. Arms Control and Disarmament Agency.....	112
Material submitted for the record:	
Responses by Dr. Rowen and Mr. Farley to questions submitted subsequent to the hearing.....	136

IV

PART IV—EXECUTIVE BRANCH POSITION ON FIRST USE-
FIRST STRIKE POLICY

March 25, 1976

	Page
Rapporteur summary-----	145
Hearing:	
Witnesses:	
Hon. Fred C. Ikle, Director, U.S. Arms Control and Disarmament Agency-----	151
George S. Vest, Director, Bureau of Politico-Military Affairs, Department of State-----	155
Dr. James P. Wade, Jr., Deputy Assistant Secretary of Defense--	159
Material submitted for the record:	
Text of footnote in speech given by Secretary of State Henry Kissinger on February 3, 1976 regarding "launch-on-warning"-----	166
Explanation regarding later removal of the footnote, provided by Mr. Vest-----	167
Excerpts from the public record describing the 1950 occurrence regarding possible use of nuclear weapons, provided by Dr. Ikle-----	178
Statement on situations involving failures in communication systems provided by Dr. Wade-----	182
Responses by Dr. Wade to questions submitted by Chairman Zablocki-----	184

STATEMENT SUBMITTED FOR THE RECORD

Statement of Hon. Parren J. Mitchell, a Representative in Congress from the State of Maryland-----	187
--	-----

APPENDIX

List of additional resolutions renouncing first use/first strike of nuclear weapons and all cosponsors-----	191
Resolution adopted by Council of the American Association for the Advancement of Science, submitted at the request of Representative John Melcher-----	192
Articles and papers relating to the first use issue:	
Aspin, Les, "First Use' of Nuclear Weapons," Washington Post, July 29, 1976-----	193
Conard, Robert A., M.D., et al. "Twenty-year Preview of Medical Findings in a Marshallese Population Accidentally Exposed to Radioactive Fallout," September 1975 (submitted at request of Representative John Melcher)-----	195
Dumas, Lloyd J., "Systems Reliability and National Insecurity," papers of the Peace Science Society (International), 1975-----	199
Quester, George H., "Presidential Authority and Nuclear Weapons," April 1976-----	212
Scoville, Herbert, Jr., "First Use' of Nuclear Weapons," Arms Control Today, July/August 1975-----	224
Stanford, Phil, "Who Pushes the Button?" Parade magazine, March 28, 1976-----	227
Wesley, James M., "Schlesinger's Legacy: Limited Nuclear War?" the Interdependent, December 1975-----	229
Westervelt, Donald R., "The Essence of Armed Futility," Orbis, vol. XVIII, fall 1974-----	232
Wilson, George C., "New U.S. Strategy for Nuclear War," Washington Post, July 20, 1975-----	242

FOREWORD

No problem is presently more paramount than that of curbing the terror of nuclear weapons, particularly when one considers that their use could result in the devastation of modern civilization.

Such was the concern which prompted various Members of Congress to introduce legislation which would renounce the first use-first strike of those weapons as part of U.S. strategic policy. In fulfillment of its jurisdictional responsibility, the Subcommittee on International Security and Scientific Affairs held 4 days of comprehensive and intensive hearings on those legislative proposals, the complete record of which is presented in this volume.

Like so many of the issues which this subcommittee has considered recently, this was an extraordinarily complex and difficult matter. At one key level of consideration, the subject involves key aspects of U.S. strategic policy. The question is complicated further, however, by the complexity of the command and control system which governs the method, circumstances, and conditions under which the President exercises or may delegate his authority to order the use of nuclear weapons.

In its attempt to understand these issues, probe their significance, and decide on the wisest course of legislative action, the subcommittee was aided immeasurably by the testimony it received from a number of distinguished witnesses. We are most grateful to all of them.

These hearings are published with the hope that they will provide a useful public record that will become a rich source of information and reference for the future.

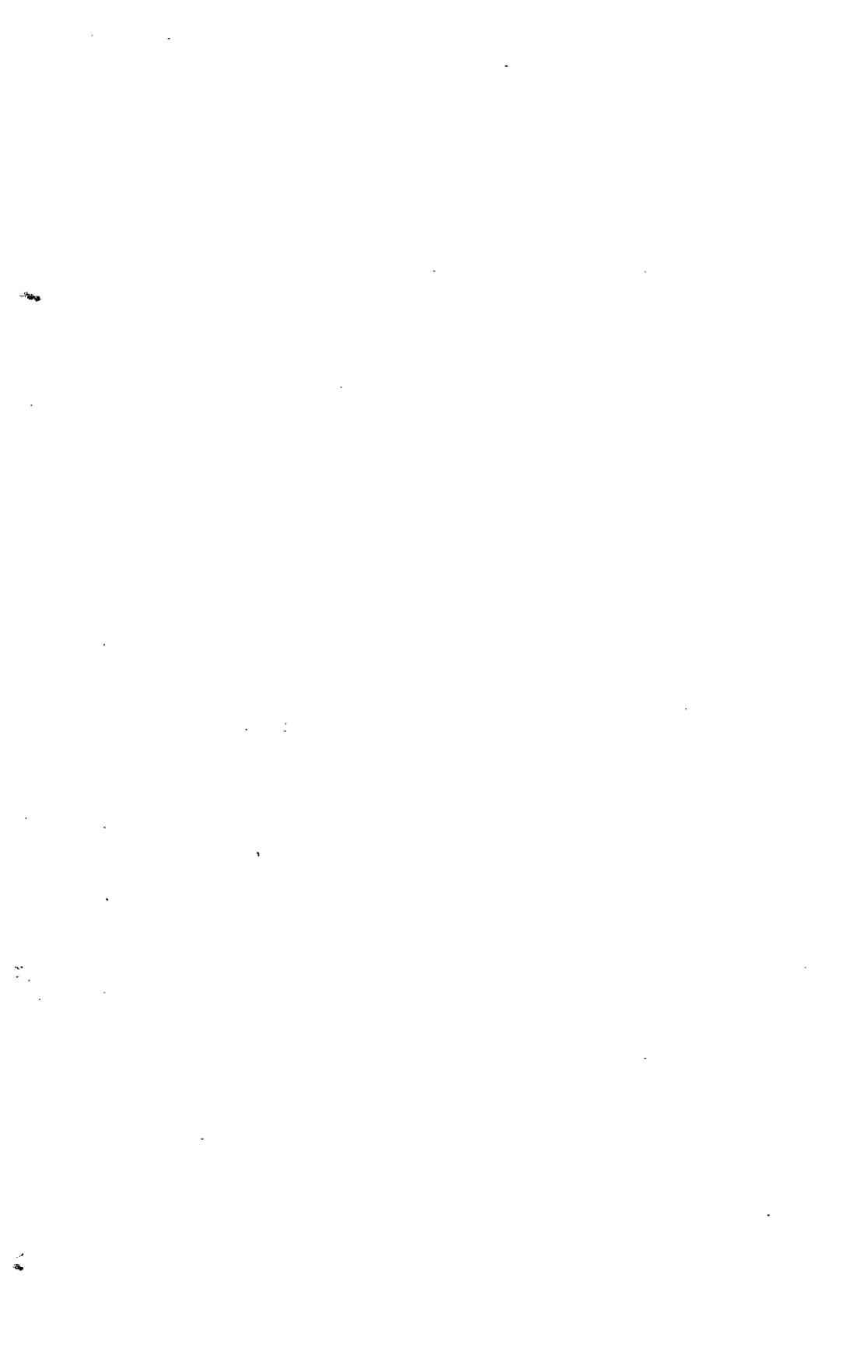
CLEMENT J. ZABLOCKI,
*Chairman, Subcommittee on International
Security and Scientific Affairs.*

PART I

**A REVIEW OF THE LEGISLATIVE PROPOSALS RE-
GARDING FIRST USE-FIRST STRIKE OF NUCLEAR
WEAPONS**

March 16, 1976

	Page
Rapporteur summary.....	3
Hearing	7
Witness:	
Hon. Richard Ottinger, a Representative in Congress from the State of New York.....	9
Material submitted for the record:	
Texts of various legislative proposals renouncing first use-strike of nuclear weapons	7
Statement of Hon. Bella S. Abzug, a Representative in Congress from the State of New York.....	27
Responses by Mr. Ottinger to questions submitted by Chairman Zablocki.....	29
Responses by Mr. Ottinger to questions submitted by Mr. Findley and Mr. Lagomarsino	30



RAPPORTEUR SUMMARY

A Review of the Legislative Proposals Regarding First Use-First Strike of Nuclear Weapons

(Prepared by Richard F. Grimmett, Analyst in National Defense, Foreign Affairs and National Defense Division, Congressional Research Service, Library of Congress)

Congressman Richard L. Ottinger spoke on behalf of his resolution which would declare it to be the policy of the United States to renounce the first use of nuclear weapons. In an opening statement Mr. Ottinger outlined the circumstances which he believed justified the passage of his resolution and raised questions regarding U.S. nuclear weapons policy which the Subcommittee on International Security and Scientific Affairs might fruitfully explore.

Mr. Ottinger began by stating his view that we must eliminate the prospect that human ignorance and potential human failure in the use of nuclear materials, especially nuclear weapons, will lead to the destruction of civilization. (For discussion, see p. 10 of hearing.) It was once logical for the United States to threaten first use of nuclear weapons—when we held a monopoly on them. This was an effective deterrent then. (Pp. 10 and 30.) Today this situation has changed inasmuch as the Soviet Union has nuclear weapons and can retaliate in kind. The new circumstance is further complicated by the fact that both the Soviet Union and the United States are continually striving to undermine the security of the other—a security that is based upon the ability to survive a first strike nuclear attack sufficiently well to enable the attacked party to destroy the attacker with a second strike. (P. 11.) Such an approach could ultimately lead the Russians to strike first against us if they came to the conclusion that we were about to outstrip them technologically to the point that they would soon lose the ability to defend themselves against our weapons.

To end such a suicidal approach, Mr. Ottinger stated that the use of nuclear weapons (strategic and tactical) and their delivery systems should be relegated by a treaty of all nuclear states to international control and destruction. This agreement should include nations that might be able to produce such weapons in the future. (Pp. 11, 16, 17, 26, 27, and 29; see also hearing of March 18.) Mr. Ottinger's resolution would affirm by joint resolution of Congress that the United States had foresworn not only a preemptive first strike against the Soviet homeland but also any first use of nuclear weapons. (P. 12.)

Mr. Ottinger pointed out that there were other aspects of strategic nuclear weapons policy which should be explored by the Subcommittee on International Security and Scientific Affairs. These include the following:

(1) Who has the authority to launch a strategic nuclear attack today? Is it only the President or has this authority been delegated? If delegation has occurred, to how many commanders? What is the situation in this regard in foreign nations? What security safeguards exist in foreign countries to safeguard strategic nuclear weapons? Are provisions in effect in all countries to prevent breakdowns in communication systems or rash actions by incompetent or incapacitated leaders? (P. 12; also March 18 and 25.)

(2) How many people have the power to use strategic nuclear weapons without authority, regardless of authorized use? (P. 12; also March 18 and 25.)

(3) How effective are the safeguards against theft or sabotage of weapons in the United States, at sea, and in foreign countries where they have been placed? (Pp. 12 and 13; also March 18 and 25.)

(4) What provision has been made to protect or remove nuclear stockpiles in the event of a quick-strike conventional war, or in the event of a revolution in foreign countries where nuclear weapons are deployed? (P. 12.)

Mr. Ottinger expressed the view that current protections in all of these areas were inadequate. Such a situation constituted a strong argument for placing the highest priority on curbing the use of strategic nuclear weapons. (Pp. 13 and 30; also March 18.)

With respect to tactical nuclear weapons, Mr. Ottinger believed that the situation regarding controls and safeguards was considerably worse. (P. 13.) Furthermore, he thought that it was impossible to conceive of a tactical nuclear exchange that would not accelerate into all-out strategic nuclear warfare. At the same time, he found it hard to conceive of a circumstance where we would actually use tactical nuclear weapons. But if they should be used, it seems clear they would quickly lead to the use of strategic nuclear weapons. Accordingly, Mr. Ottinger believed as a minimum the United States should remove all tactical nuclear weapons immediately from all countries not facing a nuclear threat and should adopt the resolution of Congressman Les Aspin renouncing first use of nuclear weapons against any country that did not possess them. Tactical nuclear weapons should be relegated to the status of international disuse as had been done with biological weapons and poison gas. (Pp. 14 and 19.)

To prepare the way for such a change in our nuclear weapons policy, we should educate our allies as to the wisdom of the change and build up our conventional forces and those of our allies to the point that use of nuclear weapons would be unnecessary. (P. 15; also March 18, 23, and 25.) At the same time, we should embark on negotiations with the Soviet Union to urge reduction of Soviet conventional forces. We should also undertake negotiations with the U.S.S.R. gradually to withdraw and arrange for the destruction of all nuclear weapons under international control and inspection and only as our conventional forces are being equalized. (Pp. 15 and 34.)

Mr. Ottinger urged that the question of requiring congressional participation in any decision to make first use of nuclear weapons (prior to the time an international accord could be reached) should be carefully considered. (P. 16.) Consideration should also be given to recalling all or most of our nuclear weapons that are currently overseas. (P. 16; also March 18, 23, and 25.) Finally, consideration should

be given to insuring adequate international control and inspection of all materials and devices from which nuclear weapons could be made. (P. 16.)

In the discussion that followed Mr. Ottinger's formal presentation, Chairman Zablocki questioned the wisdom of renouncing unilaterally our first use option in the absence of an agreement or assurances from the other side to do the same. Mr. Ottinger responded that we should take the lead in this regard and make it clear that the United States was not planning to engage in a preemptive first strike. (P. 18.) Chairman Zablocki suggested that a provision for a treaty in Mr. Ottinger's resolution would be a positive addition. Mr. Ottinger concurred. (P. 17.)

Mr. Lagomarsino doubted that it made much difference what the United States said it would do with respect to first use of nuclear weapons. It was his view that the Soviet Union would likely believe that we would do what we felt was necessary should the issue of first use arise, in spite of any declaration we had made on the matter. (P. 18; also March 25.)

Mr. Lagomarsino asked what would be an adequate build-up of conventional forces under Mr. Ottinger's resolution. Mr. Ottinger replied that this was a matter of judgment. He felt that we should do what had to be done to give us confidence that we could repel a conventional attack. Chairman Zablocki asked how much of an increase in defense spending would be reasonable in order to get the conventional force strength necessary to fulfill this objective. Mr. Ottinger stated that he was prepared to spend whatever amount was necessary to do the job. (Pp. 21 and 23; also March 18, 23, and 25.) He added that certain weapons systems, such as the B-1 bomber, were redundant and inefficient, and could be deleted from the defense budget as unnecessary—thus freeing up funds for use in developing our conventional forces.

Congressman Bingham expressed the view that there was a clear distinction between the problem of first use/first strike and the problem of command and control. He asked if Mr. Ottinger had a legislative approach to the problem of command and control. Mr. Ottinger stated that congressional oversight could help but that in all probability the best Congress could do would be to insure that the President was the one to make the decision on first use. Mr. Bingham hoped for further examination of this issue. (P. 25; also March 18, 23, and 25.)

Mr. Bingham then observed that there was a deterrent effect in the status quo in that the Russians did not know whether or not the United States would engage in the first use of nuclear weapons. Mr. Ottinger agreed that this was an accurate observation. Mr. Bingham further observed that had there not been nuclear weapons would it not be likely that we would have had another war by now. (P. 26.) Mr. Ottinger stated that that was probably true, but that the current situation was fraught with grave consequences for the United States and for the world if something went wrong. We have had mistaken alerts in the past, he stated, which reinforced his concern with present controls. We should move to remedy the current situation before a catastrophe occurred due to human error or equipment failure (P. 26; also March 18 and 25.)

Mr. Bingham asked whether the objective of getting all nuclear countries to agree to destroy nuclear weapons under international supervision wasn't beyond the pale of practical likelihood. Wouldn't it be more appropriate to address our attention elsewhere—to areas where results might be more readily achieved? (P. 26; also March 18, 23, and 25.

Mr. Ottinger disagreed. He had been told that the Soviets were also concerned about the current situation, especially the dangers of nuclear proliferation. The United States should not be too timid to address the problem.

Representative Abzug's prepared statement was entered into the record, and the meeting adjourned. (P. 27.)

FIRST USE OF NUCLEAR WEAPONS: PRESERVING RESPONSIBLE CONTROL

Review of Legislative Proposals

TUESDAY, MARCH 16, 1976

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERNATIONAL RELATIONS,
SUBCOMMITTEE ON INTERNATIONAL SECURITY
AND SCIENTIFIC AFFAIRS,
Washington, D.C.

The subcommittee met at 2:08 p.m. in room H-236, the Capitol, Hon. Clement J. Zablocki (chairman of the subcommittee) presiding. Mr. ZABLOCKI. The subcommittee will please come to order.

We open today the subcommittee's hearing on the subject of the "First Use of Nuclear Weapons: Preserving Responsible Control."

Like so many of the issues which the subcommittee has considered recently this is an extraordinarily difficult and complex matter.

At one key level of consideration the question involves basic U.S. strategic policy regarding the use of nuclear weapons.

In reality however the question relates to the possibility of nuclear holocaust resulting in the deaths of millions and the destruction of civilization.

Clearly it is a serious and difficult matter. To the extent that we are able to deal with it responsibly and successfully the world may be spared the devastation of a nuclear war.

The legislative base of these hearings involves several legislative proposals¹ which attempt to approach this problem through various ways. [The resolutions follow:]

[H. Res. 11, 94th Cong., 1st sess.]

A RESOLUTION

Whereas the United States and the Soviet Union are engaged in ongoing discussion of the limitation of nuclear arms, including the Ford-Brezhnev agreement reached November 25, 1974, at Vladivostok, and

Whereas the fear of a first strike with nuclear weapons is used by all countries as justification for accelerating the arms race and proliferating nuclear materials, and

Whereas a declaration of intent would be beneficial to negotiations on control of nuclear weapons: Therefore be it

Resolved, That it is the sense of the Congress to demonstrate our good faith that the President should immediately issue a declaration that the United States will never be the first to use nuclear weapons in any conflict with any nation, and should call on all other nations to issue similar proclamations.

¹ For list of additional identical resolutions and cosponsors see p. 191 of appendix.

[H.J. Res. 533, 94th Cong., 1st sess.]

A JOINT RESOLUTION To renounce the first use of nuclear weapons

Whereas the willingness for first use of nuclear weapons poses an intolerable threat to world security; and

Whereas failure to renounce first use of nuclear weapons will intensify the international arms race, causing the United States and other nations to spend billions of dollars on creating the capability for first use of nuclear weapons, preventing the use of those vast monetary resources for constructive and peaceful purposes: Now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That Congress declares it to be the policy of the United States to renounce the first use of nuclear weapons.

[H.J. Res. 618, 94th Cong., 1st sess.]

A JOINT RESOLUTION To renounce the strategy of a first strike with nuclear weapons

Whereas the buildup of a counterforce nuclear capacity by the United States creates the capability for a preemptive nuclear first strike against the Soviet Union; and

Whereas the Soviet Union will inevitably react to this threat by developing new and dangerous strategic devices of its own; and

Whereas the consequent destabilization of the strategic balance between the United States and the Soviet Union will significantly increase the chances of an all-out nuclear war: Now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the policy of the United States to renounce the strategy of a nuclear first strike, and to take all steps possible to negotiate a final end to all efforts by the United States and the Soviet Union to achieve a counterforce capacity.

[H.J. Res. 713, 94th Cong. 1st sess.]¹

A JOINT RESOLUTION To declare that it shall be the policy of the United States not to threaten the use of nuclear weapons or to make any first use of nuclear weapons against any non-nuclear-weapon State which is a party to the Treaty on the Non-Proliferation of Nuclear Weapons unless such State is engaged in aggression in concert with a nuclear-weapon State

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) it shall be the policy of the United States not to threaten the use of nuclear weapons or to make any first use of nuclear weapons against any non-nuclear-weapon State which is a party to the Treaty on the Non-Proliferation of Nuclear Weapons unless such State is engaged in aggression in concert with a nuclear-weapon State.

(b) For purposes of this joint resolution, the terms "non-nuclear-weapon State" and "nuclear-weapon State" have the same meaning as they have for purposes of the Treaty on the Non-Proliferation of Nuclear Weapons, except that any State which has engaged in peaceful nuclear explosions since January 1, 1967, shall be considered a "nuclear weapon state."

[H.J. Res. 723, 94th Cong., 1st sess.]¹

A JOINT RESOLUTION To declare that it shall be the policy of the United States not to make any use of nuclear weapons against any non-nuclear-weapon state which is a party to the Treaty on the Non-Proliferation of Nuclear Weapons unless such state is engaged in armed conflict in concert with a nuclear-weapon state

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) it shall be the policy of the United States not to make any use of nuclear weapons against any non-nuclear-weapon state which is a party to the Treaty on the Non-Proliferation of Nuclear Weapons unless such state is engaged in armed conflict in concert with a nuclear-weapon state.

¹ Introduced by Congressman Aspin.

(b) For purposes of this joint resolution, the term "nuclear-weapon state" is any state that has developed or tested a nuclear explosive device and a "non-nuclear-weapon state" is any state which has not developed or tested a nuclear explosive device.

Mr. ZABLOCKI. Originally scheduled to testify this afternoon were the four major sponsors of these resolutions. For various reasons three of them are unable to testify. Thus our sole witness this afternoon is the Honorable Richard Ottinger of New York. I will call him the principal sponsor of House Joint Resolution 533 and several similar resolutions with a total of 92 cosponsors.

Congressman Ottinger, we are delighted to have you before us today and welcome your comments on this important issue. We also commend you for the leadership and effort you have expended in this challenging area dealing with the first use of nuclear weapons. You have been very helpful to the chairman and the members of the subcommittee and staff in some of the arrangements for these hearings. Therefore, we welcome you and look forward to your presentation, Congressman Ottinger.

**STATEMENT OF HON. RICHARD L. OTTINGER, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF NEW YORK**

Mr. OTTINGER. Thank you very much, Mr. Chairman and members of the Subcommittee on International Security and Scientific Affairs.

I greatly appreciate your holding these hearings, not only on the resolution of which I am the principal sponsor, which is joined in by 92 other Members of Congress, calling for renunciation of first use of nuclear weapons as a policy in this country, but also various other alternatives that have been presented by other Members on which I will comment in the course of my testimony.

I think your introduction, Mr. Chairman, sets the stage for what I have to say very well indeed because we live in a situation of frightening insecurity, the potential of nuclear warfare breaking out, destroying a substantial portion of mankind.

I consider this issue to be, has to be, the paramount one for this country and for all the other countries of the world.

CONTROLLING THE ATOM AS A MATTER OF SURVIVAL

The atom has gotten out of hand. Nuclear technology has simply raced ahead, faster than man's ability to harness its use safely and for the benefit of mankind. Controlling the atom is a matter of survival. Our No. 1 priority must be to lead the world to nuclear safety by example and by persuasion.

Whether it is the question of the use of nuclear weaponry which presently has us on the threshold of the ultimate in brinkmanship or the proliferation of nuclear materials and devices from which nuclear weapons can be made or the use of the atom for power generation with its unsolved problems of mining and plant safety, fuel enrichment and recycling dangers, low-level radiation and waste disposal, it is clear that our failure to be able to anticipate the many

areas of human ignorance and human failure attending the use of highly dangerous and toxic nuclear materials poses fearful hazards that must be curbed. While we address ourselves here primarily to weapons we cannot proceed without an awareness that all the uses of atomic science are interrelated in their problems of control, their exposure to theft and sabotage and the safe disposal and control of their radioactive residues.

CURBING NUCLEAR TERROR

With nuclear weapons there is the added hazard of their intentional use for destructive purposes, an ability to destroy life on Earth exponentially greater than any instrumentation previously known to man. Indeed, with nuclear weapons the nuclear powers hold in their hands the ability to end modern civilization. One would think this danger was so paramount as to be first on the agenda of every country, on the top of the list of concerns of every citizen of the world. Oddly, it is not. It seems as if the destructive power of nuclear weapons is so overwhelming and overawing that the world has swept concern about them under a mental rug, as just too awful to think and worry about. We must not let this state of affairs continue.

I therefore congratulate you, Mr. Chairman, and the members of the Subcommittee on International Security and Scientific Affairs of the International Relations Committee, for holding these hearings so we can help address the attention of our people and the people of the world to the steps necessary to curb the nuclear terror under which we all now live, from weapons directly as addressed in these hearings and from proliferation of nuclear materials which was the subject of a series of hearings your subcommittee has just concluded.

It is an unfortunate truth today that each of us can look forward to a tomorrow only by grace of the sanity and restraint of those unknown people—how many and who they are we do not know—who have the power—regardless of the authority—to unleash the horrors of nuclear war. The number of people who hold this awesome power of life and death grows daily, weekly, yearly, now encompassing citizens in the United States, Russia, China, France, England and India of whom we know. Since I wrote this statement we read in the New York Times that the State of Israel is revealed by our own Central Intelligence Agency to possess 10 to 15 nuclear weapons at the present time.

STRATEGIC USE OF NUCLEAR WEAPONS

Let us first address our conscious policy and that of the other countries that clearly possess deliverable nuclear weapons today. And let us discuss strategic use of large weapons first.

So long as we were the sole possessor of deliverable nuclear weapons there was some logic, awful as it might be, to threaten first use of these weapons to deter any nation from going to war against us or those whom we perceived to be our allies. The deterrent was then effective, regardless of its morality. Unfortunately, far too much of our nuclear weapons policy is still held over from the days when we were the sole nuclear power.

Today our use of strategic weapons against another nuclear power which has the ability to retaliate in kind—so far as we know Russia is the only country with that capability today—invites our own destruction. We and the Russians have managed a balance of strategic nuclear terror in our mutual ability to survive a first strike attack sufficiently to permit us to destroy the other with a second strike. It is under this joyful security blanket that we are able to sleep and dream sweet dreams each night. From the point of view of a man from Mars this has to be sheer insanity. Yet for us on Earth today it is the grim reality.

DILEMMA DESCRIBED AS "SCORPIONS IN THE BOTTLE"

But this is not enough for either party. Each is striving with incredible resources to cut holes in the security blanket of the other, to produce more bombs of greater destructiveness and greater accuracy which would permit a preemptive first strike, despite pious fore-swearing of such an objective by each. Secretary Schlesinger's announcement in 1974 that we would start developing strategic weapons of such accuracy that we could hit Soviet military targets only, a seemingly humane objective, created the potential for us to destroy the Russian second strike capability. Our pursuit of strategic "cruise missiles" accentuates this potential. If the Russians think we are developing this potential faster than their ability to defend against it, their only recourse will be for Russia to strike first before our potential is realized. This makes the so-called "scorpions-in-the-bottle" situation a fearsome reality.

Somehow we and the Russians must have or develop more common-sense. We must quickly come to the conclusion that use of nuclear weapons, at the very least those of the strategic variety, is suicidal—to say nothing of their production and technological improvement being a sinful waste of resources—and relegate them to the disuse now provided for poison gas and biological warfare weaponry by international agreement.

INTERNATIONAL TREATY AMONG NUCLEAR STATES ADVOCATED

It should be our highest priority to conclude a treaty with all the nuclear states to relegate existing strategic—and I think tactical—nuclear weapons and their delivery systems to international control and destruction with whatever inspection systems may be necessary to assure against their future production or use anywhere in the world. I see this as so overwhelmingly logical from the viewpoint of every being on Earth, save perhaps the weapons' manufacturers, that it should be attainable. Adequate effort simply is not being devoted to this end.

I propose we pass a sense of Congress resolution proposing this as the top priority objective of our Government.

The objectives proposed with respect to strategic nuclear weapons can only be achieved by multilateral agreement including all nations capable of producing such weapons and their delivery systems in the foreseeable future.

So far as the resolution which I and 92 of my colleagues introduced to declare it our policy to renounce the first use of nuclear weapons, this resolution can have no adverse effects and should not stir much controversy, as applied to strategic weapons. All the present states with deliverable strategic nuclear weapons capacity, including ourselves, have already foresworn intent to deliver a preemptive first-strike attack and it is much in our own interest to affirm this intent by act of Congress though Secretary Schlesinger unfortunately cast some doubt on the firmness of our "no first strike" policy in his July 1 press conference.

OTHER CRUCIAL ASPECTS WARRANT INVESTIGATION

There are other aspects to strategic nuclear weapons policy into which this committee should delve deeply besides the questions of conscious use and the "scorpions-in-the-bottle" dilemma described above. These questions appear to make it even more urgent to conclude the kind of treaty I have suggested.

First, who has the authority to launch a strategic nuclear attack today? Is it just the President in this country, as the American people have been led to believe? Or has the authority been delegated and if so to how many commanders? Does the authority rest with just one man in each nation? Are the procedures for informing him accurate and adequate to guard against error? Are the communications systems adequate under all conceivable circumstances to prevent his setting off Armageddon by accident? What happens if he becomes incapacitated or incompetent? And if the authority is delegated to others than the chief of state, as I have been told is the case in this country, though I cannot verify it absolutely, then what is the adequacy of the protections against those to whom the power is delegated acting by error or becoming disabled from acting responsibly by reason of incapacity or incompetency or indeed deciding that it is in their own interest in a higher cause to set off nuclear weapons in their sense of what it takes to preserve freedom? What protection is there against an insecure chief of state threatening to start or starting a nuclear war to protect himself against being ousted, as reportedly President Richard M. Nixon speculated aloud during our Watergate crisis, hopefully in jest?

Next, regardless of authorized use, how many people have the power to use strategic nuclear weapons without authority? Do Army, Navy, or Air Force personnel charged with strategic weapons responsibility have the power alone or with others to use these weapons without authority? And how effective are the safeguards?

SAFEGUARDS SEEN AS INADEQUATE

Next, how effective are the safeguards against theft or sabotage of these weapons here, in foreign countries where they have been placed and at sea? What are the safeguards in the event of a quick-strike conventional war? What are the safeguards in the event of a revolution in the foreign countries where strategic nuclear weapons are deployed?

And last, what is the security situation in the other strategic nuclear weapons countries in all these respects?

From classified material I have seen, as well as from unclassified briefings I have received from former high-ranking Defense Department personnel, all of which I hope this committee will take the time and trouble to explore thoroughly, I have every reason to believe that the protections are inadequate against catastrophe by way of theft, sabotage, unclear and overextensive delegation of authority, incompetence or incapacity of authorized personnel, unauthorized use, weakness of communications and command and control. If this is so, the reasons for placing the highest priority on curbing the use of strategic nuclear weapons becomes all the more overwhelming.

STUDY REPORTS ON SECURITY OF TACTICAL WEAPONS

Let us now turn to tactical weapons. The situation with respect to safeguards against theft, sabotage, seizure, dangerous delegation of authority, unauthorized use, incapacity or incompetence of those authorized and ineffective communications, command and control is many times worse with tactical than with strategic weapons—and we should bear in mind that the differentiation between tactical and strategic weapons today is mostly a matter of mission—many weapons classified as tactical have destructive power many times that of the bombs we dropped on Hiroshima and Nagasaki.

On these questions it is vital that the subcommittee familiarize itself with the very thorough and excellent classified study prepared by the House Appropriations Committee. The Appropriations Committee visited all of the sites of our tactical nuclear weapons abroad and reported on the security situation of them.

Let us pass these questions for the moment, assuming for the sake of the present consideration that there is no dispute about the necessity to maintain all nuclear weapons under complete security and control, subject only to the sane decision of the chief of state—and that there exists reasonable safeguards, despite all foreseeable failures of equipment and incidence of human error—assumptions I find difficult to accept—but nevertheless let us pass over them to conscious policy on use of tactical nuclear weapons.

DEPLOYMENT OF TACTICAL NUCLEAR WEAPONS: RATIONALE SEEN AS INSUPPORTABLE

There are two rationales I have heard for our deployment of tactical nuclear weapons: First, that they serve as a deterrent to conventional attack, tactical nuclear attack or attack with chemical or biological weapons by an enemy; second, that they give us a greater range of options in the event of actual warfare to react in a way short of admittedly suicidal strategic warfare. There is also a related psychological factor cited: namely, that our allies would not believe we would use our nuclear power to defend them if tactical nuclear weapons were not deployed on their soil; and, therefore, if we withdrew them, they would feel compelled to produce their own tactical weapons, weakening both our control over the nuclear situation and the cohesiveness of our alliances.

These arguments seem to me to be insupportable, for I find it impossible to conceive of a tactical nuclear exchange not accelerating

into all-out suicidal strategic nuclear warfare. Indeed I find it hard to conceive of our actually using tactical nuclear weapons at all.

EUROPE AND KOREA AS CASES IN POINT

Let us take the most compelling case and the one most frequently cited, that of Europe. Let us assume an overwhelming Russian conventional attack that threatens the rapid capitulation of West Germany and France. It is impossible for me to conceive that our generals would fire a tactical nuclear weapon, knowing as they do that the Russians have the capability of responding with either a tactical or strategic reply. Our generals would almost certainly not advise such a risk, but would rather urge our President to risk the advantages of a strategic first strike for fear that the Russians otherwise would do so first. I just don't think that we would ever take the risk of using tactical weapons in that situation.

In Korea or elsewhere the same logic would apply but the time frame might be a little longer since there is no evidence that the North Koreans, Russians, or Chinese have tactical nuclear weapons positioned there.

Furthermore in the Korea-type situation especially use of tactical nuclear weapons would destroy the "firebreak" between nuclear and conventional weapons which has been a forbearance against nuclear weapons use by any country that has been in effect since our use of nuclear weapons in Japan some 30 years ago now. Once the use of nuclear weapons, no matter how tiny becomes accepted, there will be no stopping their future use in future wars, each time risking ultimate destruction by whatever party to a nuclear exchange is getting the worst of it. We should actually remove all our tactical nuclear weapons immediately from all countries not facing a nuclear threat as a minimum and adopt the Aspin resolution renouncing first use of nuclear weapons against any country not possessing nuclear weapons which are signatories to the Non-Proliferation Treaty.

RENUNCIATION OF TACTICAL NUCLEAR WEAPONS

My conclusion therefore is that tactical nuclear weapons are virtually as suicidal and unthinkable as strategic nuclear weapons and must also be relegated to the same status of international disuse as poison gas and biological weaponry. In other words if our leadership is sane and wants the world to survive we won't risk using tactical nuclear weapons. The credibility of these weapons as a deterrent therefore must be called into serious doubt and their actual utility in the event the deterrent fails is a self-destructive nullity.

What this means is that by our present nuclear weapons policies we have deluded ourselves and our allies into a false sense of security, permitting our conventional defense forces to deteriorate to a point where resort to self-destructive nuclear weapons becomes a virtual imperative in the event of a conventional Russian attack.

IMPLICATIONS RESULTING FROM REVERSAL OF NUCLEAR WEAPONS POLICY

To address the psychological implications of a change in our nuclear weapons policy, particularly in Europe, it will be necessary first to

educate our allies with respect to the fallacy of our existing posture in a world in which we no longer "enjoy" nuclear dominance. Second, we will have to build up our and their conventional forces to a point where use of nuclear weapons will become unnecessary. This represents a very major policy departure for me. In the past I have voted consistently to cut our troops in Europe with the feeling that we have had an excessive military posture around the world—and I am still very much concerned about some excessive duplication in the Defense Department budget and our military force structure. But I view the nuclear weapons threat as so great that I am prepared to lead an effort to build up our conventional forces so as to permit a nuclear weapons withdrawal.

I gravely doubt that the average citizens of Europe have really faced up to the consequences of a Russian conventional attack compelling NATO to respond with tactical nuclear weapons, for it would mean that Europe would be the theater of a nuclear exchange that would certainly destroy it completely. It is high time the citizens of Europe were made to consider these consequences and if they were made aware of them I am sure they would opt for a conventional alternative which, while terribly destructive, would offer a more credible deterrent and, in the event of deterrent failure, at least would not be obliterating.

WINNING SOVIET COOPERATION

The ideal scenario for ridding ourselves of the fallacies and dangers of tactical nuclear weapons deployment would be to inform the Russians that we have decided that tactical nuclear weapons use would be mutually suicidal and that we therefore intend to build up our conventional forces and those of our allies to the point at which they can meet the present Russian conventional threat unless the Russians agree to reduce their conventional forces concomitantly and to try to urge them to do so. Further we must simultaneously embark upon negotiations with the Russians and other nuclear nations to gradually withdraw and arrange for the destruction of all their and our nuclear weapons under adequate international control and inspection as conventional forces are equalized.

I have been told by the people who deal in these matters that this is one area in which the Russians share our concern and have expressed willingness in past negotiations to embark seriously upon an effort to remove this nuclear threat. I think that is another area of the committee's investigation that ought to be pursued.

Again I think that my resolution calling upon the United States to renounce a policy of first use of nuclear weapons is a constructive step toward achieving these goals, although I would not want to see it implemented unilaterally insofar as tactical nuclear weapons are concerned until we had adequate United States and allied conventional forces in place to deter and deal with if necessary any Soviet conventional attack.

CONGRESSIONAL PARTICIPATION IN FIRST USE DECISION

There are intermediate steps that should be considered with respect to use of tactical nuclear weapons. We should consider carefully the

advisability of requiring congressional participation in any decision to make first use of nuclear weapons until such time as our conventional forces are adequate or an international agreement may be reached. We should consider returning all or most of our nuclear weapons to the United States during the transition period. In the event of an enemy conventional attack of a scale such as to provoke consideration of nuclear weapons use, there would certainly be plenty of advance warning. Any enemy would have to massively mobilize troops and transportation to launch an attack of this scale.

There is good reason therefore to determine that the frightful decision on first using nuclear weapons, which could well lead to universal strategic nuclear destruction—and I think probably would—should not be in the hands of one man alone or certainly not in the hands of those who may have been delegated such power but should be shared by a committee or all of Congress. Such a solution has been proposed by Senator Alan Cranston of California. And also by the Federation of American Scientists.

CONGRESSIONAL CONSULTATION AS A PREREQUISITE

I would like to point out however the reservations expressed on this solution by my good friend from Ohio, Congressman Seiberling, that such a measure would allow the President to escape the terrible responsibility of making the nuclear decision himself. Mr. Seiberling feels that a group might well find it easier to make the nuclear decision and prefers instead a requirement that the President consult first with designated congressional leaders or committees, keeping the responsibility for the decision on his shoulders.

I have also seen a proposal by one of the members of the Federation of American Scientists that the National Security Council be required to put the reasons for making the decision for first use of nuclear weapons into writing before any such decisions were embarked upon, with the requirement that it be made public thereafter. I tend to think that that is less effective. But it is an option which should be considered by the subcommittee.

I like less the intermediate proposal of my good friend from New York, Congressman Bingham, for whom I have the very greatest respect. He proposes a unilateral renunciation of a strategic first strike only. While I understand his overriding concern about preventing insofar as possible a certainly suicidal strategic exchange through any miscalculation by the Russians of our intents, I am bothered by the reverse-side-of-the-coin implications of such a resolution, implicitly threatening tactical first use of nuclear weapons.

INTERNATIONAL CONTROL OF ALL MATERIALS ADVOCATED

Finally returning to my original thesis, no international agreement on removing nuclear terror from the world scene can be effective if it is confined to weapons alone. It must include adequate international control and inspection of all the materials and devices from which nuclear weapons can be made. If we are to continue with nuclear power production worldwide, it militates for regional international possession and control of all nuclear enrichment and reprocessing

facilities as a very minimum, with the strongest conceivable safeguards against theft, seizure, or sabotage at every step of the nuclear cycle.

I greatly appreciate your patience in hearing me out for such a long statement and for your consideration of these crucial issues. Unfortunately the Joint Atomic Energy Committee and the executive agencies dealing with these matters have become it appears too much fascinated with the atom and too much the advocates of its use to deal effectively with these questions.

It is essential that this committee, with its broad international relations and security mandate, conduct an independent investigation of these matters and provide this country and the world with an impartial assessment of our nuclear policies and hopefully some solutions for I think our present policies border on the insane.

Mr. ZABLOCKI. Thank you, Mr. Ottinger, for a thought-provoking statement. You have outlined the problem that is before us very succinctly. You have also posed several important questions to which we hope to receive the answers—if not the answers, at least some thoughts on the questions as the committee pursues the hearings on this very provocative issue.

You refer to the resolution of our colleague Congressman Bingham and the differences between your proposal and his. I believe his resolution has a better approach since not only does he say that it is the policy of the United States to renounce the strategy of a nuclear first strike but that we should take all steps to negotiate a final end to all efforts by the United States and the Soviet Union to achieve a counterforce capacity.

PROVISION FOR INTERNATIONAL AGREEMENT TO BE CONSIDERED

Throughout your statement you give serious thought to the desirability of an international agreement involving all nuclear powers which would relegate existing strategic nuclear weapons and their delivery systems to international control and destruction.

In fact, you regard such a treaty as a top priority. I wonder therefore why you didn't include in your resolution a provision for such a treaty.

Mr. OTTINGER. I think the addition of that kind of provision would be very useful. The fact of the matter is that I came relatively new to these considerations. I am not on any of the committees which consider them in the ordinary course of our work.

I, like a great many other Congressmen, when the President mis-answered a question at a press conference some time ago, in which he was asked, "Are you proposing to change our policy against first use of nuclear weapons?" I was shocked when he said, "Yes; we are." The President in fact, as you know, was wrong. We consistently had a policy of first use. But I and a great many of our colleagues and certainly a great many people in the general public assumed all along that we had such a policy against first use.

ADEQUATE CONVENTIONAL FORCES FOR DETERRENCE

This spurred me to introduce the resolution which I did and to begin to study the very complicated ramifications of this very vexing para-

mount problem that we face. As a result I have elaborated with a number of suggestions in the course of this statement that were not in my original resolution as well as qualifying my desire for passage of my own resolution with respect to the need to not put such a resolution into effect with respect to tactical nuclear weapons until such time as we have adequate conventional forces, particularly in Europe, to deter conventional attack by the Russians.

Mr. ZABLOCKI. You did not put that into your resolution.

Mr. OTTINGER. I did not put it in my resolution. I hope it will be improved. I am sure it will be in many ways during the course of deliberations of this committee. I will be glad to help with that. I think it does need a provision for international agreement. That is probably the most important effort we should be making. I would hope the United States could lead the way by example and by providing a lead to negotiations.

Mr. ZABLOCKI. But I understand that you are not advocating that in leading the way we unilaterally make a decision without having any assurance that other nuclear powers will do likewise and that indeed we will have a verification capability to see that the policies of others are in fact being carried out.

Mr. OTTINGER. I think it would be useful, provided we made it clear that we were not in any way advocating the first use of tactical nuclear weapons, to put into place as the sentiment of Congress the resolution as it applies to strategic weapons as indeed my colleague from New York has attempted to do.

UNILATERAL RENUNCIATION OF STRATEGIC FIRST STRIKE

We can, it seems to me, unilaterally and safely foreswear any intent of strategic first strike and it seems to me exceedingly useful as well if we went on record in Congress against developing a counterforce capability, as you point out the gentleman from New York has done. I would add that the strategic cruise missile capability, which I understand also creates the potential for a strategic first strike wasn't known at the time that the gentleman from New York introduced his resolution. I think we can renounce strategic first use unilaterally with constructive results, provided we aren't derogating from our determination not to make first use of tactical weapons and we proceed to exert every effort internationally to do away with the potential for first use of nuclear weapons at all.

Mr. ZABLOCKI. May I just explore the differentiation between the strategic and the tactical use of nuclear weapons? Do I understand that you are primarily concerned with the tactical use and that you would not suggest our unilateral renunciation of tactical use until we had a conventional force adequate to cope with the threat?

VIEWS ALTERED SINCE INTRODUCTION OF RESOLUTION

Mr. OTTINGER. That is correct. I have changed my views in that respect since I introduced the resolution.

Mr. ZABLOCKI. Given the scenario in which there is not a requisite buildup of conventional forces to meet the threat, you would not suggest implementing unilaterally until such time?

Mr. OTTINGER. That is the reluctant conclusion to which I have to come. It is an uncomfortable one. But I think it is just overwhelmingly important that we get rid of nuclear weapons on an international scale. But so long as the Russians have amassed such a substantially greater force than we and our allies have in Europe, the threat that we will be insane enough to use nuclear weapons should they attack is a deterrent of some kind. As I said before, I don't think it is a very good deterrent because I don't think that the chances are very great of our actually using tactical nuclear weapons. What we are saying in effect is that an attack on Europe will cause us to go all out to begin the destruction of the world. How credible that is, I don't know. I think it is subject to considerable doubt.

RISK OF SABOTAGE INCREASES WITH NUMBERS OF NUCLEAR WEAPONS

The other thing that bothers me very much about the deployment at the present time of all those tactical nuclear weapons in Europe is the risk of their being sabotaged or stolen, used accidentally or without authority, or taken over by an unstable country, which is very great indeed. And they are in some very unstable countries.

I think we can start unilaterally taking those tactical nuclear weapons out of Europe and Asia and all other countries. I think we should start on a very great priority basis, building up the conventional forces with our allies so that we can make a decision to remove tactical nuclear weapons from the European theater.

Mr. ZABLOCKI. Your concerns about theft and the unstable countries are ones which this committee hopes to go into. At the same time I don't intend my question to imply that I am completely in accord with the resolution introduced by our colleague, Congressman Bingham. But if a buildup of conventional forces is not in the cards and first use of tactical nuclear weapons is not to be implemented, do you see any merit in the proposal of the gentleman from New York for strategic nuclear weapons?

Mr. OTTINGER. I do, yes. I think the resolution of the gentleman from New York is a good partial step that we might take, provided that it makes clear that we are not bypassing that measure implying in any way that we are going to make first use of other than strategic nuclear weapons.

Mr. ZABLOCKI. I would hope that even in the suggestion of the gentleman from New York, Mr. Bingham, that there would also be a proviso providing that we can get treaty agreements so that all nuclear powers will agree.

Mr. OTTINGER. I don't think that is necessary with respect to strategic first strike.

Mr. ZABLOCKI. At least the United States and the Soviet Union.

UNILATERAL RENUNCIATION AND EFFECTS ON RUSSIANS

Mr. OTTINGER. I think it is very much in our interest unilaterally to assure the Russians that we are not planning a strategic first strike, that we can do that unilaterally, that it will increase our security and in no way can it be interpreted to decrease our security.

Mr. ZABLOCKI. You are losing me. I was with you right along. But when you advocate that we unilaterally make the renunciation of the first use of even nuclear weapons regardless of what the Soviet Union might or might not agree to, I don't advocate that our country take such a step unless there is some semblance of evidence that they will do likewise. You can't expect them to be good boys just because we are going to be saying that we won't do it.

Mr. OTTINGER. I certainly don't expect them to be good boys.

Mr. ZABLOCKI. After World War II we demobilized.

PSYCHOLOGY BASIS OF PROPOSED STRATEGY

Mr. OTTINGER. We are in a most incredibly difficult situation both in terms of the strategy and tactics that we are dealing with and the psychology that we are dealing with. But if the Soviet Union gets the idea that we are not forswearing a strategic first strike, the only way they can protect themselves is to strike first. Therefore it seems to me that if we make it clear that we are doing everything we can to assure that we have the capability of delivering a second strike sufficient to destroy the Russians completely, it is much in our interest to assure them that we are doing nothing to give ourselves the capability to have a destructive preemptive first strike. And that we should do unilaterally.

Mr. ZABLOCKI. My time is long overdue.

Mr. Lagomarsino.

Mr. LAGOMARSINO. Thank you, Mr. Chairman.

I have some questions that in all fairness I should submit to Mr. Ottinger to reply to at his convenience. But I have a couple of other questions. I ask unanimous consent to do that, for Mr. Findley and myself.

Mr. ZABLOCKI. Without objection. I wonder if the gentleman from California will also ask unanimous consent for the Chair to include some of the questions that I have?

Mr. LAGOMARSINO. I will so amend my request, Mr. Chairman.¹

We could adopt Mr. Bingham's resolution. As I understand it pretty much states what our policy is anyway except perhaps with regard to the negotiations regarding a counterforce capacity. But I am not so sure this is going to make any great difference. The Russians certainly have no great reputation for adhering to agreements they make. I suspect that they are not that confident that anybody else that they make agreements with will keep their agreements either, vis-a-vis World War II and Hitler and Stalin. So I am not at all sure that it would make that much difference in what they plan to do in the future.

Even if we were to say we won't do this, my own opinion is that they would assume we would do exactly what they would, which would be to strike first, if indeed at the time that became appropriate in the minds of those making the decision that that would be the thing to do. I am sure no matter what agreement they make that would be the way

¹ Questions and answers appear on p. 29.

they would carry it out if they were able to do so at the time this comes up.

Mr. OTTINGER. I think in the long run the only thing that is going to eliminate the nuclear terror under which we live is to get rid of them.

Mr. LAGOMARSINO. That is right.

ON-SITE INSPECTIONS TERMED "PRIORITY OBJECTIVE"

Mr. OTTINGER. That requires a degree of inspection on Soviet and American soil. Certainly it has not been acceptable to the Russians. I don't know whether it would be acceptable to us. It should be. That is the priority objective.

But I think the passage of this kind a resolution nevertheless is effective in providing some assurance and in getting the Congress and the people of our country and the people of the world to start thinking about what we are really dealing with here, because I really think that the people have dismissed this subject as being too terrible to think about. That is a terrible mistake.

Mr. LAGOMARSINO. You are talking about building up the conventional forces. Some of the articles I have read and some of the briefings I have attended lead me to agree with that. I think we should give serious thought to that. I think we have a real problem in some areas.

Incidentally, somebody a little while ago—I guess it was the chairman—mentioned a treaty with regard to chemical and biological warfare welfare that we have. Yet there are indications that the Russians are prepared for it. I wonder if that is going to mean all that much if and when the war happens.

Mr. OTTINGER. We haven't got a treaty yet on chemical warfare.

Mr. LAGOMARSINO. Biological.

Mr. OTTINGER. Biological warfare.

CONVENTIONAL VERSUS TACTICAL NUCLEAR OPTIONS

Mr. LAGOMARSINO. What is "adequate?" How would you define "adequate?"

Mr. OTTINGER. "Adequate" is going to have to be a judgment about which I suppose there is never going to be universal agreement.

I think in the last analysis I suppose that our Government, which is Congress and the Executive, are going to have to feel reasonably comfortable that we can deter a Soviet conventional attack with allied conventional forces and weaponry. I would hope that would be on a scaled-down balance rather than a scaled-up balance.

The Russians are presently maintaining a huge conventional force and increasing it, which I think is a matter of real concern.

I am prepared to have us increase our conventional forces even if we can't get the tactical nuclear agreement, just to give us the conventional options so we don't have to use the tactical nuclear weapons. I view it that seriously. I think from what we have learned of the destructive power of nuclear weapons today their use is something that just has to be ruled out.

Mr. LAGOMARSINO. I personally think that if the Russians were to move into western Germany, France, and we were able to stop them, I think they would be much less likely to use nuclear weapons to advance their goal than there would be the other way around. This is just a personal opinion. I don't think they would be nearly as likely to use nuclear weapons to further their charge, their attack, as we would to stop them.

DEGREE OF CONCERN ON PART OF THE SOVIETS

Mr. OTTINGER. I have been told by some of those who have sat down with the Russians at high level negotiations that they have shown, they have expressed, much greater concern about restraining nuclear weapons' use than perhaps we have. I do hope the committee will get into the degree to which the Russians are prepared to remove their own tactical nuclear weapons.

Mr. LAGOMARSINO. One thing you mentioned in your statement and didn't really dwell on too much. I didn't believe it at first but after listening to the Russians and hearing them discuss it I am convinced—it sounds unrealistic—that they really believe that they have something to fear from West Germany still. They still fear German militarism and expansionism.

I would think the whole balance would be greatly upset, psychologically as well as physically, if the West Germans did indeed formulate and deploy their own strategic or tactical nuclear capability. I think that would really cause this thing to be upset.

WEST GERMANY'S POSITION

One thing we have to really be careful about, whether it is in employment of weapons or taking them out of areas or even adopting resolutions is what effect this might have on that country's perception of this whole thing and what they might do to meet this perceived threat.

If the Israelis and the Indians and Lord knows who else, the Chinese, can develop atomic weapons, certainly the West Germans can.

Mr. OTTINGER. Yes, I think that is a very real concern.

Mr. LAGOMARSINO. If they haven't already.

Mr. OTTINGER. We certainly would have to deal with that question and create a realization in Germany and in France that the present posture of reliance on tactical nuclear weapons deterrent is not a sound one and demonstrate our commitment to go to their defense by participating with them in a buildup of conventional forces. But it is not an easy task. At the present time, as I understand it, anytime there is a discussion in the United States of restricting use of nuclear weapons—even a resolution such as I put in with 92 colleagues about our renouncing first use of nuclear weapons—creates a fear on behalf of the Europeans, the West Germans in particular, that we would not go to their defense.

Mr. LAGOMARSINO. I think what you say on page 7 might calm them down a bit.

Mr. OTTINGER. Yes.

Mr. LAGOMARSINO. You say you wouldn't go ahead with the resolution until we had the conventional forces in position.

BUILDING UP CONVENTIONAL FORCES: INCREASE IN DOD BUDGET?

Mr. ZABLOCKI. In order to have adequate conventional forces it would mean an increase in our DOD budget. How much of an increase would you advocate as being reasonable in view of what is already criticized as a very fat DOD budget? How much more would be adequate to meet the conventional needs that you advocate?

Mr. OTTINGER. I would hope that we could accompany the buildup of conventional forces with reduction of the nuclear weapons fiasco and not end up with a larger budget.

But when it gets down to the bottom line I will tell you that I think that our nuclear weapons posture is such a great danger that I am prepared to spend whatever is needed to bring our conventional forces up to par.

Mr. ZABLOCKI. You would not advocate any cut?

Mr. OTTINGER. I would advocate cuts of many systems that I think are counterproductive. I think we are building an excess strategic nuclear weapons capacity as an example. We can destroy every man, woman and child in the Soviet Union many times over. To be able to destroy them twice as many times over I think is folly.

I think the B-1 bomber is inefficient and overly expensive to perform the mission that is proposed for it.

SPENDING SECONDARY TO ORGANIZATION, SAYS DEFENSE DEPARTMENT

There are still many areas where I think the military budget is much too fat.

But if you ask me what we should spend to assure that our conventional forces within the defense budget are brought up to a par with the Russians, my answer is, "what is necessary." I don't have the expertise, though I have asked my staff to work with the Defense Department on trying to arrive at a figure which would achieve that goal.

Incidentally, the first response we have gotten from the Defense Department on the cost of a conventional force buildup in Europe is that it isn't so much a question of spending more but of organizing the forces that we already have there better. So I don't know if it is going to be a huge figure.

But I think if it is a substantial figure to protect us from having to resort to nuclear warfare, which I think is totally self-destructive and obliterating, I think we have to spend whatever we have to spend.

Mr. LAGOMARSINO. How would you define "first use" as used in your resolution?

Mr. OTTINGER. I don't see any ambiguities. Maybe you had better pinpoint the question.

Mr. LAGOMARSINO. I presume that first use would not cover a situation—and I assume this could be verified—where the Russians have already launched atomic weapons.

Mr. OTTINGER. That is their first use.

Mr. LAGOMARSINO. Although they have not landed yet, they are on the way.

Mr. OTTINGER. I understand now. Yes. One of the resolutions I have seen actually includes that, one of the Senate resolutions. That should be made clear, once they have launched them.

WOULD CONGRESSIONAL PARTICIPATION BE APPROPRIATE?

Mr. LAGOMARSINO. I think we certainly ought to look into and perhaps do something about this whole area of who has the right to push the button and who that has been delegated to, what strings there are attached and so on.

But I have some question as to whether it would be appropriate to ask Congress to agree in advance. I think you might have a hard time rounding up enough members to make the decision although I must say we act pretty quick when it is on a pay raise.

Mr. OTTINGER. This is a suggestion only in the event of a conventional attack. We could certainly have the time to have a congressional deliberation as to whether we should make first use of nuclear weapons.

Mr. LAGOMARSINO. I guess it depends on how much of West Germany has to be overrun before—

Mr. OTTINGER. Before West Germany was attacked you would know that this was impending because that size attack—

Mr. LAGOMARSINO. That is a good question.

Mr. OTTINGER. A conventional attack of a size to overrun Germany would require a considerable amount of putting together of forces, a putting together of tanks, transportation for troops, transportation for rockets, et cetera, which would give considerable time for consideration of use of nuclear weapons.

Mr. LAGOMARSINO. Apparently some of that is pretty well put together already.

Mr. OTTINGER. I am told, again by some of the top military people, that they feel we would have considerable notice, a matter of weeks, in order to be able to ascertain that such an attack was forthcoming.

Mr. LAGOMARSINO. I have no further questions.

Mr. ZABLOCKI. Mr. Bingham, before calling on you, may I also ask you to chair the meeting since I have to go to the Senate side for a conference on the security supporting assistance bill.

LEADERSHIP LAUDED AS VALUABLE

Mr. BINGHAM. I understand, Mr. Chairman. I will carry on.

Let me say first of all that I think our colleague has made his point of view very clear. I salute him for his leadership in this field and also for the openmindedness that he has shown. I think he has adjusted his thinking in some respects. I hope he will continue to participate in these hearings as they go forward as a guest, if that will be acceptable to the chairman. Because of your intense interest I think it would be very helpful if you would do that.

Mr. ZABLOCKI. With the understanding that he can't participate in the markup.

Mr. OTTINGER. I will be pleased to participate with you.

Mr. ZABLOCKI. To the extent possible within the rules.

Mr. BINGHAM [presiding]. I understand the chairman has to leave. And Mr. Lagomarsino also?

Mr. LAGOMARSINO. I can stay a few moments.

Mr. BINGHAM. I think you would agree that we are talking here about two really quite different things. Perhaps we haven't distinguished them enough. One of them is the question of first strike and first use. The other is the question of command control. They may be related at certain points but they are really quite separate questions. Don't you agree?

LEGISLATIVE OVERSIGHT CONTROL OVER COMMAND AND CONTROL

Mr. OTTINGER. I think there are real differences. One of the things that really bothers me, though, is this intercorrection—I don't think effective command and control is possible.

Mr. BINGHAM. I was just going to ask you whether you have suggestions for a legislative approach to that problem, which seems to me an extraordinarily difficult task. I myself don't see how it can be approached from a legislative point of view.

Mr. OTTINGER. I haven't given adequate thought to legislative control except in terms of oversight. I think for the time being the best we can probably do is to assure that the Chief Executive has to make that decision and that there are means to assure that unauthorized people do not have the power to make that decision for themselves and that authority is not granted outside of the Chief Executive to make that terrible decision. That puts a lot of weight on the Chief Executive. It also puts a lot of weight on the communications required to make sure that the Chief Executive is available and can make effective use of these weapons if they are needed in the event of an attack by the Russians.

But I think that there are extraordinary problems involved in working that out. Whether we can handle that legislatively I don't know. I think the committee should attempt to determine what the real situation is now, if you can.

DELEGATION OF AUTHORITY TO COMMANDERS

Mr. BINGHAM. I agree with that. My impression is that the kind of legislation you speak of is now already on the books.

Mr. OTTINGER. I don't think it is. I don't think there is any prohibition against the President delegating the authority. As an example I have been told that in the past—I don't know what the present situation is—each of the previous Presidents had delegated the authority to use nuclear weapons to a number of field commanders.

Mr. BINGHAM. I certainly agree. We should examine that.

One question I had I think you kind of answered in the course of the discussion since you made your opening statement. That is the point that even though there might be a great question that we would use tactical nuclear weapons in Western Europe in the event of a conventional attack there is also doubt on the other side and that doubt in itself has value as a deterrent. In other words the Russians can't be sure that we won't. So if they wanted to avoid nuclear conflict they wouldn't take that risk. Do you agree with that?

DETERRENCE EFFECT ON THE SOVIETS

Mr. OTTINGER. They have to take the same irrational insane, if you will, choice that we would have to take. But I agree with you. That

does have some deterrent effect. However, if they were to decide that we would not in fact use the nuclear weapons because they were suicidal, than its deterrent effect would not be effective. Since there is grave doubt about the effectiveness of the deterrent, the imbalance of conventional forces induced by our reliance on nuclear weapons is particularly dangerous.

Mr. BINGHAM. That is correct.

Mr. OTTINGER. The deterrence is not completely credible. We don't know how they think.

Mr. BINGHAM. On a different level let me ask you to think about this. You referred to our policy of mutual deterrence, which has been in effect for a number of years now, as sheer insanity. I am not so sure that that is so. World War I and World War II were both pretty horrible experiences even before the explosion of nuclear weapons. Is it not quite possible that the Soviet Union and the United States would have been at war by now had it not been for the nuclear deterrent factor?

Mr. OTTINGER. Certainly that was so, so long as we were predominant on the nuclear scene.

Mr. BINGHAM. No; my question is, Had there been no nuclear weapons in the postwar period in the last 30 years?

Mr. OTTINGER. Had there been none, the likelihood of conventional war indeed might have been greater. The risk of nuclear war would not have been present. Without nuclear weapons we would have had a greater risk of a lesser danger. With nuclear weapons the risk of war is less, but the danger if there is a war is infinite.

One of the things that you have with the nuclear phenomenon is the danger—and I don't know how you deal with it—of a Chief Executive—at the moment it appears to be just Russia and the United States—losing his competence or being overthrown by somebody or having the little black control bag stolen or of his getting incorrect information.

DANGER OF COMMUNICATION FAILURES

After all, we had a worldwide alert not too long ago that was provoked by a failure of communications. I understand we have had submarine alerts caused by a failure of the communications systems. You have the tremendous risk that something will go wrong either with the mechanical equipment or the human equipment that will cause the inadvertent destruction of the world. This has to be weighed, too, it seems to me, very seriously against your point of a lower risk of war because of nuclear weapons. I am not sure that you end up with a plus. In fact I don't think you end up with a plus.

Mr. BINGHAM. You probably could never weigh the two. But you concede that there is a countervailing factor there.

Let me end up with this one comment. It seems to me that an agreement such as you are talking about for the destruction of all nuclear weapons under adequate international control and inspection is so far outside the realm of practical possibility that we shouldn't base our thinking on what we ought to be doing in this field on that as a contingency, entirely aside from whether that would be a plus or a minus. I am inclined to agree with you that if we could achieve it it would be a plus. It just seems to me that with the problems of nuclear prolifera-

tion, the problems we see now of additional nations acquiring nuclear weapons, the resistance up to now by the Soviets to real inspection or on-the-ground inspection, that it just isn't particularly fruitful for us to think in terms of moving toward an agreement.

INTERNATIONAL AGREEMENT UPHELD AS LOGICAL

Mr. OTTINGER. I disagree with you, first because I think that it is the only logical solution to this problem of nuclear terror that we have gotten ourselves into. I understand from our negotiators that the Russians are very seriously concerned about the dangers not only between ourselves but also from the proliferation to which you refer. There is no known way for instance if Arafat got hold of one of these bombs—for us to adequately cope with that situation by the threat of nuclear retaliation.

We can't be so timid as to say that an international agreement is so far beyond anything we have been able to achieve so far that there is no sense addressing ourselves to it now. I think the try should be made. It has to be made.

Mr. BINGHAM. I thank you on behalf of the subcommittee very much for your leadership and your statement.

There is a statement which Representative Abzug has submitted to the committee which should be entered into the record at this point by unanimous consent.

[The statement referred to follows:]

STATEMENT OF HON. BELLA S. ABZUG, A REPRESENTATIVE FROM THE STATE OF NEW YORK

Mr. Chairman, I am pleased to appear today to discuss an issue which has been of great concern to me for many years, and in which I have been actively involved, both in and outside of Congress.

One of my first acts after entering the 92d Congress was to introduce a resolution banning our first use of nuclear weapons, similar to H. Res. 11 which I introduced on the first day of the 94th Congress. I also introduced this resolution in the 93d Congress. I believe the time is now right for favorable action to be taken on this measure.

For decades America has had only one approach to co-existence with the Soviet Union. This approach has been founded on the premise that we can only be respected by being ready to launch a preemptive nuclear attack. This fundamental assumption has resulted in an endless arms spiral, accompanied by a military structure consuming 26 percent of our national budget.

Our continued refusal to adopt a "no first use" policy can only encourage the Soviet Union to hasten the development of even more advanced weapons. This kind of environment in which fear is the basic element, is characterized by ever-increasing arms production, it has resulted in a poisoning of the atmosphere of our bilateral arms limitations talks. The failure to reach agreement in the SALT talks results in part from our contradictory goals and policies. The business-as-usual assumptions underlying these talks have prejudiced the chance of successful negotiations; it is therefore no surprise when the President begins to warn us not to expect great progress.

Members of this administration have at times attempted to condition the American people to accept what was once unthinkable: That a nuclear first strike by the United States may be a legitimate course of action. This effort is being sold as an expansion of our options, as part of a new flexibility. We currently possess so-called small nuclear devices, designed for use in so-called limited nuclear war. These tactical nuclear devices are presented to us as evidence in a public relations campaign to legitimize a first strike strategy and to promote the concept that nuclear war can be contained.

But for sophisticated members of our Government to state that a small scale nuclear war can remain limited is either unbelievably naive or dangerously demagogic. The history of warfare through the ages tells us that weapons are made to be used: Given the present continued proliferation of nuclear arms, once the first bomb is detonated, all agreements and restraints will be nullified.

The ominous remarks, most notably by former Secretary of Defense James Schlesinger made last spring, and more recently by Secretary of State Kissinger, on the feasibility of first use and the counterforce strategy inevitably coerce Soviet military planners into preparations against a U.S. nuclear initiative. In addition, by de-emphasizing the value of conventional weapons to the Soviet Union, to the Warsaw Pact and to NATO Forces, such trial balloons help lower the nuclear threshold.

Because a "No First Use" policy has never been adopted by our country, both U.S. and NATO military planning proceeds in a climate of uncertainty. Our unwillingness to take the initiative in this policy not only perpetuates the danger of nuclear war, it also weakens our military stance by preventing the development of an efficient, consistent and publicly stated, military policy. This very uncertainty could at any time be the reason behind a decision to exercise the first use option. Renunciation of first use would eliminate the possibility of such a tragic mistake, and would help us in achieving better relations with our allies.

Those who claim that the presence of our nuclear threat is responsible for the relative quiet in Europe between eastern and western forces present a very misleading argument. The principal cause of diminished tensions is simply the absence of direct political stresses. We all hope that these stresses will continue to decline. In the event of a renewal of tensions, however, our readiness to initiate the use of nuclear weapons can only aggravate the situation. Those who preach nuclear readiness because war may break out at anytime are thus engaging in a self-fulfilling prophecy.

I must emphasize that to renounce the first use of nuclear weapons will in no way diminish the deterrent value of our existing nuclear forces. But by breaking the hopelessness and mistrust of the past, it sets the stage for negotiations to agree on further steps toward disarmament.

For over 30 years, the United States has been engaged in disarmament talks of one form or another. But in all that time, not one single nuclear weapon has been destroyed by an international agreement. The stockpiles keep getting higher; the overkill factor reaches ludicrous levels.

Let us not be fooled. Spending vast sums to further refine our nuclear warheads and to improve their accuracy and yield will not add one bit to national security. If the Soviet Union decides that we are serious about launching a first strike which would destroy them, one can only imagine the nervous fingers on their buttons, tempted to counter that risk once and for all. Given the assumptions of mutually balanced destruction, we jeopardize our defense by taking any steps beyond ensuring our own retaliatory capacity.

We must never forget that our actions have a special significance in the eyes of the rest of the world. Our decision for or against a promise on first use becomes the policy of the only Nation that has ever used atomic weapons in wartime. Thus, it is most appropriate that we take the initiative in renouncing it. Our promise will reassure the rest of the world about our peaceful intentions. By our action, we can short-circuit endless international negotiations over mutually agreeable wording. And we can place great pressure on the Soviet Union and other members of the nuclear club to also renounce the first-use option.

Our deterrence policy has worked for 25 years, although there have been some close calls. The recent threats by the administration that it will employ nuclear weapons represents a clear deviation from this policy. These threatening statements can easily be interpreted as the beginning of a new aggressive stance. This campaign to change our stated policy threatens the survival of civilization. We should all take a step backward and ask what does the failure of the United States to renounce first use of nuclear weapons say about our country? To millions of people throughout the world, it says that we can conceive of circumstances in which we would be prepared to begin the destruction of our planet. It means that we refuse to forego the use of 4 billion lives as a bargaining chip in international politics. While there may be many disagreements on foreign policy questions among Americans, I strongly hope that none of us welcome that kind of global image for our country.

A "No First Use" declaration by the United States does entail certain risks. But certainly these risks are infinitely less than those posed by the inevitable nuclear

conflagration which such a policy presumes. No one can exaggerate the consequences of our actions. Our responsibility to those we represent demands that we break with the past, that we demonstrate our commitment to a less risky kind of security. Congress can take no greater step to increase the chances of success for the SALT talks than to approve a no first use resolution. We have nothing to lose and a world to gain.

Mr. OTTINGER. Mr. Chairman, if you have no further questions, I am supposed to go to New York. I would ask to be excused.

Mr. BINGHAM. I would just say for the record that this meeting is adjourned until Thursday, March 18, at 2 p.m. in this same room when our witness will be Dr. Herbert York of the University of California, former chief scientist at the Advanced Projects Research Agency and the Department of Defense, and Adm. Gerald E. Miller, retired, former Deputy Director of the Joint Strategic Target Planning Staff and the Department of Defense.

Our subject at that time will be "A Review of the Past Deficiencies and Current Adequacy of the Command-Control System by Which the President Exercises and May Delegate His Authority To Use Nuclear Weapons."

The meeting stands adjourned.

[Whereupon, at 3:19 p.m. the subcommittee adjourned to reconvene at 2 p.m., Thursday, March 18, 1976, in room H-236, the Capitol.]

[The following questions were subsequently submitted to Representative Ottinger. Those questions together with responses, follow:]

RESPONSES BY REPRESENTATIVE OTTINGER TO QUESTIONS BY CHAIRMAN ZABLOCKI

Question. At the very outset of your statement you note that nuclear technology has raced ahead of man's ability to harness it for safe and beneficial uses. That suggests a very fundamental problem. And my question is why has that happened and what can we do to correct it, especially for the future?

Answer. I wish I had the answer to this over-riding problem.

With regard to nuclear weapons, I presented my suggestions when I testified. I see no alternative to an agreement for the international control of nuclear weapons and the materials and processes from which weapons can be made.

To prevent proliferation, I would reach agreement with the Soviet Union not to supply enriched uranium to any country until they agree not to re-sell it, or any supply, reprocessing or enrichment equipment, to any country not a signatory to the Non-Proliferation Treaty and that has not subjected its nuclear facilities to I.A.E.A. safeguards and inspections, as Senator Ribicoff has suggested.

In the United States, my inclination is to establish a moratorium on new nuclear plant construction until we have resolved the problems of safety and waste disposal. We should encourage other nations to do the same. At present, atomic energy is receiving a disproportionate percentage of our research effort. If the costs of nuclear energy continue to rise at their present rate and the reliability and safety of plants continue to be called into question we will have wasted a great deal of time and money. We should redirect our funds and manpower to conserving more energy and developing alternative renewable energy sources, such as solar energy.

Question. You also note in your opening paragraph that our first priority must be to lead the world to nuclear safety by example and persuasion. I would merely suggest that that approach has not worked in the past. Therefore what do you suggest—in terms of having learned a lesson—that we do to make it work in the future?

Answer. Unfortunately, the example which has been set by the United States in the areas of control over nuclear weapons and establishment of arms control negotiations has not been good. We have consistently been out front in developing and deploying new, destabilizing systems—tactical nuclear weapons, MIRVs, MARVs, cruise missiles, just to name a few. We have deployed more nuclear devices outside of our territory than has any other nation.

In the area of nuclear energy we led the way with "atoms for peace". We sold to the French and West Germans the secrets of nuclear technology which they now threaten to spread throughout the world. I wish we had displayed more foresight, and I fear that unless we begin to slow the pace we are setting the limited successes that have been achieved—the limited test ban treaty, the non-proliferation treaty, the first SALT agreement, to cite a few—will be squandered. Perhaps the very poor example now being set by France and West Germany in the exportation of nuclear technology will encourage the Soviet Union to join us on the only path which is reasonable: continued and broader pressures for effective international control of nuclear weapons and nuclear materials and equipment from which weapons can be made.

Question. Could we explore for a moment what strikes me as a possible contradiction in your testimony. It begins on p. 2 (middle) where you say that "far too much of our nuclear weapons policy is still held over from the days when we were the sole nuclear power." But then you dwell at some length and at various points on the notion of "deterrence." The point, of course, is that deterrence is in fact an adjustment in our basic policy to the fact that we are no longer the sole possessor of nuclear power. Comment?

Answer. The initial deployment of tactical nuclear weapons was to deter a conventional attack by the Soviet Union in Europe. The difference now is that the Soviet Union has nuclear weapons. My concern is that we continue to treat questions about nuclear weapons and deterring attack as if a nuclear response is unlikely.

Question. Just how precisely and exactly do you suggest that we and the Soviet Union "develop more common sense" (p. 3) in reaching the conclusion that use of nuclear weapons is suicidal?

Answer. I have been convinced by the studies which have been done by committees of Congress, academic groups and scientists that nuclear war is not an acceptable option if we wish our society to survive. Obviously there are a great many people who have not been convinced of this, believe that the threat of using nuclear weapons is effective in preventing war and that deterrence will not fail. My trouble with this is that with the increasing proliferation of weapons and attempts, principally by the United States, to make smaller weapons and to make them acceptable, the likelihood of their use increases daily.

Question. Do you have any reason to believe that the delegation of authority to use nuclear weapons (top of p. 4) has been done in anything other than the safest and surest way so as to preserve to the fullest responsible civilian control?

Also, you say (bottom of p. 4) that you have "every reason" to believe that the protections are inadequate against catastrophe by way of theft, sabotage, unclear and over-extensive delegation of authority, incompetence, or incapacity of authorized personnel, unauthorized use, weakness of communications and command and control. I would submit that those words constitute a most serious charge with far-reaching implications to the security of this country. Thus, I would ask if you can in open session be more specific. Also, I would be most interested in the time-frame of your accusations.

Answer. I would be happy to discuss both of these questions, but cannot do so in open session.

I do believe there has been delegation of authority for use of nuclear weapons which creates unacceptable risks that irresponsible people or people who might panic in a crisis might obtain authorized power over their use. The Subcommittee received evidence of delegation in open session from Admiral Miller.

I also believe that there are situations in which combinations of two or more people have the power to make unauthorized use of nuclear weapons, creating additional unacceptable risks, and that existing weapons are not adequately protected from theft, sabotage and seizure. These conclusions were obtained from unclassified sources, but the details confirming these conclusions were obtained from classified sources and briefing (see especially the study conducted by the House Committee on Appropriations).

RESPONSE BY REPRESENTATIVE OTTINGER TO QUESTIONS SUBMITTED BY
REPRESENTATIVES FINDLEY AND LAGOMARSINO

Question. Assume for a moment that the Russians are able to combine the existing large payload (or Mirv) potential of their missiles with high accu-

racy. This of course would enable them to threaten great military damage to the U.S. while leaving our cities inviolate. If we fail to cultivate greater accuracy ourselves, we are left then only with the option of destroying Russian cities. Aside from being immoral, this kind of a response would be plainly ineffective. In short, it would not *deter* the Soviets. They would know in advance that our response would appear incredible.

Is this the kind of a situation we want to have obtain in the event of some future Cuban Missile Crisis? Don't we therefore need a certain combination of high accuracies and low yields on select weapons in order to maintain a credible deterrent?

Answer. Our policy is no longer directed toward deterring the use of nuclear weapons and decreasing the likelihood of nuclear war. Instead we have opted for a policy of nuclear war fighting. Statements such as those made last summer by President Ford and Secretary Schlesinger only reinforce the belief of other nations that nuclear war is a reasonable option and that the United States might initiate such a conflict.

With respect to the first part of this question, improving the accuracy of strategic weapons creates the potential for a strategic first strike and is highly destabilizing. If we developed a nuclear force capable of eliminating the entire Soviet land based ICBM force the Russians might decide their only recourse was to strike first before our force was completed. In the eyes of a Soviet planner such developments would only provide a very provocative target—one which must be destroyed lest it destroy him—rather than give him confidence in our ability, or willingness, to limit nuclear war. At the very least, he would feel compelled to keep his forces in a state of alert, prepared to launch on warning of an American attack, multiplying the possibility of accidental war. It is interesting to note that while Administration spokesmen have always belittled the likelihood of a successful disabling first strike, I don't know that they have ever denied the desirability of having such a capability.

With regard to the Soviet potential to launch a limited strategic strike, studies done by the Senate Subcommittee on Arms Control, International Organizations, and Security Agreements have indicated that fatalities as a result of such a limited attack on U.S. military installations could be as high as 22 million people; an attack on the Minuteman force deployed near Whiteman Air Force Base in Missouri alone might result in up to 10 million fatalities. Though this fits the description of a limited, or counterforce, attack, I don't believe that the President and his advisors would see it as such and would escalate the conflict.

On the bottom line, I don't believe that limited nuclear war is feasible; nor do I believe that the use of nuclear weapons could be confined to a particular theatre of conflict once they have been used. Once nuclear weapons are employed, the likelihood is overwhelming that whoever is on the losing side of a nuclear exchange will resort to larger weapons. The confusion which is characteristic of any international crisis and the emotions which would be aroused once nuclear weapons are used would create incredible pressures to escalate the conflict to a final decision ending in nuclear holocaust.

I don't believe that we can foresee the type of nuclear crisis which we might face in the future. Making an analogy to the Cuban Missile Crisis, in which the essential ingredient was our vast nuclear superiority, is not reasonable. I would expect given a counterforce nuclear war fighting capability, that those weapons would be used rather than suffer defeat—and any use of nuclear weapons in a conflict of the type being suggested would carry an intolerable risk of self-destruction.

Question. You mention the need to shore up the conventional defense posture of Europe as a way of raising the nuclear threshold. I applaud you for this. You also tend to speak critically, however, of the cruise missile. Isn't one of the great advantages of this system, though, the fact that it can serve as a replacement—a conventional and highly accurate replacement—for our relatively vulnerable tactical nuclear forces in Europe?

Answer. We have not adequately addressed the very significant impact which cruise missile technology will have on warfare and arms control. I agree that tactical (short range) cruise missiles armed with conventional warheads might carry out missions now assigned to tactical nuclear weapons, but the difficulties which this technology injects into arms control negotiations and the easy access which other nations have to this technology give me reason for concern.

Before we go ahead in deploying cruise missiles we must reconsider what is now the basis for our arms control negotiations with the Soviet Union: the ability to accurately count recognizable launching platforms with a close approximation of the number of re-entry vehicles. As it is now being developed the cruise missile is capable of being launched from a large number of platforms, is easily hidden, and it is impossible to differentiate between nuclear and conventional, long and short range weapons.

At the very least, I believe we should try to control strategic cruise missiles capable of carrying large nuclear weapons. I am very worried that if we fail to do so, cruise missiles will follow the trail blazed by MIRV, another United States' technological innovation, and foster another round in the arms race, achieving a balance of terror at a much higher level of expenditure, and offering much less security for our money.

Question. Would you tend to favor a policy declaration of no first use of nuclear weapons against cities?

Answer. On the face of it this is a reasonable proposal, removing our population centers from the threat of devastation. In practice, though, I think that a policy of no-first use of nuclear weapons against cities would encourage the concept of limited nuclear war.

The proposal of no first use against cities, as presented by Dr. Ikle in his speech of November 24, 1975, is couched in the terms of counterforce and limited nuclear war with no consideration of the consequences of breaking the nuclear "firebreak" and the difficulties of limiting any nuclear exchange. One gets the impression from his speech that no first use against cities might justify nuclear war because escalation to population centers might not result.

At the time Dr. Ikle made his speech I asked Dr. Jeremy Stone, Director of the Federation of American Scientists, to comment on it. I hope that his response (attached) might be included as part of my answer to this question.

COMMENTS ON DR. FRED IKLE'S SPEECH OF NOVEMBER 24, 1975

In his speech of November 24, 1975, Dr. Fred Ikle said:

"If a nuclear attack should ever occur, what purpose would be served by destroying the cities of the nation which launched the attack? What would be accomplished, at that point, by killing and maiming millions of men, women and children who had no part in the decision to attack?"

These questions suggest that Dr. Ikle is raising a little discussed moral question: viz., Should America retaliate if, and after, the worst has happened, and American cities are in ruins and the country is virtually destroyed? What good would it serve? This is an obviously important question.

In fact, however, he is evidently raising a different question and discussing "limited" nuclear attack. He goes on to ask:

"Is such retaliation a rational response to a limited nuclear attack? For example, an attack against some of our military forces overseas? And if it doesn't seem rational, can we count on it to deter the enemy? Our government has come to recognize this fundamental problem and it has taken steps during the last few years to see that our forces have a broad range of choices for responding to nuclear attack."

These further questions would seem to suggest that Dr. Ikle is *not* raising a new issue but simply supporting the Administration's present position that it needs "options" to be credible in deterring less than all out attack. From the point of view of our Federation of American Scientists, this request for options—when advanced by former Secretary of Defense Schlesinger—was as much a quest for limited nuclear *use* options as for limited nuclear *retaliation* options. After all, it is now, and has always been, America which argued over and over again that it needed credible means of nuclear use to deter conventional attack in Europe.

From massive retaliation (of the fifties) to counterforce and flexible response (of the sixties) to these "options" (of the seventies) there has been one continuing thread: the threat to the Soviet Union that nuclear weapons could, and would, be used by us first and that their use could, in some fashion, be rationalized and made credible by us.

In this context, Dr. Ikle's speech takes on a reverse image. The call for "no first use" against cities becomes a moral formulation of the strategic doctrine that limited nuclear war is possible. It is a suggestion that a nuclear war restricted to military targets might not escalate to use against cities if both sides

follow a "no first use against cities doctrine". In this form, it is similar to statements of Secretary McNamara in his June 16, 1962 speech at Ann Arbor which triggered the counterforce debate of the 1960's:

"The U.S. has come to the conclusion that to the extent feasible, basic military strategy in a possible general nuclear war should be approached in much the same way that more conventional military operations have been regarded in the past. That is to say, principal military objectives, in the event of a nuclear war stemming from a major attack on the Alliance, should be the destruction of the enemy's military forces, not of his civilian population."

We do not question the sincerity of the Director of the Arms Control and Disarmament Agency in seeking to raise new and important questions of morality with regard to nuclear use. But for our taste he has not raised them sharply enough to distinguish them from counterforce. For example, in the second and last place in his speech in which he raises these issues, this is what he says:

"Too many people have lost the sense of proportion as to what is needed—and what is morally justified—to deter nuclear aggression. To have effective deterrence we need not guarantee to kill millions of innocent people—people who could never influence the decision we wish to deter. Rather, for fundamental morality, we should not rig our forces in such a way as to cause mass killing—totally unnecessary killing—in any nuclear war. If the war had been caused by accident, what would be the sense of such "retaliation"?"

Thus far, we can agree completely; and here Dr. Ikle is raising new and important issues. But the next two sentences simply reach again the more limited conclusion that we fear:

"We should never lock our own forces into a posture that would make us the *first* to use nuclear weapons in a cruel and wanton way. We must not be the *first* to use nuclear weapons against cities." (Italic added.)

We ask the reader to re-read these quotes so as to verify that the conclusion is, indeed, much more limited than the initial questions would demand. Why, for example, should we be even the second "to use nuclear weapons in a cruel or wanton way" or to be even the second to engage in "totally unnecessary killing" or to be even the second in killing so many "innocent people"?

In short, in both discussions of this problem, Dr. Ikle begins by raising questions that deserve the answer "never" but answers them by saying "we should not be first". The trumpet call is highly muted. And, as a result, in logic the position does not differ, as far as we can tell, from a moral rationale of the counterforce policy we have opposed for a quarter century. Such new questions deserve newer answers.

We are eager to have the question of "no first use" of nuclear weapons re-examined and opened up. Perhaps this doctrine will open up some useful discussion. But is the specific doctrine "no first use against cities" a way-station on the road to no first use of nuclear weapons or strengthened control over the use of nuclear weapons? We do not believe that it is. In other words, even if both sides agreed on this doctrine, it would not advance the notion that nuclear weapons should *not* be used; quite the contrary, it would still give a justification for their use—the justification that ultimate escalation to cities from military targets might not result.

After all, we are not living in an era in which the only thing under consideration for attack is "cities"; in such an era, Dr. Ikle's doctrine would be equivalent to no first use itself. Quite the contrary, we live in a decade in which each side is accusing the other of planning limited attacks on military targets with aggressive intent to be followed by ultimatums and warnings to avoid city attacks. In such a decade, the doctrine no first use against cities can look to the other side as a cute ploy. If the Russians had put it forth, it would seem to confirm the worst fears of those of our generals who have talked ominously about limited attacks upon our land-based missiles.

Quite apart from the result of adopting the doctrine in the appearance it gives others, there is an even more basic question: What is to be a city? There are towns of all kinds everywhere and they merge into cities. Attacks upon military targets are going to hit *some* kind of city. At present, neither side is prepared to undertake instantaneous damage assessment so neither side is going to be particularly clear on whether, and what kind of, cities have "not been struck". We doubt very much whether the Arms Control and Disarmament Agency has examined the concrete problems raised by this doctrine, and hope that it will do so.

These concrete problems are not quibbles; they provide some of the reasons why escalation in nuclear war cannot be neatly stopped at the level of military

targets and before the level of "cities". Whether or not "no first use against cities" and "counterforce" spring from different instincts, they demand the same explanations.

Question. The French nuclear force—if we are to believe General Gallois—came into being largely because the French started to believe that no government would risk nuclear attack on itself by coming to the aid of an ally. Responding to an overwhelming conventional attack of NATO by nuclear force if necessary has long been considered an indispensable plank of NATO doctrine. By undercutting this, don't we re-inforce the incentives to acquire independent nuclear forces?

Answer. It is not my desire to undercut the NATO alliance or to encourage the development of independent nuclear forces in Western Europe. A non-first use pledge must be accompanied by an increase in the conventional capability of NATO, raising the nuclear threshold. Reductions in our nuclear arsenal in Europe should be achieved through negotiation, hopefully in exchange for Soviet reductions in their theatre nuclear forces.

Certainly, the questions surrounding nuclear weapons and NATO defense policy should be addressed to the European people. As war games have shown, limited nuclear war in Europe means the destruction of Europe, and the Europeans must be made to recognize this and rule it out as an unacceptable means of defense.

Question. You advocate withdrawing theater nuclear weapons from Europe, believing that we will have sufficient warning to put them back in place should hostilities erupt. A study of Soviet doctrine and tactics, however—particularly in the "Lightning War" in Manchuria—indicates that the Soviets place a high premium on surprise and deception. Might we not find that warning signals were deliberately confused and ambiguous? Also, might not the re-introduction of nuclear weapons during a period of high crisis only serve to aggravate the political situation further?

Answer. As is stated in answering Question 4, a reduction in our nuclear capability in Europe should be accompanied by an increase in our conventional capability. This increase combined with the movement which would characterize an impending attack would grant us enough time to make a deliberate decision on the reintroduction of nuclear weapons.

I am sure that every general places a premium on surprise and deception when planning an offensive. The question is whether or not that can be achieved. A significant number of the Soviet divisions in Eastern Europe are not maintained at full strength and any attack of the size envisioned by the question would require a significant increase in the movement of forces. Furthermore, such an attack is not likely to be launched from out of the blue. It would be preceded by a period of increasing tension and, I would hope, preparation by NATO.

Under these circumstances a deliberate re-introduction of nuclear weapons, accompanied by the appropriate diplomatic efforts, could serve as an indication of our resolve, leading to a settlement, just as it might heighten political tension. The effect of re-introduction is something we can't easily predict.

One thing is certain, if nuclear weapons are not in Europe we are less susceptible to have knee-jerk reaction, accidental use, theft, seizure or sabotage.

Question. Would you suggest that this withdrawal of our theater nuclear forces be done without exacting any reciprocal concession from the Soviets?

Answer. No. As I testified, I proposed announcing to the Soviet Union that we will build up NATO's conventional forces unless they reduce their contingent in the Warsaw Pact and accompany this with a suggestion for the mutual withdrawal of theatre nuclear forces.

Question. Your concern over our command and control procedures are well taken. This has often been a much neglected problem. In light of its importance, how would you explain past congressional reluctance to fund such systems as the Air Borne Command Posts, the purpose of which was to assure continued and effective presidential control over nuclear forces in the event of hostilities? Likewise the rejection of such systems as Project Sanguine, which was intended to alleviate the dangerous communications vulnerabilities with our submarine forces?

Answer. I think Congress was concerned by the high cost of the systems and by the possibility that they might not accomplish their proposed missions.

The case of the Airborne Warning and Control System now appears to be moot. Project Sanguine, now Project Seafarer, is still under consideration. By the

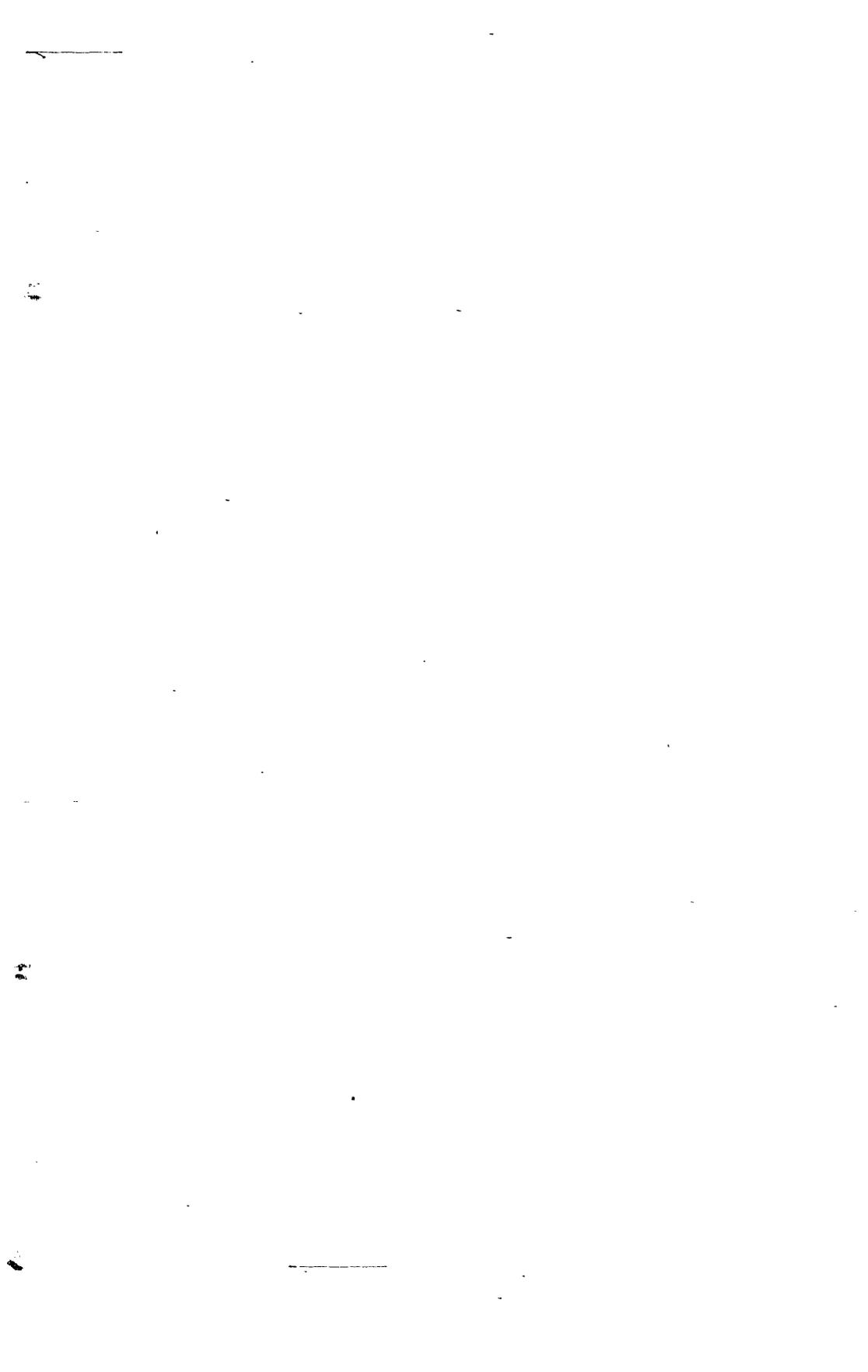
admission of the Navy, Project Seafarer could easily be destroyed as the transmitters would be constructed above ground. Furthermore, the limited system envisioned in Project Seafarer might not accomplish its task of communication with our submarine forces. This is to say nothing of its cost and the damage that would accompany the construction of an underground network covering 2,700 square miles.

Question. Isn't it true that to the extent we allow our strategic force to become more vulnerable to destruction, the more likely is the adoption of such extremely dangerous command and control solutions as "launch on warning" and so forth?

Answer. According to the Treaty on the Limitation of Anti-Ballistic Missile Systems, both the United States and the Soviet Union have opted to leave our land based deterrent and our urban areas defenseless against nuclear attack. Our sea based deterrent is invulnerable for the foreseeable future, and the deployment of the Trident I missile will add to its invulnerability by giving those submarines a greater range of deployment. Our bomber force would be difficult to eliminate in a surprise attack and provides us with a relatively constant retaliatory force. I don't believe that our strategic force is becoming more vulnerable to destruction—at least not without the compliance of the Congress as evidenced in the SALT I agreement—and I don't propose that we encourage such a development for the reason given in the question.

Question. You note that it will be difficult to keep limited nuclear exchanges limited in scope. No doubt that is true. But what alternative do we have in the event nuclear war commences other than to try to make our responses as rational and discriminate and controlled as possible? Don't we have that much of an obligation? Isn't accuracy important precisely for this reason?

Answer. I don't believe that nuclear war can be controlled and for that reason I believe that we must make every effort to rule it out. Accuracy will only encourage the idea that limited nuclear war is feasible and threaten the survival of our strategic deterrent.

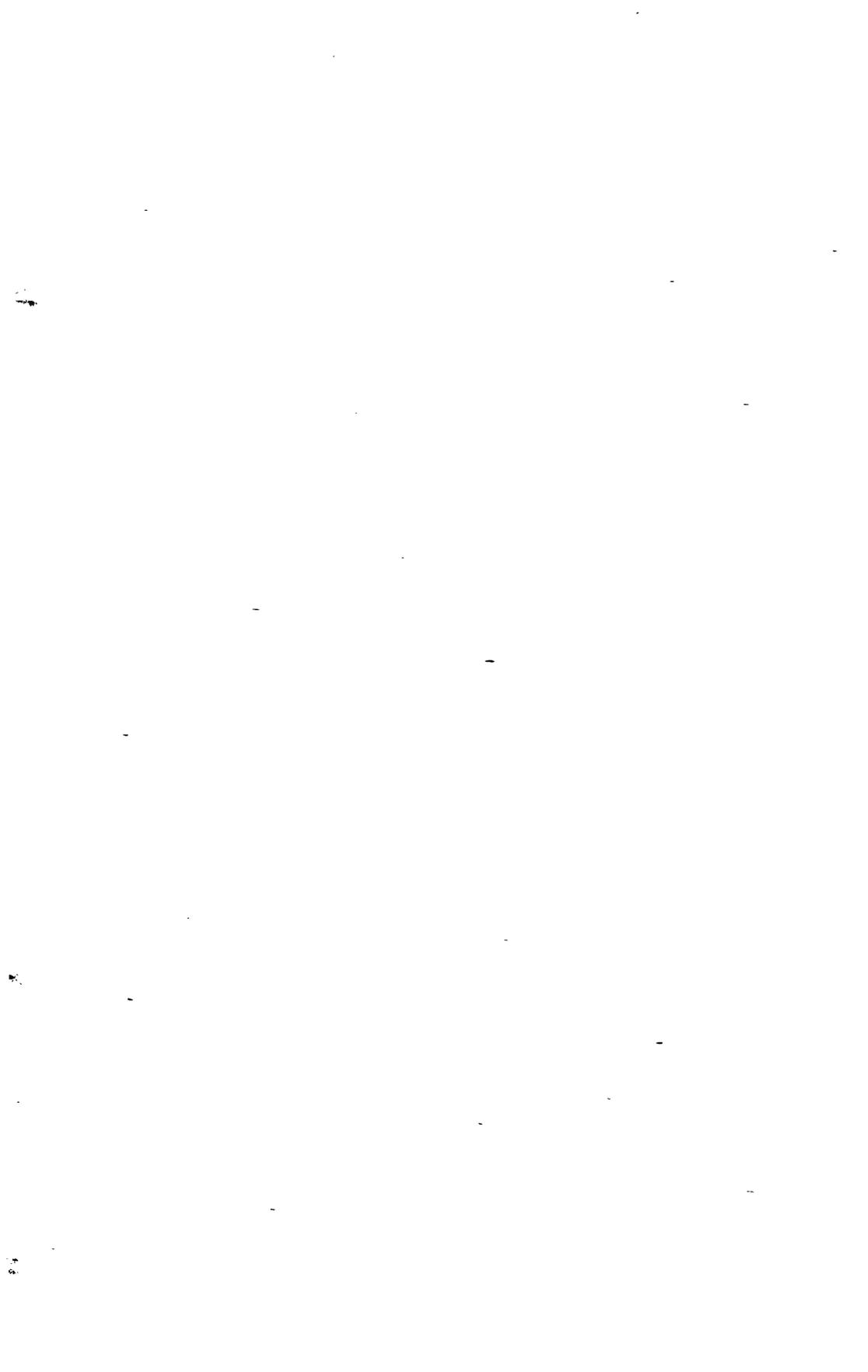


PART II

A REVIEW OF THE COMMAND AND CONTROL SYSTEM BY WHICH THE PRESIDENT HAS DELEGATED HIS AUTHORITY TO USE NUCLEAR WEAPONS: PAST DEFICIENCIES AND CURRENT ADEQUACY

March 18, 1976

	Page
Rapporteur summary.....	39
Hearing	45
Witnesses:	
Vice Adm. Gerald E. Miller, U.S. Navy, retired and former Deputy Director of the Joint Strategic Target Planning Staff.....	46
Dr. Herbert York, University of California and former Chief Scientist of the Advanced Research Proects Agency, Department of Defense.....	58
Material submitted for the record:	
Responses by Admiral Miller to questions submitted by Mr. Ottinger.....	87
Responses by Admiral Miller to questions submitted by Chairman Zablocki.....	94
Responses by Dr. York to questions submitted by Mr. Ottinger.....	95



RAPPORTEUR SUMMARY

A Review of the Command and Control System by Which the President Has Delegated His Authority To Use Nuclear Weapons: Past Deficiencies and Current Adequacy

(Prepared by Richard F. Grimmett, analyst in National Defense, Foreign Affairs and National Defense Division, Congressional Research Service, Library of Congress)

Vice Adm. Gerald E. Miller, U.S. Navy, retired, spoke in opposition to the proposed resolutions renouncing first use of nuclear weapons. In his prepared statement, which he summarized for the subcommittee, he made the following points:

(1) It will become increasingly difficult in the near future to protect U.S. overseas interests with conventional weapons. (Pp. 47, 53, and 88.)

(2) Many of our allies, particularly in NATO, are relying on U.S. nuclear forces for defense of their homelands. Should the United States renounce first use, some of our allies might seek a nuclear weapons capability of their own. (P. 47; see also hearings of March 23 and 25.)

(3) Evidence indicates the Soviets are prepared for the first use of nuclear weapons. There is no indication they will renounce first use. (Pp. 47, 82, and 89-91.)

(4) The term "first use" is ambiguous. Should all encompassing legislation be passed renouncing the option of "first use," it would deny policymakers an alternative that could be the most appropriate one in a given crisis situation. (P. 48; also March 25.)

(5) The release procedures for nuclear weapons are designed so that the ultimate authority rests with the President of the United States. Only the North American Air Defense Commander has been delegated authority to use nuclear weapons and only under severe restrictions and specific conditions of attack. Action is apparently underway in the Defense Department to revoke this authorization in the near future. In the event of a catastrophe involving the President, the constitutional succession of authority would be followed. These procedures are well defined and understood by those in the U.S. military who have a need to know. (Pp. 48 and 49; also March 25.)

(6) Command and control systems are under constant study, revision and updating to safeguard our ability to deter with a nuclear force. Many checks and balances are imposed to ensure adequate protection against improper or unauthorized use, as well as to ensure survivability and reliability. (Pp. 50, 51, 52, 92, and 93; also March 25.)

A second witness, Dr. Herbert F. York, read a prepared statement which addressed itself to a specific problem which he felt had been overlooked—namely, the trend toward deployment of strategic or

other nuclear weapons systems which have "hair-trigger" launch mechanisms and toward the adoption of "launch-on-warning" strategies, with the authority to launch delegated to someone certain to be able to receive and act on warnings that may develop. (Pp. 58, 86, and 95; also March 23 and 25.) This problem has developed because newly emerging nuclear states are vulnerable to a preemptive strike from the United States and the U.S.S.R. As a result the only potential protection these newer States have against a preemptive nuclear strike is to develop technological and organizational means to deliver a rapid response to any attack that may come, that is, something approaching a capability to launch on warning, coupled probably with the delegation of authority to someone close enough to the scene to act on whatever warning there may be. (P. 59.)

Since we cannot be sure of the reliability of the warning systems and command and control systems of these other countries, we should take steps to lessen the need for such systems. A universally accepted no-first-use pledge could be a significant effort toward that end. By taking the lead in making such a pledge, we could encourage others to do likewise and ultimately achieve a universal, formal declaration to this effect. (P. 60; also March 16.)

In the discussion that followed, Chairman Zablocki focused initially on Dr. York's comments regarding the development of "hair-trigger" systems of nuclear response by nuclear powers. Dr. York defined this system as a combination of technology and organization which makes it possible to react quickly to an attack or warning of an attack. He reiterated that the development of such a system was bad and held serious implications. He did not believe that the Russians had one but that the Chinese probably did. Our command and control system and that of the Russians were sufficiently advanced that we didn't need hair-trigger response. (Pp. 61 and 62.)

Dr. York noted that there have been problems with false alerts or warnings with systems such as these, but the serious issue here was what happened if other nations got such false indications on their systems how would they respond? He mentioned two examples of false alert in our own systems:

(1) When first installed, the BMEWS system in Thule received radio beams from the Moon which gave the false impression that a large attack was underway, and (2) a false attack was picked up by the NORAD radio network. Dr. York added that the BMEWS case showed that possibly tragic errors could happen with a new system of this kind. (Pp. 62 and 63; also March 25.)

Chairman Zablocki asked whether or not the buildup of conventional forces would be a feasible substitute for use of nuclear weapons. Admiral Miller said such a buildup could reduce the temptation to rely on nuclear weapons, but that we would always need such weapons. (Pp. 63 and 64; also March 16, 23 and 25.) Asked whether the alternative of proposing a no first use against cities was a better approach than the current resolutions. (Pp. 64 and 65; also March 16 and 25.) Admiral Miller replied that he believed so, and further that such a limited first-use posture was our current policy although it had not been announced. At the same time he did not believe it desirable to declare that this was our policy or, for that matter, that any declaration in this area was desirable or necessary.

Admiral Miller said that the effect of a no-first-use declaration on the credibility of the U.S. nuclear umbrella in Europe would be bad inasmuch as the Europeans based their force structure on it. Such a change in U.S. policy might force them to build their own nuclear deterrent. He also stated that the cruise missile would not give us a first strike capability, so it would not be affected by a no-first-use declaration. (Pp. 66 and 67; also March 23 and 25.)

Mr. Findley asked the witnesses what impact the proposed declarations renouncing first use would have, if any, on potential aggressor nations. Dr. York asserted that such declarations could have a positive impact by leading to alterations in their force structure, thus making the use of nuclear weapons less likely. The impact of declaration of no first use on the prospect of a conventional war was another question entirely. (P. 67; also March 16.) Dr. York doubted that West Germans would develop their own nuclear weapons after a U.S. renunciation of first use because they had already renounced such development. Admiral Miller stated that such a declaration by the U.S. would have less impact in Western Europe, but in a place like the Middle East, such a renunciation of first use by the United States would create an unstable situation. Such an action would perhaps give an open invitation to aggressive moves by others. (P. 67; also March 23 and 25.)

Admiral Miller noted in response to a question that the United States might have considerable difficulty in getting nuclear weapons launched if the President and his successors were removed from the chain of command by some catastrophic event. Mr. Solarz considered it disturbing that a situation existed that might permit the Soviet Union to believe they could prevent a nuclear response against them by eliminating the U.S. leadership in some way. This was a topic worthy of further inquiry. (Pp. 71 and 72; also March 25.)

In response to a question Admiral Miller stated that an authentication system was used to avert the possibility of unauthorized persons ordering the use of nuclear weapons. It provided assurance to those in the chain of command that an order to launch their missiles could not come from an impostor. (P. 72.) Dr. York observed that it would not be practical to share our command and control technology with other nations in an effort to prevent hairtrigger responses or an accidental nuclear exchange. The hotline apparatus with the Soviet Union was an effort toward such an end, but a more generalized network did not seem appropriate. (P. 73; also March 25.)

Admiral Miller did not think any conventional force structure could be developed that could lead to the elimination of some reliance on tactical nuclear weapons. (P. 74; also March 23 and 25.) He further stated that he knew of no NATO country clamoring for a U.S. renunciation of a first use of nuclear weapons. Dr. York said he could not predict what increase in conventional forces Western Europeans would have to make to compensate for a reliance on the U.S. nuclear umbrella. The increase would depend on the perceived threat or danger. (P. 74; also March 16, 23, and 25.) Dr. York acknowledged that no NATO state had called for a U.S. renunciation of first use, but that this was true because these states did not want to confront the question that might result from such a step.

Admiral Miller remarked that he knew of no delegations of authority to use nuclear weapons other than the Norad case. He stated that his various jobs had given him access to data regarding U.S. policies on this issue, but conceded that this authority could have been delegated without his knowledge. (P. 75; also March 25.) Dr. York noted the possibility that a nuclear submarine captain could launch his weapons on his own since he had more freedom of action than land-based commanders. Admiral Miller responded by stating that it takes a number of people in various echelons to launch a nuclear weapon, not just those physically close to it. (Pp. 76 and 77; also March 25.)

Admiral Miller knew of no situation where authority to use nuclear weapons had been requested. It was certainly not done in the case of the October 1973 Middle East war. He was not familiar with the circumstances surrounding this issue in the 1962 Cuban missile crisis or in other similar crises. He did not know of any circumstances where a communication failure occurred in connection with nuclear systems in a crisis. (P. 77; also March 25.) He further observed that the United States would not start with a nuclear exchange in a confrontation. We would start at a lower level of conflict and escalate on the basis of the given situation. We would try to avoid a nuclear exchange if possible. In certain circumstances we would use nuclear weapons, but a serious debate would precede their use all the way up the command and control systems. (Pp. 78 and 79; also March 25.)

In response to a question from Chairman Zablocki, Admiral Miller stated that the severe restrictions on the use of nuclear weapons meant that a local commander in a combat area might have to ask again and again. It was very hard to obtain such authority in any case. (Pp. 79 and 80; also March 25.)

Dr. York stated that the Soviet Union felt it had enemies everywhere, including severe problems with China. The Soviets viewed the Chinese as we used to view them. Thus if we did not take the lead in renouncing first use of nuclear weapons the others would not do so. This was why we should take such a stand, even in the absence of an international agreement on this issue. (Pp. 80 and 81; also March 16.)

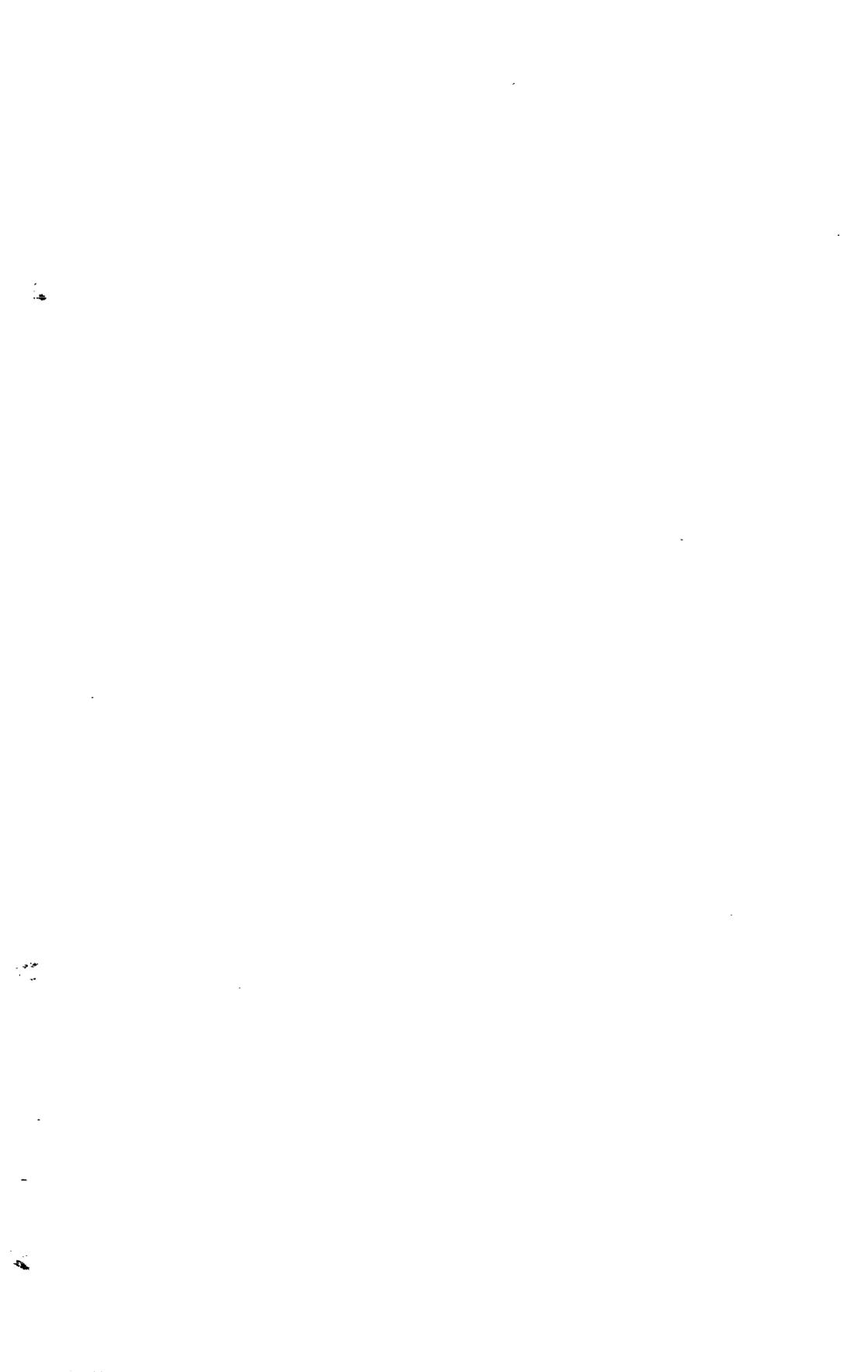
In Admiral Miller's view compelling evidence was available on the Soviet Union's attitude regarding a possible nuclear exchange in the future. Their training manuals and statements, their civil defense plans for dispersing their industry and evacuating the cities their development of equipment designed to operate in a nuclear environment, all indicated that they were prepared to go all out in a nuclear war and to make every effort to survive it. Although it was possible to view these Soviet activities as purely defensive in nature, to him they showed that the Soviets were serious about the possible use of nuclear weapons. (Pp. 47, 82, and 89-91.)

Dr. York expressed the opinion that nations felt compelled to go nuclear for various reasons and generally these were not fine philosophical points. In some cases it was done to get international attention, in others to widen their options for the future. Admiral Miller thought that the French had done it for reasons of pride. (P. 83; also March 25.) The Israelis, on the other hand, might do so to protect themselves from hostile neighbors. (P. 83; also March 25.) The Admiral further expressed the view that when the Chinese had a greater capability in

nuclear weapons they might back off from their current practice of renouncing the first use of them. (P. 82.)

Dr. York did not know whether more nations would develop nuclear weapons on their own if the U.S. nuclear umbrella were withdrawn. But he felt that the pledge of no first use would have a positive effect which might ultimately lead to an international conference where a renunciation of all use of nuclear weapons could be negotiated. (P. 85; also March 16.)

Mr. Lagomarsino observed that the United States had been very responsible in its use of nuclear weapons without having made any pledges regarding their use. We had not used them in Korea or Vietnam. Chairman Zablocki in closing the hearing noted that it was clear that there were no easy answers to the entire complex of questions regarding first use of nuclear weapons.



FIRST USE OF NUCLEAR WEAPONS: PRESERVING RESPONSIBLE CONTROL

Past Deficiencies and Current Adequacy of Command and Control System

THURSDAY, MARCH 18, 1976

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERNATIONAL RELATIONS,
SUBCOMMITTEE ON INTERNATIONAL SECURITY
AND SCIENTIFIC AFFAIRS,
Washington, D.C.

The subcommittee met at 2:15 p.m. in room H-236, the Capitol, Hon. Clement Zablocki (chairman of the subcommittee) presiding.

Mr. ZABLOCKI. The subcommittee will please come to order.

I apologize for being late, but I was unavoidably detained in another meeting.

We resume this afternoon the second in our series of hearings on "First Use of Nuclear Weapons: Preserving Responsible Control." Our focus of attention today is on the second part of our series title—that of preserving responsible control.

Given the awesome consequences of nuclear war, it is significant—some might say frightening—that the decision to initiate the use of nuclear weapons rests in the hands of perhaps fewer than 10 men throughout the world. In the United States, that authority, by law, resides with the President.¹

However, inherent in the U.S. basic strategic policy relative to the President's authority is the possibility that he may delegate his authority to military commanders. The method, circumstances, and conditions under which the President may exercise or delegate his authority is embodied in the so-called command and control system.

Thus, our purpose today is to determine whether the command and control system is adequate to protect the important principle of maintaining responsible control. To that end, we hope to examine the system in terms of its past performance and current adequacy.

Here today to help us in that effort are two expert witnesses: Dr. Herbert York of the University of California and former chief scientist of the Advanced Research Projects Agency in the Department of Defense, and Adm. Gerald E. Miller (retired) former Deputy Director of the Joint Strategic Target Planning Staff.

¹ In this connection and in preparation for these hearings, a study was conducted by the Congressional Research Service entitled "Authority to Order the Use of Nuclear Weapons (United States, United Kingdom, France, Soviet Union, Peoples Republic of China)," Dec. 1, 1975, available from International Relations Committee.

We will hear their testimony separately, and then address our questions to them as a panel.

Admiral Miller, if you will proceed please.

STATEMENT OF VICE ADM. GERALD E. MILLER, U.S. NAVY, RETIRED, FORMER DEPUTY DIRECTOR OF THE JOINT STRATEGIC TARGET PLANNING STAFF

Served for two years in an enlisted status and entered the U.S. Naval Academy in 1938, graduating with the Class of 1942.

After commissioning, he served during World War II on combat duty in both the South Pacific and Aleutian Campaigns. He served for two years in the Korean Conflict, he has been an air wing commander, commanding officer of an ammunition ship, and commanding officer of the attack carrier U.S.S. *Franklin D. Roosevelt*, serving with the Sixth Fleet. As a Rear Admiral, he commanded a carrier division with the Seventh Fleet in the Vietnam Campaign.

He has served with the Joint Staff for the Joint Chiefs of Staff and with the Joint Strategic Target Planning Staff at SAC Headquarters in Omaha, specializing in nuclear warfare planning. He has served with the Bureau of Naval Personnel and the Office of the Chief of Naval Operations in Washington in several significant positions.

As a Vice Admiral, he commanded the U.S. Second Fleet and NATO Striking Fleet in the Atlantic followed by a two-year tour as the Commander of the U.S. Sixth Fleet and NATO Striking Fleet in the Mediterranean. His final military service before retirement on September 1, 1974 was as the Deputy Director of the Joint Strategic Target Planning Staff, the agency responsible for developing the nation's strategic nuclear warfare plans.

Vice Admiral Miller received a masters degree in personnel administration from Stanford University in 1950.

Since retirement, he has served as a private consultant to government and business.

Admiral MILLER. Mr. Chairman, distinguished members of this committee, I appreciate the opportunity to appear before you on this most important issue, the possible use of nuclear weapons.

It is my opinion that any legislation on this issue could be the most significant considered by any session of Congress. I am happy to participate in whatever way I can, and hope that I can contribute to your deliberations.

Mr. Chairman, with your permission, I will not read my entire statement. I will give a verbal summation of it in about 10 minutes.

Mr. ZABLOCKI. Your entire statement will be made part of the record.

Admiral MILLER. Referring to the overall position I have on this issue, I have reviewed the resolutions before the committee. In principle, I am in sympathy with the sponsors. We have the same objective, namely, the avoidance of armed conflict involving the use of nuclear weapons.

PASSAGE OF LEGISLATION DEEMED COUNTERPRODUCTIVE

However, I must express my concern that contrary to the desires of the sponsors, the passage of the proposed legislation may well lead to an increase in the probability of the use of nuclear weapons. I would like to review the reasons for my concern.

The first point has to do with the nature of future U.S. interests. In my opinion, in the future, the United States will have a need to

look more and more overseas for the resources that provide economic strength.

We will be looking increasingly toward Africa and the Middle East, as well as South America. We will be forced to keep trade routes free. We will require free access and intercourse with many far distant nations of the world in order to remain a leading import, export nation.

With that need will come the requirement to protect our interests. Conventional arms in some instances may not be sufficient, in quantity, quality or deployments, to deter hostile action and provide the protection that will be necessary. We may be forced to rely on nuclear weapons to provide the necessary support in the event that we have vital, and I emphasize the word "vital," national interests that are jeopardized.

The constraints imposed by the legislation suggested in the resolutions would be premature. They could hamper our ability to deter conflicts and protect our overseas interests. Denying ourselves the option of possible first use of nuclear weapons, in my opinion, would invite mischief on the part of our adversaries.

ALLIES' RELIANCE ON NUCLEAR WEAPONS SUPPORT

My second point of concern has to do with the interests of our allies. Here I refer to the fact that nuclear weapons have become an integral part of our support forces. These weapons are complementary to our more conventional forces. Our allies count on them.

Favorable consideration of legislation renouncing first use of nuclear weapons by the United States would undoubtedly create considerable concern and question among our allies. It would force action, by some at least, to seek their own nuclear weapons capability, thereby adding to proliferation and increasing the possibility of nuclear conflict.

My next concern has to do with the policies of the Soviet Union. I see no indication that the Soviet Union has adopted, or intends to adopt, a policy renouncing the first use of nuclear weapons. On the contrary, there are indications that the Soviets contemplate early use of such weapons in a major conflict. Soviet troops are trained to fight and survive in a nuclear battlefield environment, which they themselves might create. Their published doctrine and manuals give this firm impression.

Second, and more persuasively, Soviet equipment is designed for the conduct of war fighting in not only a nuclear environment, but in a chemical environment as well.

SOVIET EMPHASIS ON CIVIL DEFENSE¹

The third indicator is the Soviet emphasis on civil defense, including hardening and dispersal of their industrial base, plus extensive training programs wherein evacuation procedures are reviewed. This action indicates Soviet concern and expectation that nuclear weapons will be used early in any major conflict.

National nuclear warfare training exercises conducted by the Soviets frequently involve the highest level of civilian authority who

¹ For further discussion see pp. 82 and 89-91.

must think through the nuclear weapons process and practice their procedures. Such action seems to clearly indicate that the Soviets anticipate an early use of nuclear weapons, particularly in the battlefield.

Admittedly, some of the Soviet activity may stem from their concern over the possibility of the United States, or other nuclear nations being the first to use or strike with nuclear weapons, but the facts remain that their posture appears to be oriented much more toward the first use of nuclear weapons than does the posture of the United States.

Another indicator is the historical record of Soviet pressure on the United States to renounce the first use of nuclear weapons. As the Soviets have gained a nuclear weapons capability, their pressure on the United States to renounce the use of such weapons has disappeared.

Summarizing, I feel that the renouncement of a possibility of first use on our part would not inhibit Soviet planning for early use of such weapons. Far from it, the risks to them would be less, and in the process, deterrence would suffer. We would create more instability, thereby increasing the probability of nuclear conflict.

FIRST USE: TERM WITH MANY AMBIGUITIES

My fourth point of concern has to do with the definition of the term "first use." There are many ambiguities associated with "first use." What do we mean when we use the term? What types of weapons do we refer to? What is the nature of the targets?

Do we have the same concern over the first use of an atomic demolition weapon used to close a mountain pass as we do over a nuclear depth charge delivered against an SSBN that is seconds away from launching a submarine load of ballistic missiles at New York City?

First use in one instance may be entirely proper. In others, it may be unthinkable. There are many interpretations that arise from the term "first use," and these interpretations, in turn, will require more restrictions and legislation, with the danger of negating our ability to respond properly in times of crisis.

Now let me turn to the execution process, the main subject of today's hearing. This is the process whereby we release, command and control our nuclear weapons. As the committee is well aware, the security aspects of this process are most significant.

To insure success and security, we must have redundancy, checks and balances, multiple-man rules, technical devices, and so on. To reveal the details of such features would be highly improper.

AUTHORIZATION PROCEDURES FOR NUCLEAR WEAPONS RELEASE

Therefore, I apologize to some degree for this part of my statement. I may not be as forthcoming as some members of the committee would prefer, but I hope you will understand my inability to reveal the procedures in detail.

Concerning release procedures, it has been my experience that there has always been great attention paid to the policy and authorization procedures for the release and use of U.S. nuclear weapons. Elaborate release procedures have been developed and instituted throughout the executive branch of our Government. They have been incorporated

into U.S. forces and the NATO command structure. At all times, the ultimate authority has been the President of the United States.

Soviet development of a nuclear weapons capability generated some pressure to have the authority for use delegated to certain high-level commanders, at least on a contingency basis.

We have developed procedures to expedite the release process, but I know of no instance where any United States or NATO field commander has been delegated authority to use U.S. nuclear weapons without express approval of the President of the United States, with one exception. I will address that exception in just a moment.

In earlier days of nuclear weapons, I can recall discussions about situations where an isolated commander, cut off from other units, out of communications with higher authority, facing annihilation, and knowing that a nuclear exchange was taking place, might feel justified in using nuclear weapons without receiving authority from higher levels.

PRESIDENTIAL RELEASE AUTHORITY DELEGATED TO NORAD COMMANDER

However, as our nuclear capability increased and pressure for more civilian control of the military developed, procedures, devices, and education have all been brought together to produce circumstances where, in my opinion at least, it would be virtually impossible for a military commander to use the weapons in his command without Presidential release authority. Release authority is firmly in the hands of the civilian hierarchy.

One exception of the delegation of authority has to do with the North American Air Defense Commander, who has been delegated such authority only under severe restrictions and specific conditions of attack.

The nuclear systems he controls are low in yield, purely defensive in nature, and would be used over friendly territory or open seas. Weapons he might launch would be in response to a threat of "first use" by the opposition and under actual war conditions.

I understand that action is underway, in the Department of Defense, to revoke this authorization in the near future. Basically, it is out of date.

Mr. ZABLOCKI. Is that why it is being released and made available publicly?

Admiral MILLER. Sir, you would have to ask the Department of Defense witness. It would be more appropriate for him to respond to that. Really, I am not that familiar with the details.

Mr. ZABLOCKI. You have your opinion?

OTHER DELEGATIONS UNCONFIRMED

Admiral MILLER. I have my opinion, and this is what I have advanced.

I understand there is a report that alleges President Eisenhower delegated such authority to regional commanders and that President Kennedy made similar delegations. I have done some preliminary research on this point, but have been unable to confirm the allegations.

However, I have serious doubt that such delegations were made. I was deeply involved in our strategic nuclear warfare planning in the last year of the Eisenhower administration and the early years of the Kennedy administration. I can recall no such delegation of authority.

There has been instances where certain commanders, under certain conditions, were authorized to increase the alert posture of their forces without reference to the White House, but such increases in force readiness posture do not, in any way, imply a relaxation in, or delegation of, Presidential nuclear weapons release authority.

In reference to the much publicized high-level military alert that was established during the Mideast crisis of October 1973, although the level of that alert was a notch above our routine day-to-day alert posture, it was some significant steps away from the conditions under which release or authorization for the use of nuclear weapons would be considered. I emphasize the word "steps."

LEVEL OF UNDERSTANDING VIEWED AS HIGH

In reference to the understanding of release procedures by commanders and staffs in the field, it has been my experience that the level of understanding is high. Specific courses of instruction exist for both United States and NATO commanders and appropriate members of their staffs. Periodic review of procedures and frequent simulation exercises refresh and test the understanding level of those responsible for execution of war plans.

Perhaps one of the most significant and logical constraints imposed on unauthorized use of nuclear weapons is the screening and security-check process which is a required program for those in a position to guard, transport, deliver, administer, or supervise the use of nuclear weapons. While there may have been instances of some form of breach in security, I know of none, personally.

But, I have been impressed with the thoroughness, redundancy, and updating of security checks. In fact, if I have any concern, it is that the constraints and impediments on the release and use of nuclear weapons are so numerous that the speed of reaction in time of stress might become unacceptable.

RELEASE PROCEDURE GEARED TO CIVILIAN SUCCESSION

In reference to authorizations that should exist in the event the President is killed in a major attack on the United States, the constitutional succession of command is the legal, and to my mind, proper authorization route. The command and control system and release procedures are geared to that civilian succession.

I believe that I speak for many who have studied and lived with the release procedures over the years when I say that there seems to be plenty of control now in the hands of the President. He is the authority. It seems that authority has been studied well, closely guarded, and protected in an increasing manner over the years.

In my opinion, the imposition of the policy set forth in the resolutions before this committee would impose an undesirable and unnecessary step in the release process and would jeopardize our ability to respond in time of crisis.

Next is the issue of the command and control systems themselves, that follow the release process. The command and control systems for the control of our nuclear capable forces are an integral part of our Worldwide Military Command and Control System. These systems are designed to assure communications between the National Command Authority—the President and the Secretary of Defense, the Joint Chiefs of Staff, and the nuclear forces in the field, thereby insuring that rational political as well as military decisions are transmitted through the system.

COMMAND/CONTROL SYSTEM CONTAINS CHECKS AND BALANCES

There are special features incorporated in those parts of the system relating to nuclear forces. These features include physical hardening of the telecommunications systems and the ability to operate in a jamming environment.

Then we have the Alternate National Military Command Center as well as a network of airborne command posts to provide redundancy, reliability, and survivability.

We have frequent tests and monitoring of the system to maintain a high readiness condition of the system, including the personnel involved.

Improved survivability and reliability of the system are constant objectives. Toward this end, an increasing role for satellites and extremely low frequency communications is being considered or incorporated, or both.

Command and control systems contain checks and balances which are designed to eliminate the capability for misuse of nuclear weapons.

Physical safeguards such as the permissive action link, are designed to prevent unauthorized use of weapons. These devices are several and varied, depending on the nature of the weapon, its delivery system, and its location. Naturally, the details of such safeguards are highly classified and it would be inappropriate to discuss them in greater depth.

Full-time professional personnel manage the systems and constantly take action to update their security and responsiveness to appropriate authority.

In summary, I believe the following:

DIFFICULTY SEEN IN PROTECTING U.S. OVERSEAS INTERESTS WITH CONVENTIONAL WEAPONS

It will become increasingly difficult in the near future to protect U.S. overseas interests with conventional weapons. It may well be that the threat of the use of, at least, tactical nuclear weapons is the only option available to us.

Many of our allies, particularly in NATO, are relying on U.S. nuclear forces for defense of their homelands. Renunciation of first use by the United States might force some of those allies to seek a nuclear weapons capability of their own, thereby increasing proliferation.

Next, evidence indicates the Soviets are prepared for the first use of nuclear weapons. There is no indication they will renounce first use.

The term "first use" creates ambiguity, given the wide-ranging possibilities for conflict situations. Legislation renouncing the option of first use could well bring about a debate on interpretations with further restrictions and imposition on our ability to use weapons in a crisis.

The release procedures for nuclear weapons are designed such that authority rests with the President. In the event of catastrophe to the President, the constitutional succession of authority will be followed. These procedures are well defined and understood in our military forces by those who have a need to know.

COMMAND/CONTROL SYSTEMS WARRANT HIGHEST SECURITY PROTECTION

Command and control systems associated with nuclear weapons are of such significance that they warrant the highest security protection. They are under constant study, revision, and updating to safeguard our ability to deter with a nuclear force. Many features are incorporated to insure survivability and reliability. Many checks and balances are imposed to insure adequate protection against unauthorized use.

There are both technical and personnel-oriented constraints imposed in the command and control machinery to guarantee against improper and unauthorized use, even in times of greatest stress.

In conclusion, I applaud the objective of the sponsors of the resolution, but I question their approach. I believe that passage of the resolutions into some form of law would play into the hands of the Soviets.

They could be tempted to opt for a first use of nuclear weapons, thereby increasing the probability of nuclear conflict. That would certainly be in conflict with my objectives, and those of the committee. I strongly recommend that these resolutions not be passed into law.

Thank you again, Mr. Chairman, for allowing me to come here before you. I am ready to answer any questions that you may have.

Mr. ZABLOCKI. Thank you, Admiral Miller.

[Admiral Miller's prepared statement follows.]

PREPARED STATEMENT OF VICE ADM. GERALD E. MILLER, U.S. NAVY, RETIRED

INTRODUCTION

Mr. Chairman, distinguished members of this Committee, I appreciate the opportunity to appear before you on this most important issue, the possible use of nuclear weapons. It is my opinion that any legislation on this issue could be the most significant considered by any session of Congress. I am happy to participate in whatever way I can and hope that I can contribute to your deliberations.

Although the brief biography I have submitted in connection with this statement covers the highlights of my military career, it might be appropriate to elaborate on some aspects that pertain more specifically to the nuclear weapons issue.

I hasten to point out that I am by no means a nuclear physicist. I have studied and been schooled in the principles of nuclear weapons, but my experience has been more with the actual functioning, targeting, custody, and delivery aspects of the weapons, plus associated release, command and control procedures. This experience encompasses almost 20 years, starting first as a pilot qualified for the delivery of various types of nuclear weapons. I have been schooled to a limited degree in the specifics of nuclear weapons effects. I have designed and conducted training exercises for testing and maintaining the proficiency of individual pilots and aircraft carriers in the handling and use of nuclear weapons. As a planner on various staffs, I have obtained knowledge of the operational capabilities and limitations of delivery systems, plus nuclear weapons targeting procedures. As a

commanding officer of two capital ships, I have been a custodian of nuclear weapons, with responsibility for their security and readiness, as well as the training of personnel in handling, release, and operational procedures. Finally, as a major U.S. and NATO military commander, in the Pacific, Atlantic, and Mediterranean areas, I have detailed experience in nuclear weapons release procedures and the command and control systems associated therewith.

Since retirement on 1 September 1974, I have continued to serve occasionally as a consultant in nuclear weapons matters for the Office of the Secretary of Defense, the Arms Control Disarmament Agency, and the Office of Technology Assessment for the Congress. I am currently devoting considerable energy to the task of education on the basic facts and concepts relating to nuclear deterrence, hopefully to avoid the possibility of nuclear warfare. I believe all facets of this subject need to be better understood and am confident that hearings such as these will serve to further the public interest. I repeat, I am pleased to have the opportunity to bring before you what knowledge and experience I have in this field.

OVERALL POSITION

I have reviewed the resolutions before the Committee. In principle, I am in sympathy with the sponsors. We have the same objective, namely the avoidance of armed conflict involving the use of nuclear weapons. However, I must express my concern that, contrary to the desires of the sponsors, the passage of the proposed legislation may well lead to an increase in the probability of the use of nuclear weapons. I would like to review the reasons for my concern.

THE NATURE OF FUTURE U.S. INTERESTS

Following World War II, the United States provided a protective umbrella over the rest of the free world, as many nations recovered from the devastation of that war. That umbrella included nuclear weapons, and we have witnessed relative stability and economic recovery, particularly in the European theater.

Now, and for the future, we have an added motivation for stability throughout the world. That motivation is the need for the United States to look more and more overseas for the resources to provide economic strength. Reports from various government agencies show that we will be looking increasingly toward Africa and the Middle East, as well as South America, for the materials required by our industrial economy. We will be forced to keep trade routes free. We will require free access and intercourse with many far distant nations of the world in order to remain a leading import-export nation.

With the increasing need for far-flung economic enterprise, there will be a corresponding need to protect such enterprise. Conventional arms in some instances may not be sufficient, in quantity, quality, or deployments, to deter hostile action and provide the protection that will be necessary. This deficiency should be overcome. Otherwise the nuclear threshold will be lowered, and we may be forced to the undesirable alternative of relying on nuclear weapons to provide the necessary support in the event vital national interests are jeopardized.

Constraints imposed by legislation suggested in the resolutions would be premature. They could hamper our ability to deter conflict and protect our overseas interests. Denying ourselves the option of possible first use of nuclear weapons, in my opinion, would invite mischief on the part of our adversaries.

INTERESTS OF OUR ALLIES

As both a U.S. and NATO military commander, I have been impressed with the reliance our allies place on U.S. strength, presence, and will. Any deviation in our military posture, whether actual or contemplated, creates concern among those allies.

Nuclear weapons have become an integral part of our support forces. Their presence and the possibility of their use are significant features in our ability to offset superior conventional warfare capabilities of potential adversaries. These weapons are complementary to our more conventional forces. We coordinate our defense plans with our NATO allies, including plans for the use of nuclear weapons. We have repeatedly assured our NATO allies that our nuclear forces will be used, if necessary, in support of European security.

Favorable consideration of legislation renouncing first use of nuclear weapons by the United States would undoubtedly create considerable concern and ques-

tion among our allies. It would force action, by some at least, to seek their own nuclear weapons capability, thereby adding to proliferation and increasing the possibility of nuclear conflict.

SOVIET POLICY

From the evidence that I have, I see no indication that the Soviet Union has adopted, or intends to adopt, a policy renouncing the first use of nuclear weapons. On the contrary, there are indications that the Soviets contemplate early use of such weapons in a major conflict.

Soviet troops are trained to fight and survive in a nuclear battlefield environment which they themselves might create. Their published doctrine and manuals give this firm impression.

More persuasively, Soviet equipment is designed for the conduct of war fighting in not only a nuclear environment, but in a chemical environment as well.

The Soviet emphasis on civil defense, including hardening and dispersal of their industrial base, plus extensive training programs wherein evacuation procedures are reviewed, indicates Soviet concern and expectation that nuclear weapons will be used early in any major conflict.

National nuclear warfare training exercises, conducted by the Soviets, frequently involve the highest level of civilian authority who must think through the nuclear weapons process and practice their procedures. Such action seems to clearly indicate that the Soviets anticipate an early use of nuclear weapons, particularly in the battlefield.

Admittedly, some of the Soviet activity may stem from their concern over the possibility of the United States or other nuclear nations being the first to use or strike with nuclear weapons, but the facts remain that their posture appears to be oriented much more towards the first use of nuclear weapons than does the posture of the United States.

I believe the historical record of Soviet pressure on the United States to renounce the first use of nuclear weapons is most significant. During the period of U.S. nuclear predominance, the Soviets pressed for the elimination of nuclear weapons. The Soviet-inspired General Assembly Resolution of 1961, calling for a special conference for signing a convention on the prohibition of the use of nuclear weapons for war purposes, is indicative of their efforts and frustrations. As the Soviets approached and achieved parity with the United States, and as their relations with China became more complicated, we have seen a relaxation in such pressure. As the Soviet support of third-nation activities expands further from Soviet territory, we see evidence of a willingness to provide nuclear weapons in support of such nations. Soviet interest in a declaration against first use has disappeared for all practical purposes. Efforts now center on agreements for the control over weapons, not their use. According to some experts on arms control agreements, the Soviets are achieving a significant degree of success in this action.

Therefore, I feel that the renouncement of a possibility of first use on our part would not inhibit Soviet planning for early use of such weapons. Far from it, the risks to them would be less, and in the process, deterrence would suffer. We would create more instability, thereby increasing the probability of nuclear conflict.

DEFINITION OF FIRST USE

Another point of concern has to do with the ambiguities associated with the term "first use." What do we mean when we use this term? Are we referring to the first use of a high-yield strategic weapon? An ICBM? An SLBM? A weapon from a B-52?

Or are we referring to the first use of a tactical weapon, such as one fired from artillery? Or is it an air-defense weapon fired from the missile launcher of a cruiser in the Mediterranean? Or a low-yield antisubmarine depth charge dropped from a maritime patrol aircraft in the middle of the Pacific Ocean?

When we refer to first use, what is the nature of the target? Are we to have the same concern over the first use of a weapon in a high-altitude atmospheric explosion as we do over a weapon delivered to create destruction in a Soviet city? Do we have the same concern over the first use of an atomic demolition weapon used to close a mountain pass as we do over a nuclear depth charge delivered against an SSBN that is seconds away from launching a submarine load of ballistic missiles at New York City?

These are the kinds of questions that arise when we consider the impact of all-inclusive legislation renouncing "first use." We encounter ambiguities. We seek interpretations of the term, and the interpretations in turn require more restrictions and legislation, with the danger of negating our ability to respond properly in time of crisis.

First use, particularly in scenarios other than massive strategic attacks, is a matter of considering the consequences of execution and arriving at a judgment. These consequences can vary from conditions of zero casualties and damage to conditions of international disaster. First use in one instance may be entirely proper. In others, it may be unthinkable. All-inclusive legislation against first use, as proposed in the resolutions, would deny those making judgments of an alternative that could well be the most appropriate, if not the only, alternative available.

EXECUTION PROCESS

I understand the Committee would like for me to address, in particular, nuclear weapons release procedures and associated command and control systems, with emphasis on inadequacies or deficiencies. I am happy to do so, but as you realize, the security aspects are most significant. Our plans for the possible employment of nuclear weapons have been among the most closely held of all our defense secrets. Equally significant from a security point of view are the procedures for the execution of the plans. No matter how good a plan may be, its success can be negated if execution procedures are compromised.

There are many features in the plans, and as requirements for more flexible options developed, more features were incorporated. In turn, the release procedures and the command and control systems comprising our execution process have taken on additional features. To ensure success and security, we must have redundancy, checks and balances, multiple-man rules, technical devices, and so on. To reveal the details of such features would be highly improper.

Therefore, I apologize to some degree for this part of my statement. I may not be as forthcoming as some members of the Committee would prefer, but I hope you will understand my inability to reveal the procedures in detail.

RELEASE PROCEDURES

It has been my experience that there has always been great attention paid to the policy and authorization procedures for the release and use of U.S. nuclear weapons. Elaborate release procedures have been developed and instituted throughout the executive branch of our government. They have been incorporated into U.S. forces and the NATO command structure. At all times the ultimate authority has been the President of the United States.

As the nuclear weapons capabilities of the Soviet Union increased, the need for a more rapid response of our release machinery developed. This in turn generated some pressure to have the authority for use delegated to certain high-level commanders, at least on a contingency basis. Procedures have been developed to expedite the release process, but I know of no instance where any U.S. or NATO field commander has been delegated authority to use U.S. nuclear weapons without express approval of the President of the United States, with one exception.

In earlier days of nuclear weapons, I can recall discussions about situations where an isolated commander, cut off from other units, out of communication with higher authority, facing annihilation, and knowing that a nuclear exchange was taking place, might feel justified in using nuclear weapons without receiving authority from higher levels. However, as our nuclear capability increased and pressure for more civilian control of the military developed, procedures, devices, and education have all been brought together to produce circumstances where it would be virtually impossible for a military commander to use the weapons in his command without Presidential release authority. Release authority is firmly in the hands of the civilian hierarchy.

One exception of the delegation of authority has to do with the North American Air Defense Commander, who has been delegated such authority only under severe restrictions and specific conditions of attack. The nuclear systems he controls are low in yield, purely defensive in nature, and would be used over friendly territory or open seas. Weapons he might launch would be in response to a threat of "first use" by the opposition and under actual war conditions. I

understand that action is underway in the Department of Defense to revoke this authorization in the near future.

I understand there is a report that alleges President Eisenhower delegated such authority to regional commanders and that President Kennedy made similar delegations. I have done some preliminary research on this point, but have been unable to confirm the allegations. However, I have serious doubt that such delegations were made. I was deeply involved in our strategic nuclear warfare planning in the last year of the Eisenhower administration and the early years of the Kennedy administration. I can recall no such delegation of authority.

There have been instances where certain commanders, under certain conditions, were authorized to increase the alert posture of their forces without reference to the White House; but such increases in force readiness posture do not, in any way, imply a relaxation in, or delegation of, Presidential nuclear weapons release authority.

In reference to the much publicized high-level military alert that was established during the Mid-East crisis of October 1973, although the level of that alert was a notch above our routine day-to-day alert posture, it was some significant steps away from the conditions under which release or authorization for the use of nuclear weapons would be considered.

In reference to the understanding of release procedures by commanders and staffs in the field, it has been my experience that the level of understanding is high. Specific courses of instruction exist for both U.S. and NATO commanders and appropriate members of their staff. Periodic review of procedures and frequent simulation exercises refresh and test the understanding level of those responsible for execution of war plans.

Perhaps one of the most significant and logical constraints imposed on unauthorized use of nuclear weapons is the screening and security check process which is required for those in a position to guard, transport, deliver, administer, or supervise the use of nuclear weapons. While there may have been instances of some form of breach in security, I know of none personally. But, I have been impressed with the thoroughness, redundancy, and updating of security checks. In fact, if I have had any concern, it is that the constraints and impediments on the release and use of nuclear weapons are so numerous that the speed of reaction in time of stress might become unacceptable.

In reference to authorizations that should exist in the event the President is killed in a major attack on the U.S., the constitutional succession of command is the legal, and to my mind, proper authorization route. The command and control system and release procedures are geared to that civilian succession. In this connection I might also volunteer the comment that I have been impressed with the attention to nuclear war plans and their execution procedures, as demonstrated by the current President and the civilian hierarchy in the Department of Defense. They have indicated considerable awareness of the serious nature of release procedures and their responsibilities associated therewith. The nuclear warfare plans and the release procedures have been briefed in detail, and I understand there is an apparent good understanding of what is involved.

I believe I speak for many who have studied and lived with the release procedures over the years when I say that there seems to be plenty of control now, in the hands of the President. He is the authority. It seems that authority has been studied well, closely guarded, and protected in an increasing manner over the years.

In my opinion, the imposition of the policy set forth in the resolutions before this Committee would impose an undesirable and unnecessary step in the release process and would jeopardize our ability to respond in time of crisis.

COMMAND AND CONTROL SYSTEMS

The command and control systems for the control of our nuclear-capable forces are an integral part of our Worldwide Military Command and Control System (WWMCCS). These systems are designed to assure communications between the National Command Authority (the President and the Secretary of Defense), the Joint Chiefs of Staff, and the nuclear forces in the field, thereby ensuring that rational political as well as military decisions are transmitted.

Special features are incorporated in those parts of the system relating to nuclear forces. These features include physical hardening of the telecommunications systems and the ability to operate in a jamming environment. An Alternate National Military Command Center (ANMCC) as well as a network of airborne command posts are included to provide redundancy, reliability, and survivability.

Frequent tests and monitoring of the system are conducted to maintain a high readiness condition of the system, including the personnel involved.

Improved survivability and reliability of the system are constant objectives. Toward this end, an increasing role for satellites and extremely low frequency communications is being considered or incorporated, or both.

Command and control systems contain checks and balances which are designed to eliminate the capability for misuse of nuclear weapons.

Physical safeguards designed to prevent unauthorized use are several and varied, depending on the nature of the weapon, its delivery system, and its location. Naturally, the details of such safeguards are highly classified, and it would be inappropriate to discuss them in greater depth.

As strategies change and plans are modified accordingly, constant attention is paid to the command and control systems, in order to assure that they keep pace with the dynamics involved. Full-time professional personnel manage the systems and constantly take action to update their security and responsiveness to appropriate authority.

SUMMARY

In summary, I believe the following:

It will become increasingly difficult in the near future to protect U.S. overseas interests with conventional weapons. It may well be that the threat of the use of, at least, tactical nuclear weapons is the only option available to us.

Many of our allies, particularly in NATO, are relying on U.S. nuclear forces for defense of their homelands. Renunciation of first use by the U.S. might force some of those allies to seek a nuclear weapons capability of their own, thereby increasing proliferation.

Evidence indicates the Soviets are prepared for the "first use" of nuclear weapons. There is no indication they will renounce "first use."

The term "first use" creates ambiguity, given the wide-ranging possibilities for conflict situations. Legislation renouncing the option of first use could well bring about a debate on interpretations with further restrictions and impositions on our ability to use weapons in a crisis.

The release procedures for nuclear weapons are designed such that authority rests with the President. In the event of catastrophe to the President, the constitutional succession of authority will be followed. These procedures are well defined and understood in our military forces by those who have a need to know.

Command and control systems associated with nuclear weapons are of such significance that they warrant the highest security protection. They are under constant study, revision, and updating to safeguard our ability to deter with a nuclear force. Many features are incorporated to ensure survivability and reliability. Many checks and balances are imposed to ensure adequate protection against unauthorized use.

There are both technical and personnel-oriented constraints imposed in the command and control machinery to guarantee against improper and unauthorized use, even in times of greatest stress.

CONCLUSION

In conclusion, while I applaud the objective of the sponsors of the resolutions, I question their approach. I believe that passage of the resolutions into some form of law would play into the hands of the Soviets. They could be tempted to opt for a first use of nuclear weapons, thereby increasing the probability of nuclear conflict. That would certainly be in conflict with my objectives and those of the Committee. I strongly recommend that these resolutions not be passed into law.

Thank you again, Mr. Chairman, for permitting me to come before you. I am ready for any questions that you or the Committee may have for me.

Mr. ZABLOCKI. We will hear now from Dr. York, and then we will have a few questions.

STATEMENT OF HERBERT K. YORK, PH. D., UNIVERSITY OF CALIFORNIA AND FORMER CHIEF SCIENTIST, ADVANCED RESEARCH PROJECTS AGENCY, DEPARTMENT OF DEFENSE

Dr. York is currently Professor of Physics and Director, Program in Science, Technology and World Affairs, University of California, San Diego.

Born in Rochester, New York in 1921, he received his A.B. in Physics from the University of Rochester in 1942, and in 1943 obtained his M.S. degree. Later that year he joined the staff of the University of California Radiation Laboratory at Berkeley.

During World War II, Dr. York worked on the Manhattan Project at the Y-12 Plant, Oak Ridge, Tennessee. In 1949, he received his Ph.D. in Physics from the University of California, Berkeley.

From July 1952 to March 1958, he initiated and directed the laboratory program at UCRL, Livermore, California, which expanded its research program at that time to include weapons development and other classified programs under the sponsorship of the Atomic Energy Commission.

On March 15, 1968, Dr. York became chief scientist of the Advanced Research Projects Agency in the Pentagon, Washington, D.C. He served as Director of Defense Research and Engineering from 1958-1961.

Dr. York served on the President's Science Advisory Committee (later served as vice chairman) in 1957-58, and 1964-68, the Air Force Scientific Advisory Board, and the Army Scientific Advisory Board. On April 2, 1962, Dr. York was appointed by President Kennedy as a member of the General Advisor Committee of the U.S. Arms Control and Disarmament Agency.

In November 1961, Dr. York was elected to the Aerospace Corporation Board of Trustees. In March 1967, he was elected to the governing Board of Trustees of the Institute for Defense Analyses.

He is an accomplished author and editor in the field of physics.

Mr. York. Mr. Chairman, I have a very brief statement. I would like to preface it by saying that I not only sympathise with the purpose of these resolutions, I agree with their way of approaching it.

In my prepared remarks, I would like to discuss one particular problem, which is an example of a whole class of problems. That is the way this whole question interacts not with the American command and control system, but with the command and control system of everybody else.

It is a problem of growing seriousness, and it is often overlooked. Its solution would be greatly facilitated by the adoption of resolutions of the type before this committee. In subsequent testimony, I would, of course, be pleased to try to respond to questions on such other related matters as the committee may wish.

TREND TOWARD "HAIR-TRIGGER" LAUNCH MECHANISMS

The problem that I refer to is what I perceive to be a trend toward the deployment of strategic or other nuclear systems provided with hair-trigger launch mechanisms and toward the adoption of launch-on-warning strategies with the authority to launch delegated down to someone certain to be in position to get and act on such warnings as there may be.

Obviously, when the United States had a monopoly on nuclear weapons this was not a problem. Also, though not quite so obviously, if the current situation could be truly described as simply a nuclear duopoly, this problem would not be nearly as serious as I think it really is.

The current Soviet-American strategic balance involves very large, nearly equal numbers of delivery systems on each side. These systems are protected by a variety of means. Our Minute Men are placed in very hard silos, our Polaris submarines hide in the murky seas, our B-52 bombers can take off on warning in a fail-safe fashion.

PRESENT SITUATION SEEN AS SECURE

The Soviets have made similar arrangements to protect their forces. In such a situation, neither side can really hope to make a successful preemptive attack designed to substantially disarm the other. There are, to be sure, a few people who think a preemptive attack may be feasible for the Soviets today, and it is conceivable that such a possibility may come into being for each of us at some future time, but the situation is generally felt to be safe enough for now so that no special actions of the type mentioned are needed.

But even the current nuclear situation is in reality not a duopoly, and current trends are clearly in the direction of a further departure from that simple and easy-to-analyze state of affairs.

In the real world, there are four other states which have tested nuclear weapons: Britain, France, China, and India. In the case of each of those nations, both the United States and the Soviet Union today possess the potential to virtually disarm them by preemptive strikes.

To be sure, the British and French might still retain one or two Polaris submarines after such a strike, but the Chinese and the Indians do not yet even have that possibility. Moreover, when the Indian nuclear force is first deployed, and for some years thereafter, the Chinese will probably have the capability of mounting a successful disarming attack against it, and so on, for all other pairs of nuclear powers, great and small, current and future.

LAUNCH-ON-WARNING AS ASSURANCE AGAINST PREEMPTIVE ATTACKS

The only good way for the newer and the less fully armed nuclear states to assure against preemption is to adopt something like the above-mentioned launch-on-warning technique, coupled, probably, with the delegation of the authority to launch to someone close enough to the scene to make effective use of whatever warning there might be.

It may be that not all nuclear nations will adopt such a policy, but surely some will, and that is enough to get the thing snowballing.

To make matters worse, current superpower policies are encouraging the trend in this direction. Our refusal so far to take a no-first-use pledge, and worse, threats like the one to use nuclear weapons against North Korea should that nonnuclear country again move south, severely exacerbate this problem.

Our deployments of nuclear weapons in Europe and our announced plans for their use make it clear we have put them there, and we intend to use them in order to repel a massive conventional attack from the east, and we intend to use them for that purpose.

The Russians similarly refuse to adopt a no-first-use posture because they feel they need bombs to cope with the numerically superior

Chinese. Such actions, deployments, and plans legitimize the first use for everybody, and they thus encourage others to acquire the technological and organizational means to deliver a first strike of their own.

This, in turn, makes it all the more necessary for every nuclear nation, except perhaps the two superpowers, to create a hair trigger technology, organization, and operational plan capable of coping with its nuclear neighbors' first-strike capability.

RELIABILITY OF OTHER COMMAND CONTROL SYSTEMS

It is sometimes said that the United States can develop warning systems and command and control systems that are so good that there would be no grave danger even if we did install systems with a more delicately balanced hair trigger.

Admiral Miller has just given us a full description of how good the American ground-control system is. My knowledge of that confirms everything he had to say. But there are five other command control systems about which I do not have the same degree of confidence.

In the American case, the record raises some doubts about this, but much more important, the question of what we can do is not the issue. The important question is how reliable will the warning systems, and command and control systems of all other countries be?

Obviously, the dangers inherent in that question will get worse with growth in the number of states which somehow have come to possess nuclear weapons, but which have a generally less-well-developed technological base.

ESSENTIAL THAT UNITED STATES TAKE LEAD BY ADOPTING PLEDGE

A universally accepted no-first-use pledge might not prevent such a situation from developing, but it is an essential element of any serious attempt to do so. Clearly, one of the essential preconditions for achieving such a universal pledge is for the United States to also take such a pledge.

Moreover, it seems to me we ought to do so unilaterally but in a way designed to encourage others to do so, and to lead ultimately to a universal, formal agreement to this effect.

The United States has taken the lead in creating the present situation. We were the first to introduce A-bombs, and then H-bombs to the world, and we were the first to create and deploy on a large scale the means to deliver them to targets all over the world. We must similarly take the lead in turning things around. There is no one else who can or will.

Mr. ZABLOCKI. Thank you, Dr. York.

Before we ask our questions, Dr. York, I wonder if you would please describe in some detail what a "hair trigger" launch mechanism or procedure is. Further, would you also relate that more specifically to any deficiency in our command and control system.

At that point, I would expect that Admiral Miller would have a rebuttal.

Mr. YORK. I don't relate it to any deficiency in our system. I am concerned about the efficacy of all the other systems, including those that are to come in the next 10 or 20 years.

Mr. ZABLOCKI. If there is not a deficiency in the command and control system, what is the danger or significance of the "hair trigger" launching system?

Mr. YORK. I discussed it in connection with other countries. What I am saying is, the action of the two superpowers is leading other people to have such systems. My question is not the reliability of ours, but of the reliability of theirs.

"HAIR TRIGGER" SYSTEM DETAILED

Mr. ZABLOCKI. I did not mean to interrupt you. Would you please describe in some detail the "hair trigger" system?

Mr. YORK. I mean that it is a combination of technology, and organization, and procedures which makes it possible to react extremely quickly to either an attack, or the warning of an attack.

An extreme case of that, which has been discussed many times, proposed many times, but as far as I know never adopted by the United States, but nevertheless proposed here, and probably proposed elsewhere, is a system in which, upon receipt of electronic warning and the processing of that warning by the computers, the system would launch the offensive system before the attack actually arrives. This is a kind of a launch-on-warning system that has been discussed many times.

Mr. ZABLOCKI. It would be launched electronically without any human intervention?

Mr. YORK. Yes, but we have not made such a system. In our case, it is not necessary. Our situation is so secure that whenever it has been proposed, it has been rejected.

In the case of other countries, which are less secure, and whose forces are less secure, when it is suggested, as it will be, it may not be rejected.

Mr. ZABLOCKI. To make sure we fully understand the significance of this matter, Dr. York, Admiral Miller has described for the committee what the control and command system is. He made the important point that it has this other human input, which is the President of the United States himself making the decision to press the button.

THE DANGER INHERENT IN ELIMINATING THE HUMAN FACTOR

Mr. YORK. That is the present situation in the United States.

Mr. ZABLOCKI. Having had some experience with computers, and some of the other technical and electronic devices in Government, I recognize that eliminating the human factor and leaving the decision to launch solely in the electronic hands of a computer would have a disastrous effect. How would you defend a "hair trigger" launching?

Mr. YORK. I don't defend it. I think it is a very bad thing.

The problem is that the general situation may force a number of other countries into adopting it. I don't defend it. I think that it is very bad. My concern is that our policy and the Soviet policy—it is

not just us—will bring about this sort of system in other parts of the world.

The United States needs to adopt a position of restraint in order to avoid a world in which other countries have such systems.

Mr. ZABLOCKI. We certainly do not advocate a "hair trigger" launch mechanism for the United States.

U.S. RESTRAINT NEEDED

Mr. YORK. Absolutely not. I don't advocate it at all. I am concerned about its coming into being, but probably not in the United States because we are in such a good position that we don't need it. It is other countries where it is more likely to happen.

American restraint is needed in order to slow down the process which could lead to this result.

Mr. ZABLOCKI. You anticipate that the Russians would?

Mr. YORK. Probably not the Russians, they are in very good shape also. But we are the only two that are in such good shape. Any other country may.

Mr. ZABLOCKI. To get a definitive answer to what is one of the purposes of this hearing, do we, in your opinion have a responsible command control system in the United States, Dr. York?

Mr. YORK. I think so.

Mr. ZABLOCKI. You think so. I am sure that Admiral Miller does.

Admiral MILLER. I think that we agree on that.

Mr. LAGOMARSINO. Would the chairman yield?

Mr. ZABLOCKI. Certainly.

Mr. LAGOMARSINO. In spite of what you have just said, in your written statement you state that "there is some doubt, even in the case of the United States."

CONCERN LIES WITH OTHER COUNTRIES

Mr. YORK. There is room for doubt. I believe that the situation is safe, but there have been, as we know, various accidents. There have been accidents where vehicles carrying nuclear weapons have crashed, and there might have been an explosion.

There have been instances in which false warnings have been received. There have been incidents in which false warnings have been broadcast and transmitted. There is cause for concern.

The point that I want to make is that I am not so much concerned about the United States in this regard. I think that we are able to handle the situation. The problem is what other countries will be able to do.

We now have six nuclear states, and we will be adding many more.

Mr. OTTINGER. Will the gentleman yield on this point?

Can you give us specific instances of the first warnings that you referred to, what kind of risk they imposed?

RISKS IMPOSED BY PREVIOUS FIRST WARNING

Mr. YORK. I am not exactly sure of what the classification is. There are a number of cases which are well known. There was the case in which the BMEWS system in Thule, when it was first turned on,

apparently got some kind of radar returns from the moon which had the appearance of a large attack. The information to that effect was transmitted from Greenland to the United States.

There is another case in which there was transmitted a message which instructed the civilian radio stations to stop broadcasting on their regular frequencies, and switch to the emergency frequencies because there was an attack imminent. Nobody took it seriously. But there was such a case, and I think that there were one or two others.

Mr. ZABLOCKI. Admiral, would you care to comment on that observation?

Admiral MILLER. As far as giving you specifics of deficiencies, I really cannot do the subject justice. I do recall the BMEWS situation. It was quite some time ago. Mistakes and deficiencies of that nature have been rectified. New technology, new procedures, a lot of money and a lot of effort have been put into that particular part of the system, to insure that we don't make mistakes.

I really cannot contribute specific incidents, because, frankly, I don't have them at my fingertips. I have never personally experienced any, and I have been in and out of the business to some degree. Of course, that does not mean that they could not have occurred without my knowledge.

Mr. YORK. May I come back to that.

RUNNING THE RISK OF ANOTHER FALSE ALARM

There are two lessons to be learned from the BMEWS incident. First, these things do happen, and second, they can be fixed. This particular incident has not happened again. But something like it could happen in a new system.

We had taken a fairly large technological step at the start of a new system, and that is a basic property of all new systems. The next time that we make a big improvement in our detection capability, is precisely the time when we will run the greatest risk of another false alarm.

Mr. ZABLOCKI. You would not advocate, however, that we should not research and develop new systems, if they can improve the efficiency?

Mr. YORK. I would advocate that one not deceive one's self concerning the perfection of the systems of this country.

Mr. ZABLOCKI. I don't think we should ever be satisfied that we have reached that point.

There is just one question. In many places throughout your testimony, you seem to downplay or express reservation over the effectiveness of conventional arms vis-a-vis nuclear. At that point, I have several questions.

The testimony of Congressman Ottinger, who is the principal sponsor of one of the resolutions pending before us expressed the view that we should increase our conventional arms in quantity, quality and deployment, so as to lower the nuclear threshold. Do you concur with his view?

WITNESS SUBSCRIBES TO INCREASE IN CONVENTIONAL ARMS

Admiral MILLER. I concur completely. This is one of the basic policies that has been advocated by the Department of Defense, and it is one that I personally support. If we can keep the conventional forces

strong, if we can do what Mr. Ottinger suggested, we would certainly decrease the temptation, the tendency, the requirement to rely on nuclear weapons.

I might add that I was impressed with the Congressman's forthright approach to the issue, and his willingness to pay a considerable bill to have conventional forces sufficient to eliminate reliance on nuclear forces.

I doubt that there is enough money to get us that kind of conventional warfare capability, at least with the present framework of potential adversaries. Until we can get a better relationship with other superpowers, it would seem to me that nuclear warfare and nuclear weapons are going to have to be part of our arsenal, regardless of how much we spend on conventional forces. But I will subscribe to the basic point that was made.

Mr. ZABLOCKI. May I further explore what strikes me as the implied logic of what I understand to be your reservation on conventional weapons.

For example, on page 12, you say: "It will become increasingly difficult to protect U.S. overseas interests with conventional weapons," and that tactical nuclear weapons may well be our only option."

RESERVATION CONCERNING CONVENTIONAL WEAPONS EXPLAINED

Admiral MILLER. I have in mind there, situations that are far from our shores, where we would have difficulty, from a logistics point of view, at least, in reaching the areas in which we would have considerable U.S. interest.

Such situations could well involve a nonnuclear power which is threatened by a nuclear power and our only way to adequately come to the defense of that nation and protect our interest would be with the use of nuclear weapons. We would just not have the capability, quantitatively, and qualitatively to take care of the situation with the conventional force.

Mr. ZABLOCKI. Mr. Findley.

Mr. FINDLEY. Admiral, some have suggested we consider a declared policy of no-first-use against cities. What would be your reaction to such a declaration?

Admiral MILLER. I think that it would be far more acceptable than a declaration across the board. It would be a step down.

I think in many ways, realistically, that is part of our policy right now. It is not announced. It is not law. It is not declared. But our whole basic approach to nuclear warfare has been one of retaliation, not preemption.

I think in recent years, as we have improved the accuracy and capabilities of the individual systems, we have had more capability of going after the hard targets, the military targets, and staying away from the cities.

I think that this was one of the primary points that was advocated by Secretary Schlesinger.

CONGRESSIONAL DECLARATION DEEMED UNDESIRABLE

Mr. FINDLEY. Do you think that a congressional declaration to that effect would, on balance, be desirable?

Admiral MILLER. It would not be desirable, not at this time. I don't think that it is necessary. I think that our national policy, and the controls that we have, coupled with the feelings of the individuals in the executive branch, are all we need at this time.

Mr. FINDLEY. One of our national objectives has been to reduce the incentives for other nations to get nuclear weapons. I can recall hearing Pierre Gallois, as long as 10 years ago, make a case for the French forces on the basis of what he perceived to be the reduced capability of the American deterrent.

If we go for a declaration of the kind before us, what effect do you think such a declaration would have on the credibility of the U.S. nuclear umbrella in Europe?

Admiral MILLER. It would create considerable concern among our allies, who have been counting on that as part of their support. They have been existing under that umbrella. They have structured their own forces, and built their own war plans, coordinated with ours, on the basis of that kind of protection.

If suddenly we gave them an indication, particularly a law of the land, that we were going to restrain ourselves somewhat under that umbrella, I am afraid that we would see action on their part to get their own capability, and it could go on from that aspect.

TOTAL NO-FIRST-USE POLICY SUPPORTED

Mr. FINDLEY. Dr. York, would you care to comment?

Mr. YORK. You will have to remind me of the question.

I remember the first, it had to do with the modification of our first use against cities. My reaction to it is that it is in the right direction, but it is too weak to be interesting.

What is needed is for America to take the lead in nuclear restraint. A total no-first-use policy, I think, would be a strong move in that direction, whereas a no-first-use on cities would not, partly because the situation probably is de facto already, something close to that, at least on our side.

It is difficult to know what the Russian policy is. The American first use of any kind may very well result in Soviet first use against cities, and the destruction of Europe, for instance, if they are used in that particular case.

So, I think that a no-first-use policy of any kind is a step in the right direction, but some of them have real moxie behind them, and some of them don't, or not enough.

Mr. FINDLEY. I think that it is still perceived that the U.S. nuclear deterrent is an important element in preventing any Soviet encroachment in Western Europe.

What effect would this declaration of no-first-use have on that credibility?

NUCLEAR DETERRENT CONSISTS OF TWO PARTS

Mr. YORK. Nuclear deterrence can be thought of as being divided in two parts.

1. Deterrence of a nuclear attack, which a no-first-use pledge would not affect; and

2. Deterrence of a conventional first attack, which the no-first-use pledge would affect. One of the effects would be that the military forces of Western Europe and the United States, if they really think that there is a danger of attack from the East, would have to do something more realistic to face it, instead of making this nuclear bluff. What exactly that would lead to, I cannot say. I don't know.

It might lead to greater expenditures, particularly on the part of Western Europeans, for conventional forces, if they really believe that there is a threat. If they don't believe that, then it would not.

Mr. FINDLEY. There has been no such impulse that has been visible among any of the NATO nations.

Mr. YORK. They have been willing to rely on us for everything. I think that it is time that we changed that.

Mr. FINDLEY. My next question, Mr. Chairman, has to do with the cruise missile. I feel that it has great promise. It is a vehicle that can be much more discriminating in the use of conventional or nuclear warheads, adaptable to the responsibilities that you mention, Admiral.

I am wondering why this missile has not been discussed more broadly as a part of the long-term practical defense of Western Europe.

CRUISE MISSILE: NOT A NEW WEAPON SYSTEM

Admiral MILLER. Sometimes, I am rather amused by all of the current discussion on cruise missiles. I guess that comes from my age. The cruise missile is by no means a new weapon system.

We had, for example, in the first single Integrated Operational Plan in 1961, a missile called the Snark, which was an air breather. It had a nuclear warhead. It was capable of a good many thousand miles at that time. But technology at that time would not give the reliability or guarantee any kind of assured destruction at the target.

Specifically, as I recall, the chances of getting it off the launch pad were about one in three. It did not have reliability.

Mr. McNamara, incidentally, in one of his first briefings on the SIOP reviewed the reliability of the system. We eliminated the Snark from our inventory after that briefing.

We had another cruise missile called the Regulus, which was launched from a submarine, but it had limitations in technology.

So we have abandoned that approach over the years, although we have used such vehicles for intelligence purposes.

RECENT IMPROVEMENTS IN GUIDANCE AND ACCURACY LAUDED

Now the state of the art has improved, particularly with regard to geography and satellite mapping. We can now improve guidance systems and the accuracy of cruise missiles, so they are coming back into consideration as a means of reliably hitting the target.

They certainly have great application, in my mind, for both the strategic and the tactical role.

Mr. FINDLEY. This was, perhaps, to replace the present tactical nuclear system in Western Europe with one that is less vulnerable to attack, and much more discriminating.

Admiral MILLER. I have never been an advocate of a simple system, precluding all others. That includes nuclear submarines and their

ballistic missiles. In no way would I try to place all in one system such as the cruise missile.

There is no question that it would advance our capabilities and have an application in many roles, but it would not be the ultimate.

One point I would like to make about the cruise missile has to do with its so-called "first strike" capability. I disagree with that point. It is a slow-flying object. It takes a long time to get to the target. First strike means almost instantaneous time of flight. You have to get to the target in a hurry, if you want to be effective in first strike. The cruise missile can't do that.

Mr. ZABLOCKI. There is a vote on the floor, and the subcommittee will suspend for 5 minutes.

[A short recess was taken.]

WEAKNESS NOTED IN VERBAL STATEMENT

Mr. ZABLOCKI. The subcommittee will resume its hearings.

Mr. FINDLEY. I would like to ask both of you, gentlemen, if you believe that declarations of this sort would make any real difference in the way a nation would act in a given circumstance.

Mr. YORK. It is hard to say. The problem which is implicit in your question is that a verbal statement can always be changed.

If there was a widely adopted no-first-use policy by all the nuclear states, including the United States, then the forces, and the training, and the organizations, the equipment that they had, would, over a period of time, become adapted to a no-first-use situation and that would decrease the probability of first use.

Putting it the other way around is easier. A situation in which you plan to have first use, means that you organize and equip yourself for that, and you make it more and more necessary to use such a policy.

So, a verbal statement has, obviously, weaknesses, but if taken seriously, it leads to the deployment of forces, organizational and training forces which would be better equipped to conduct a nonnuclear war, instead of necessarily turning every war into a nuclear war.

It would heighten, as it is often called, the barrier against nuclear war.

EFFECT OF DECLARATION ON EUROPE

Admiral MILLER. My feelings on this subject are that it would have considerable effect, depending on the nation and the situation at hand, where we were trying to protect our interest.

Mr. FINDLEY. Start with Western Europe.

Admiral MILLER. In Western Europe, where there is a strong conventional capability, there might not be such a great temptation for the other nations to initiate against us. But in the Middle East, where we have a much tougher job with conventional weapons systems, the renouncement of first use of nuclear weapons would provide a temptation to whoever wants to go into those areas. This is the point I tried to make earlier.

I think in the future we may get into areas where it will be increasingly difficult to maintain stability with conventional forces, and nuclear weapons will be our only alternative.

I think you will create an unstable situation by giving away the nuclear-first-use option.

Mr. YORK. It is not in the interest of a tiny state like Israel to convert any war into a nuclear war.

Mr. ZABLOCKI. Mr. Lagomarsino.

ISRAELI POLICY ON NUCLEAR WEAPONS

Mr. LAGOMARSINO. Let us talk about Israel for a moment. Do you think that Israel should renounce the first use of nuclear weapons?

Mr. YORK. Yes.

Mr. SOLARZ. If the gentlemen will yield?

Mr. LAGOMARSINO. Yes.

Mr. SOLARZ. The stated policy of the State of Israel is that they will not be the first country to introduce nuclear weapons into the Middle East.

Mr. ZABLOCKI. Presumably, they do not have them.

Mr. LAGOMARSINO. If the reports are correct, they already have them.

Mr. SOLARZ. The question was whether Israel should renounce the first use. There is quite clearly some feeling in the Intelligence Community in our country and elsewhere that Israel has the capacity, and indeed that they have already acquired nuclear weapons. Leaving that question aside, the actual stated formal, official position of the Israeli Government is that they will not be the first country to introduce nuclear weapons into the region. That is their policy.

Mr. LAGOMARSINO. But they have not said that they will not be the first ones to use them. You mean introduce them by way of using them in military action?

DOES ISRAEL POSSESS A NUCLEAR CAPABILITY?

Mr. SOLARZ. Yes. I think they mean introducing weapons in the sense of acquiring them also. Israel has not acknowledged that they have nuclear weapons. Their official position is that they do not.

Mr. LAGOMARSINO. It is inconceivable to me that they would allow their country to be overrun, if they could save the situation by touching off a weapon they may have.

Mr. SOLARZ. The gentleman might be interested that early in the week, Moshe Dayan took the floor to urge the Government to acquire nuclear weapons on the ground that this would enhance Israeli security. This action carries with it the implication that they do not already have them. There are some ambiguities as to whether or not they do.

Mr. LAGOMARSINO. Let us say that we adopted one of these resolutions, and it was passed by the Congress. Do you gentlemen believe that these declarations would make any real difference in the way that the rest of the nations would act in the event of an armed conflict?

Mr. YORK. I have already answered that in a way, but I will answer it again, I will say, yes, because a declaration like that, taken seriously even just by us, would mean that we would prepare forces different from those we now have.

We, and the Europeans together, would be buying new equipment, training troops, for example to fight a nonnuclear war, and this would

lead to a situation where the other side is less likely to start a nuclear war.

Mr. LAGOMARSINO. But not less likely to start a conventional war?

Mr. YORK. Perhaps not, but certainly less likely to start a nuclear war.

TRUSTING THE SOVIETS

Mr. LAGOMARSINO. Let me pursue this a little bit further. I submit that if we view the actions of the Soviets with regard to treaties, or agreements, over the period of their existence, its very beginning, we will not find much room for comfort that they will keep any treaty or commitment they make, unless it is in their own best interest to do so.

I would be very skeptical of viewing any commitment by anybody else, that that country would keep any commitment, if it were in that country's interest to violate this commitment.

Mr. YORK. It is not simply the existence of the oral statement, it is all the other things that you would do as a result of it. It is the rest of the preparations, the planning, the training, and so on, that you would make.

Mr. LAGOMARSINO. I would be willing to admit that if there were some way of eliminating all nuclear weapons, it might be a different situation. I don't think that this is going to happen, as much as we might desire to do so.

So, it seems to me that as long as we or they have the capacity for a first use, or a first strike, that they are not going to pay a great deal of attention to what we say we will do, nor should we, in my opinion, pay very much attention to what they say.

VERIFICATION OF INTENTIONS MORE DIFFICULT

Now, this is far different than the situation of verifying whether or not a particular weapon system exists, how many warheads they have, or that sort of thing. We don't have the same problems with that. That is something that can be verified. I don't know how we can even send a satellite around the Earth that will read the Russians' minds, and keep recording it.

Mr. YORK. It is not a question of the naked pledge. We have deployed forces, trained forces, we have issued manuals and made verbal statements to the fact that we will use nuclear weapons to withstand a massive attack on Western Europe.

That state of circumstances almost automatically guarantees that if there is a war in Europe it will be nuclear.

If the United States were to change its policies, and as a consequence of making its own pledge, changed its practices, changed its verbal statements against its deployment, organizations, et cetera, and so do the other Western European countries, it would reduce the probability of a nuclear war, or of a war automatically being nuclear.

So the pledge does have that value, it is not just bare words.

Mr. LAGOMARSINO. But doesn't the pledge, and the action supporting the pledge have to go a lot further than say: We will not strike first, and we will not use first.

Mr. YORK. It has to be taken seriously by the people who plan the armed forces in Western Europe.

Mr. LAGOMARSINO. Don't we have to actually remove any weapons from Europe, or any place that would reach that area?

NO-FIRST-USE PLEDGE MUST BE TAKEN SERIOUSLY

Mr. YORK. I don't think that we have to go that far. You would still retain them, in case the other fellow uses them first.

Mr. LAGOMARSINO. Let's suppose I am Mr. Brezhnev, and I am deciding whether today I want to take over the rest of Europe, Germany, France, and so on. We, in a sense, have made a pledge that we will not use the weapons first, but they are sitting there. It is exactly the same. How does he know whether we will or not?

Mr. YORK. If our Government took it seriously, the disposition of the forces, the kinds of equipment would be different. If we made a first-use pledge, and we took it seriously.

Mr. LAGOMARSINO. Maybe I don't understand enough about the deployment and use. How would it be different, specifically?

Mr. YORK. I cannot give you all the details, but at the present time, the plans for the defense of Western Europe involve the use of nuclear weapons from the very beginning to cope with a massive attack. The plans themselves would be different, if we made such a pledge and took it seriously, and made war plans that fit such a pledge.

CONCERN EXPRESSED OVER WEST GERMANY

Mr. LAGOMARSINO. Let us say that we do that. Do you have any reason to think that West Germany would be content to go with that new policy?

Mr. YORK. I don't know. They might. I don't know what the West Germans would do.

Mr. LAGOMARSINO. Don't you believe if the Indians and the Israelis, and the Chinese, we, the Russians, the French, and the British have the capacity for producing atomic weapons, that the West Germans probably do?

Mr. YORK. The West Germans have signed agreements not to do so.

Mr. LAGOMARSINO. Certainly. Mr. York, if we renounce that on which they are relying, I would say that the agreement is probably over.

Mr. YORK. It is conceivable. The future is full of perils and that might be one of them. However, that is not as dangerous as the threat of general nuclear warfare in Europe.

Mr. LAGOMARSINO. I agree. We are talking about an enemy that is armed to the teeth, and he could start a nuclear war. Do you think that it would be less stabilizing than having West Germany armed with atomic weapons? The Russians, apparently, are still very, very fearful—I thought at first that this was a put-on, but they are very, very fearful of what West Germany might do to them at some time in the future. It is unrealistic, in my opinion, but it might not be so unrealistic if they had atomic weapons.

AN ELEMENT OF UNCERTAINTY

Mr. YORK. It would be an element that would cause a lot of uncertainty. But if the Russians did not move against the Chinese when they had the chance, I don't see that they would move against the Germans.

In fact, I don't think they would. I think that they would get pretty hysterical about it, but they would not do anything.

Mr. ZABLOCKI. In courtesy to our two colleagues, guest-colleagues, if there is no objection, I will call on them for 5 minutes each.

Mr. SOLARZ. Thank you, Mr. Chairman.

First, I think that the gentleman from New York should be congratulated for focusing congressional attention on this problem by the introduction of his resolution.

I think that the chairman of the committee should be congratulated for giving the Congress an opportunity to review our policy in this very crucial area. If nothing else, it certainly highlighted a problem in the command and control procedures in my own office, since the gentleman from New York informed me earlier that I was a sponsor of the resolution.

I want, for the record, to make note of the fact that I never authorized my name to be used for such purposes.

Mr. ZABLOCKI. Do you want it stricken?

Mr. OTTINGER. I don't know whether his name is on it or not.

RESPONDING TO AN ATTACK IN ABSENCE OF PRESIDENT AND SUCCESSORS

Mr. SOLARZ. I hope that it is not. I simply make note of the fact that whether this produces any improvement in the command and control procedures of our Nation, it will in my office. So, somebody has benefited from this.

I would like to ask Admiral Miller and possibly Mr. York, about our command and control procedures, which you both seem to feel are fairly rigorous, and which would effectively preclude the possibility of a first strike in the absence of a Presidential, or a Vice Presidential—assuming that the Vice President became President—order. What would happen if the Russians, who presumably are aware of this fact, managed somehow to simultaneously incapacitate the President and the Vice President, and their constitutional successors, possibly by smuggling a nuclear weapon in a suitcase, or what-have-you?

How would we be able to respond to an attack by the Russians which was launched in coordination with such an effort to remove the President, the Vice President, and the successors from the chain of command?

Admiral MILLER. To start, I believe we would have considerable difficulty in that situation, which is, I think, rather extreme. I think we would have considerable difficulty getting any nuclear weapons launched, getting authority down through the system, to the point where the weapon would actually be triggered and exploded.

ANXIOUS CONCERN ABOUT CIVILIAN AUTHORITY

There is a fantastic amount of concern about the civil authority over these weapons. I have watched it grow in the last 20 years to the point where I think that we would have a lot of difficulty getting one off if the entire civilian hierarchy was well, surviving, and in close communication within the whole system. There is considerable constraint on release.

Mr. SOLARZ. Frankly, Mr. Chairman, I think that this is potentially a very serious problem. It seems to me that it constitutes a possible potential invitation to the Soviets to operate under the impression, not necessarily the illusion, that they could get away with the first strike by simultaneously incapacitating our ability to respond through established command and control procedures. I think that this is something that we might want to look at in closed session on another occasion. While on the one hand we obviously have an imperative and overriding national interest in preventing and precluding the unauthorized use of nuclear weapons, it seems to me that we have a comparable interest in preventing the other side from operating under the belief that they could effectively preclude us from retaliating through a surgical strike at those who are in command of the apparatus.

HOW TO INSURE THAT ORDERS HAVE COME FROM THE PRESIDENT

Now, I recall reading a few weeks ago that someone in our armed services who is in the nuclear chain of operation raised the question at an orientation session as to how they could be sure that the order to launch a nuclear strike in point of fact came from the President. After that, the person was removed from the program completely.

It seems to me to be a reasonable question to ask. Since the only one who could remove a Member of Congress are the voters, fortunately, I would like to ask that now.

How do the people down the chain of command, who are the recipients of the Presidential order, know that the order, in fact, has come from the President, rather than an imposter?

Admiral MILLER. We have incorporated in the release process not only the order to do the job, but an elaborate, highly secure, coded authentication system, where you not only get the order, but you get an authentication that the order is valid.

That prevails all the way down the line, actually almost to the weapon itself. In some instances, that technique exists right at the weapon.

So, a false order would be very, very difficult to execute. In fact, I cannot visualize that.

SHARING COMMAND AND CONTROL SYSTEMS TO ALLAY FEARS

Mr. SOLARZ. Given the problem that Mr. York pointed out concerning the absence of sophisticated command and control procedures in other nuclear nations—which could, presumably, pose a greater threat to our security than our command and control procedures—might it not make sense for an international conference of the nuclear states to be called for the precise purpose of pooling command and control techniques and technologies in order to make sure that each of these countries has the most reliable command and control procedures possible? We might do this so that we will not, one day, fall victim to a breakdown in the system of another nation.

I realize that this presents a somewhat unusual proposition because Americans have generally hoarded their secrets and their technology. We have kept them, for obvious reasons, close to our breast. But this is a situation in which we have an interest in sharing our systems with others. How do you feel about that?

Mr. YORK. I am afraid that it is unrealistic. There have been proposals before that have had a similar thrust, that pooling certain secrets would be to our mutual benefit. There have been suggestions that reconnaissance photographs ought to be pooled, ought to be made generally available to other countries, so that they may know what the peril is, what the situation is as well as we.

PROBLEMS WITH HOT LINE MECHANISM

These suggestions always come to nothing. But there are other things, like the hot line, which are related—not identical to your proposal, but related to it—joint mechanisms to prevent complete mistakes from happening.

Now, as long as we have a Soviet-American duopoly, it is possible that the hot line may, in fact, work. But when it becomes dozens, or several dozens of nations, even the hot line is going to be a fruitless way to approach the problem.

Admiral MILLER. I certainly agree with your statement that there is a need to guarantee that the command and control systems exist, and continue to exist, as long as we have any kind of a confrontation.

The only way to really bring any of these situations under control is to get back to the negotiating table. You have to communicate.

I agree with Dr. York that it is unrealistic to think that we could get the kind of swapping and exchanging of information you are talking about, although I certainly would welcome the opportunity to attend such a conference, and find out how the Soviets do the job.

It is significant, and I believe this is open information, it is significant that during the years of developing our nuclear plants, we have shifted in the targeting objective from the destruction of cities and people, to the point where we are more concerned about minimizing collateral damage, preserving life, and preserving command and control systems in order that we can communicate.

One thing that is addressed quite frequently in the open press, is the redundancy of Soviet command and control systems. We don't have much to worry about, as far as the survivability of their system is concerned. But we really don't know as much about their system as they know about ours, I am sure.

FURTHER ELABORATION ON BUILDUP OF CONVENTIONAL FORCES

Mr. SOLARZ. Both of you, I gather, feel quite strongly that in the event that we ever did renounce the first use of nuclear weapons, this could only be done with the kind of buildup in our conventional capacity that would enable us to respond effectively to any conventional attack on the part of the Soviet Union or its allies.

Do you have any sense of how much of an increase such a buildup would require in our own defense budget—and in the budgets of our allies, particularly our Western European allies—to give us the capacity to renounce responsibility of the first use of nuclear weapons without permitting the Soviets to have a situation where they could threaten us with their current conventional superiority?

Admiral MILLER. I addressed this a little bit earlier. To put a hard figure on it, would be impossible. But I seriously question, given the

scope of our commitments, the indications of the overseas interests that we are going to have in the future, the magnitude of the problem and responsibility that we will continue to have as a nation, or as an international power, I question that there is any conventional force structure that would enable us to completely eliminate the reliance on the use of tactical nuclear weapons, at least.

BUILDUP IS QUESTIONABLE

Mr. YORK. I am not sure that it would require any buildup. It is a very difficult question. It depends on what our purposes are, and how dangerous the situation is.

The basic fact, as far as Europe is concerned, is that there are more West Europeans than there are Soviets. The Western European economy is larger than the Soviet economy. There is no fundamental reason why the Europeans cannot handle that question, even by themselves. With us and the NATO alliance, there is even less reason why they could not handle the situation in a conventional fashion.

What increases the Western Europeans would have to make, I don't know, because I don't know how real the danger is. It is a difficult judgment, which I don't think anyone can sit here and make.

Mr. FINDLEY. Could I ask one question just on that point?

Are either of you aware of any request from responsible authorities in any NATO nation that the United States publicly renounce first use?

Mr. YORK. I am not aware of any.

Admiral MILLER. I am not aware of any.

Mr. YORK. It depends on what you mean by a responsible authority.

EUROPEANS VIEW NUCLEAR WAR AS OPENING "PANDORA'S BOX"

Mr. FINDLEY. Any group or any climate in any country.

Mr. YORK. There are subgroups in European society that feel that way, but I am not aware of any governmental—I am not aware that any of them have even considered the question. It is a "Pandora's box" that they do not want to open. Because when they start studying the nuclear situation, and what would result from a nuclear war, they see a situation that is so horrible that they do not want to face it.

They have not said anything, but I don't think that it proves very much. It just means that they are unwilling to face reality.

Admiral MILLER. I know of no instance at all.

Mr. ZABLOCKI. Mr. Ottinger.

Mr. OTTINGER. Thank you, Mr. Chairman, I have more questions than I can impose on the committee to ask. Therefore, I would like to ask unanimous consent to submit a series of questions to both of the witnesses, and if they could supply them for the record. If that is all right.

Mr. ZABLOCKI. Without objection, it is so ordered. We have never done it before, but we will do it.¹

Mr. OTTINGER. Admiral Miller, were you a member of the Joint Chiefs of Staff?

Admiral MILLER. I was not a member of the Joint Chiefs. I was a

¹ Questions and answers appear on p. 87.

member of the joint staff that supports the Joint Chiefs in three different capacities.

OTHER DELEGATIONS OF AUTHORITY

Mr. OTTINGER. I think that the problems of delegation of authority that were pointed out by Mr. Solarz are serious. It is my understanding, which I have received without any classification, that they have been addressed.

You have referred to it, and you have expressed doubts that there have, in fact, been other delegations of authority to commanders to use nuclear weapons without Presidential intervention. Do you know, and how do you know it?

Admiral MILLER. I know of no instance, other than the one that I have mentioned, where any authority has ever been delegated for the use of nuclear weapons by the President of the United States.

How do I know it—by virtue of the fact that for a period of time, in the Joint Staff, in the 1959-60 time frame, I was involved in what was then called the Atomic Operations Division. We were directly cognizant of the Strategic Air Command war plans, and other nuclear war plans.

ADMIRAL LISTS CREDENTIALS

For the next 2 years, I participated in Omaha, Nebr., as a member of the staff which put together the first single integrated operational plan for the integration and coordination of our nuclear war plans. So, I am quite familiar with the delegation of authority there.

Then, I was a custodian of an unmentionable number of weapons on a ship at sea during the Cuban missile crisis, and later with the 6th Fleet in the Mediterranean. I know something about the authority that was available to the commanders for the use of those weapons.

The subsequent year, I was the custodian of a considerable number of weapons in a carrier operating in the Atlantic Ocean, and the Mediterranean, and went through many exercises where we simulated procedures for the use of those weapons. But at no time did we have that authority delegated to us.

Later, I was commander of the 2d Fleet in the Atlantic, which carried with it the additional responsibility as the commander of the NATO Striking Fleet in the Atlantic, and this involved Norwegian, British, Dutch forces, as well as the United States. I went through several drills, procedures, exercises with NATO authorities on the release process. That involved my immediate superior, who would have been one of the authorities that might have had such weapon-release authority.

Incidentally, I had authority to request the release of such weapons, but not to use them. Only authority to request.

Then, for the subsequent 2 years, I was the commander of the 6th Fleet in the Mediterranean, and in addition, the commander of the NATO Striking Fleet in the Mediterranean. I participated, again, in many discussions at NATO headquarters, and in many NATO exercises, and also in U.S. exercises on the release procedures.

I attended the school that we conduct in Europe, specifically for the education of senior commanders and selected members of their

staffs, in this process. Although we had many drills, many exercises, and simulated the procedures, at no time was there any request that I know of, to have the authority delegated.

NORAD CITED AS ONLY INSTANCE

Mr. OTTINGER. Do you think that such authority could, in fact, have been delegated without you knowing it?

Admiral MILLER. It could have been; yes.

Mr. OTTINGER. Tell us, if you can, the circumstances under which that authority was delegated in the NORAD situation.

Admiral MILLER. This is the only instance I know of.

Because of the aspects of our early nuclear capabilities and our great concern for the Soviet capabilities, we built warning systems, which have already been mentioned, such as BMEWS. We were concerned about our ability to respond. We did not have as good warning systems then as good as we have now.

There was concern about being able to respond rapidly enough, and the authority was delegated.

Mr. OTTINGER. Can you give us the conditions under which that authority could be delegated? Is that unclassified information?

Admiral MILLER. The only way that it could be delegated today, that I know of, is to have some law passed that permitted it to be done. I am not really sure of this point.

Mr. OTTINGER. It is not a legal restriction.

PERMISSIVE ACTION LINKS AS PRECLUSIVE MEASURE

Mr. YORK. Imagine a submarine, a Polaris submarine on which the captain is convinced that there has been a nuclear war, and Washington is gone, and there is just him. He may very well never have been delegated the authority. But the question is not whether he has been authorized, but whether there are any external means of preventing him from launching.

Now, in principle, there could be. There are these so-called permissive-action links. Here I have to say that I may not have full knowledge, but I don't believe that these are used in the case of Polaris submarines. I am not sure of that.

Mr. OTTINGER. We may have to go into closed session at some point, but are there people anywhere in the military establishment that have the power to use the weapons regardless of the authority?

Admiral MILLER. No single individual. No single commanding officer of a submarine.

Mr. OTTINGER. The power of more than one person is necessary to do that?

Admiral MILLER. If you had a large enough coalition of individuals in the process, it might be possible to do it under certain circumstances, but not all. It would depend on the degree of security that exists with the weapons. It depends on the weapon, its physical location, and the system by which it is delivered.

USE OF NUCLEAR WEAPONS IN KOREAN OR EUROPEAN THEATER

Mr. OTTINGER. Let us take a tactical nuclear weapon in the Korean or European theater. Is it possible for two people who possess different parts of this information, to get together and decide to use one of these?

Admiral MILLER. It would take a coalition of two people throughout the various echelons. It would take a good many people to do that. The two people closest to the weapon could not do it by themselves.

Mr. OTTINGER. You indicated that your information was not very extensive, but do you have any information on instances where authorization was requested to use nuclear weapons in a particular crisis situation?

Admiral MILLER. No, sir, I do not. I do not know of any situation. The October 1973 situation, which has been discussed a great deal in the open press, gave the impression that we went to a very high state of nuclear alert, but that impression does not represent the real situation.

OCTOBER 7 ALERT

We did not, by any means, get to the point where we requested the release of nuclear weapons. I know about this personally because at that time I was the Deputy Director of the Planning Staff in Omaha. During that particular alert, I was in personal contact with the head of the Strategic Air Command.

Mr. OTTINGER. That would apply to the Cuban missile crisis, and the Vietnam, and the *Mayaguez* incident?

Admiral MILLER. I am not qualified to comment on that. I am not aware of the details of those situations.

Mr. OTTINGER. What about failures of the communications system as it exists at the present time.

There was an incident reported in the newspaper where a submarine was reported to have received information to go ahead and fire a nuclear weapon. Fortunately, the commander did not believe the communication, and had to actually surface in order to make surface contact before he was able to ascertain that, in fact, the communications system had gone haywire.

Are you familiar with that incident, or with any other such incidents.

Admiral MILLER. I am not familiar with the details of that incident, and I seriously question that it could have occurred the way that it has been described.

SYSTEMS NEVER ACTUATED

The main reason that I don't know of any incidents is because we have never been in a situation where we have had to actuate the system. We test it. We go through reliability tests and procedure drills, as I have indicated, but there has never been a crisis that I know of, where we have actually authorized release.

Mr. OTTINGER. My understanding is that this was not a crisis situation at all. This was a failure of the mechanical system.

Mr. YORK. There are some stories of the reverse, where submarine reports have come back that submarines were sunk by enemy action. That is the other way around, and it gets people excited. It moves them in the wrong direction.

Mr. OTTINGER. Let us go to some of the broader questions that you raised.

Can you conceive of a situation in which we would use tactical nuclear weapons, in which we could not anticipate a reply, or that would not lead to an overall escalation of nuclear warfare.

Admiral MILLER. I cannot visualize any situation where the United States, or a NATO commander involved with U.S. nuclear weapons, would use those weapons without Presidential authority.

Mr. OTTINGER. I am switching on the signals on you. Let us take Europe, and there is a conventional attack on Europe. We decide that the way to protect against that is to use tactical nuclear weapons with the authority of the President.

RESPONDING WITH TACTICAL OR NUCLEAR WEAPONS

There are really two questions. The Russians have the power to respond to that nuclear response. They can respond to it either with tactical weapons, or strategic weapons.

Do you think that we would take that risk? Would we use the tactical weapons, knowing that they might come back with a strategic strike, or do you think that we would go for the strategic strike right away?

Admiral MILLER. My feeling is that we would approach the situation with an escalatory policy. We have demonstrated that in recent years as our basic approach to warfare. I think that it would be very difficult to start with nuclear weapons in any scenario.

Let us take a different scenario—a situation with less confrontation. Let us go to sea, and let the other side implement first use. They fire a series of weapons, maybe three or four nuclear warheads. They do a certain amount of damage to us. Maybe they sink a couple of ships.

Are we going to respond right then with nuclear weapons? I think that we will swallow a lot, as national policy, before we take that initial nuclear weapon step. That is why I say the resolutions placed before this committee are not necessary, although I respect the concern of the sponsors and am delighted to see these hearings where we can get the subject out in the open so that more people can understand it.

NUCLEAR SITUATION LINKED TO THAT OF POISON GAS

Mr. OTTINGER. I wonder if we are not in the same kind of situation that we have been in with respect to poison gas. Also bacteriological weapons which have been outlawed by a treaty. Wasn't it always felt that their use would be self-destructive in any major confrontation.

Let us take your example of exchanging these things, and this is not the way that it is going to happen. What is going to happen is that there is going to be an invasion in Korea, or a major, fast strike by the Russians somewhere in Europe.

Things are going to get very, very tense. We are going to anticipate something more drastic. Our intelligence may overestimate what is

going to happen. We might get involved in the use of one of these things.

Admiral MILLER. I think that it is entirely possible, given the right scenario, that we would use them, but it would take a lot of debate, a lot of consideration through the proper echelons, before we would do so.

USE NOT SEEN AS OMINOUS

You must realize that there are many people, and not all confined to the military by any means, who do not consider that nuclear weapons are as horrible in their use as has been advocated by the sponsors of the resolutions. I am not going to take one side or the other. But there are many people who do not consider that the use of a nuclear weapon is as disastrous, or would create as much consternation as these resolutions indicate.

Mr. OTTINGER. In conclusion, you don't think that once these weapons are used they are going to necessarily escalate to self-destruction, that they are going to be counterproductive.

Admiral MILLER. I personally do not.

Mr. OTTINGER. Thank you very much.

Mr. ZABLOCKI. If I could pursue the matter of the delegation of authority to NORAD which was discussed earlier. In your statement you say that the one exception of the delegation of authority has to do with the North American Air Defense Commander, who has been delegated such authority only under severe restrictions, and specific conditions of attack. By way of background, let's assume a case where Washington was wiped out, and the civilian leaders were therefore not in a position to make the decision of whether to launch our weapons.

Given such a scenario, would you amplify further on what are the severe restrictions or specific conditions of attack by which the NORAD commander, without civilian determination could exercise his delegated authority? What, in other words, are the circumstances under which it would be solely the decision of the commander?

SITUATION MUST BE AN EXTREMIS

Admiral MILLER. You have quite well articulated the basic constraint that is there. The precondition is that he must seek this approval, and continue to seek it. He must seek it, and seek it again, and keep trying until we get to a situation that is in extremis.

Of course, at this time in history there is considerable doubt that the NORAD commander could do much about an extremis situation. I suppose that is one of the reasons why revocation of the authority is now being considered.

Mr. ZABLOCKI. Are you saying that the delegation of authority could not be used under the circumstances and restrictions that are now envisioned? Therefore, the reversal. There is an action underway in the Department of Defense to revoke this authorization?

Admiral MILLER. What I am saying is that the restrictions on that commander to use nuclear weapons are quite severe. He must keep trying to obtain civilian authority. Then, the conditions of the attack that he is trying to defend against must meet certain criteria. I don't really know all the conditions involved.

Mr. ZABLOCKI. What would be the reason that the authorization is now underway to be revoked?

DELEGATION HAS OUTLIVED USEFULNESS

Admiral MILLER. This would be appropriate for a Department of Defense witness to address. The only thing I can surmise is that the delegation has really outlived its usefulness in view of the difficult problem of defending against any kind of nuclear attack, the small number and yield of the weapons involved, and the fact that our warning systems are much better than they used to be.

Mr. ZABLOCKI. But from your expertise, you believe that when the delegation of authority was with NORAD that, in fact, that was impractical?

Admiral MILLER. I think it would be very difficult for any commander to use a nuclear weapon without permission of the President of the United States.

Mr. ZABLOCKI. Even with the restrictions that you have outlined, it may be too late to use the authority, even if we were under attack.

Admiral MILLER. It would be a very touchy situation. This is the point about which I have expressed concern.

Mr. ZABLOCKI. If I may pursue a statement that you have made. You say that the constraints envisioned by the legislation would be "premature." This implies that there may be circumstances which could develop in the future which might make such a change in policy acceptable. If so, what are those circumstances?

If it is premature now, I can only read into that that some day it would be a valid issue to consider.

Admiral MILLER. If there is a period downstream when the Soviet Union might come forth with a serious proposal and unilaterally renounce first use, that would be the time for us to explore the point in greater depth, and consider a similar policy, but not until then.

MINIMAL DANGER SEEN AS INHERENT IN UNILATERAL PLEDGE

Mr. ZABLOCKI. Dr. York, you suggest a "universally accepted" no-first-use ban as an essential element in minimizing the current danger of nuclear warfare. You go so far as to say that the United States should adopt such a policy unilaterally. Yet, you concede that the Russians probably will not do so because of their concern over the Chinese.

Admiral Miller, you have also stated that there is compelling evidence which leads you to conclude that the Soviets do not intend to adopt the policy renouncing first use of nuclear weapons in a major conflict.

Would you care to comment, Dr. York? Do you not see the inherent danger for the United States in taking such a unilateral action, keeping in mind what Admiral Miller has said, and taking into consideration the track record of the Soviet Union?

Mr. YORK. As I said. It is not a question of just having the naked pledge out there by itself and relying on that to determine what would happen. It is all the other things that would follow from a pledge; the preparations by us and our allies, of the means of protecting ourselves conventionally, instead of creating a situation which is making it necessary to plan to use nuclear arms.

SOVIET RELUCTANCE DUE TO CHINESE

The reason for the Russian reluctance, in my view, is connected with the problems that China has with Russia. The Russians are in a much more difficult situation than we are. They have enemies everywhere, including a large number of dissident minorities within their own country. Their problems are much more severe and varied.

Their reluctance with regard to this no-first-use pledge, as I said, derives from their problem with China and the fact that they look at China much in the way that we used to look at them, "They have these enormous hordes, and there is no hope of coping with them by any other means than nuclear weapons."

The Chinese, incidentally, take a first-use pledge every time they fire a nuclear weapon. Every time the Chinese fire a nuclear weapon, it is always followed by the announcement by the government that it will never use nuclear weapons first, under any circumstances.

So, it is not as if no one ever took a no-first-use pledge. The Chinese do it every time they test a bomb. The question of what that means, and how sincere it is, I don't know. I am not able to judge.

As far as we are concerned, the United States has to take the lead in these things. This is the only place that we can expect to provide the leadership for somehow winding the whole thing down.

If we don't do it, I don't know who will.

PREVIOUS U.S. ATTEMPT DEMONSTRATES TREND

Mr. ZABLOCKI. We made an attempt with the Non-Proliferation Treaty. We have tried to lead the way. We would do so again if there were some evidence that they would follow. However, there is no evidence that if we did this unilaterally, other adversaries would do likewise.

Mr. YORK. You can be sure of the reserve. If we don't, they won't.

Mr. ZABLOCKI. I want to amplify why you believe the Soviets will not adopt a policy renouncing first use. However, we have a vote on the floor. So, we will recess for 5 minutes.

[A short recess was taken.]

Mr. ZABLOCKI. The subcommittee will resume its hearings.

We will hear from Admiral Miller on the compelling evidence on which he has based his conclusions that the Soviets will not adopt a no-first-use policy.

Admiral MILLER. Mr. Chairman, one of the things that has impressed me the most in this regard, in the last 3 or 4 years, are the manuals that the Soviets use for the training of their troops, and the statements they make in relation to the use of nuclear weapons, such phrases as: "Given that the war starts, we will go all out. We will operate day and night, and in all weather situations. We will be geared to living in a nuclear environment."

MANUALS INDICATIVE OF SOVIET SERIOUSNESS

It is from those manuals that we begin to get the impression that they are very serious about the use of the weapons themselves, and living in that kind of an environment.

More compelling is the Soviet equipment we have been able to inspect. Such inspection shows that the equipment is designed so the

troops can operate in some kind of a nuclear environment, as well as a chemical environment.

I think that many of us who studied their civil defense procedures are impressed with the details of the plans, and the implementation, particularly as these plans relate to the dispersal of their industrial capability. They move their industry into areas, take it out of the metropolis. They split segments of a particular industry to provide dispersal and avoid centralizing in any particular place.

There have been such plans, and they establish new industry in such a pattern, so that it will not all be eliminated in a nuclear attack.

EMPHASIS ON CIVIL DEFENSE PLANS

Then we read of their plans in civil defense for the evacuation of their cities. They have courses in their schools. As I recall, last summer there was an elaborate training exercise involving literally millions of young people, concentrating on evacuation procedures in the event of nuclear attack.

These are things that indicate they are certainly considering living and surviving in a nuclear environment. I must admit their actions could be defensive in nature reacting to the possibility that we might initiate first use. But when you couple civil defense with what they have put forth to their military troops on how to operate in the field, I come to the conclusion that they are not seriously considering backing off on the use of nuclear weapons.

My final point has to do with the pressures we witnessed when the Soviets did not have a nuclear capability, when they tried to get the United States to renounce first use. This relates to some degree to Dr. York's point about the Chinese, where they announce they are against first use. I question that when the Chinese get a more substantial nuclear capability, they will continue to adhere to such a national policy.

Mr. ZABLOCKI. Dr. York, do I assume correctly that the thrust of your testimony, relative to deterrence is that deterrence is no longer a valid premise on which to base U.S. strategic policy?

DETERRENCE CLASSIFIED INTO TWO CATEGORIES

Mr. YORK. I tried to differentiate between two kinds of deterrence. One of them is deterrence of the use of nuclear weapons. I think that this has been, and still is a valid purpose. The other is the use of nuclear weapons to deter other kinds of war, and that I never thought was a valid purpose of our nuclear forces.

I did not think so when I was in the Pentagon. I don't think so now that I am outside of the Pentagon. I think that it may be difficult to find nonnuclear solutions, but we must try to find them. We must not deliberately precipitate a nuclear war, because it would be suicidal. It is much too dangerous.

The only proper use of nuclear weapons is to deter their use by someone else.

Mr. ZABLOCKI. Admiral Miller, in defense of our strategic policy, you contend that the elimination or modification of our nuclear umbrella would force our allies to seek their own nuclear weapon capability, and therefore add to proliferation, and the danger of nuclear war.

If that is true, how do you explain the fact that both England and France—and if it is true that Israel now has nuclear capability, as well as India to a lesser extent—felt compelled to have their own nuclear capability.

COMPELLING FORCES BEHIND DESIRES TO GO NUCLEAR

Admiral MILLER. I can only speculate on that, Mr. Chairman. The French pride, I think, had a lot to do with it. Of course, the fact that they have gone on their own, that they have come out from under the full NATO structure, would be some incentive.

The British got started relatively early, which would have been in consonance with our efforts. They have not pursued it as far as we have, because they have been counting on our umbrella.

As for the Israelis, I think they are seeking some way of protecting themselves. They are in a very sensitive position, and they are going to do whatever is necessary for survival. That would be their motivation.

Mr. YORK. I would like to comment on that. It is instructive, and it shows that the reason that somebody goes nuclear does not have much to do with who says what about the fine, theoretical points of the nuclear balance. There are more fundamental things.

Take the case of the French. The French nuclear program was started after the war with only two goals: (1) basic research and (2) nuclear power. Then, at the time of their debacle in Indochina, which happened in 1954, they expanded their program considerably, but they still did not decide to produce nuclear weapons.

FRENCH CASE FOR GOING NUCLEAR

They simply expanded it as part of a general reaction to a very difficult situation. Later, at the time of the Suez crisis, in 1956, which, if you will recall, put the United States on the other side from France, the French, again, expanded their nuclear base. Again they did not call for the production of nuclear weapons, but they simply took an action which widened the possible options for the future. They decided to build their own uranium facility.

In 1958, they were having problems in NATO. It was not that they did not feel that we were not reliable, but they simply felt that their point of view was not being given sufficient attention. In effect, they said: The only way that you can get anybody to listen to you is to have nuclear weapons. So, they then ordered that the nuclear weapons be built. By then the base was already so thoroughly prepared, that it took less than 2 years from that point to go to nuclear weapons.

THE BRITISH STORY SOMEWHAT DIFFERENT

The British case is really quite different. When the British scientists went home from the United States, where they had participated in the nuclear program during the war, they started a nuclear program for all purposes, with all purposes in mind. The first reactor that they built was a direct copy of the one we had in Hanford, Wash., whose only purpose is to build "plutonium" for weapons.

Right after the war ended, the commission asked the British chiefs, how many reactors should we build, one or two. The chiefs said, "Build two, because in the number of weapons relies our strength."

So, it did not come from any theoretical consideration of whether the United States would have said something that made it seem more reliable, or less reliable. In the French case it came out of crises which happened from time to time. In the British case, they always assumed that they would need them.

Who knows why the Chinese did it? Maybe 100 years from now, we will find out.

Mr. ZABLOCKI. Or the Indians.

Mr. YORK. The Indian case is interesting and it relates to the whole proliferation problem. It shows how tightly the spread of nuclear power is coupled to the spread of nuclear weapons.

NUCLEAR UMBRELLA: EFFECTIVE PREMISE?

Mr. ZABLOCKI. So you contend that the nuclear umbrella is not an effective premise?

Mr. YORK. It has a bearing on the situation, but countries decide whether to build nuclear power on their own special perception of more immediate problems.

Mr. ZABLOCKI. If we did not have the nuclear umbrella, would more nations have their own nuclear capability, or try to get it?

Mr. YORK. It is hard to say. People suggest that the Germans would, and we have discussed that earlier. I think that there are enough inhibitions on the Germans so that they would not, but who can say for sure.

Mr. ZABLOCKI. Do you think that Pakistan might be next in line?

Mr. YORK. Perhaps, but if so it is not a question of a nuclear umbrella, it is a question of two nuclear neighbors, China, and India.

Mr. ZABLOCKI. We do have a treaty with Pakistan, and they would not need to have their own nuclear capability.

Mr. LAGOMARSINO. Admiral Miller mentioned the possible scenario of a sea battle in which nuclear weapons might be used. I gather that the reaction from some of the people on this side of the table was that this probably would not happen.

SITUATION IN CUBA

I can see a situation where it could very, not easily, but where it could happen, and that would be with Cuba. The Cubans have embarked, apparently, on a new policy of actually sending armed troops, at least, to certain parts of the world. I can see that they might again, and start up again in South America, maybe the Panama Canal area.

I can see, as we have done before, blockading that. I can foresee in that event, maybe, a nuclear weapon being used to destroy one of our ships, and I cannot foresee it at a time that we would drop an atomic bomb on Cuba, I just don't think we would. I would agree with you.

Mr. YORK. The Russians are extremely conservative about these things. I can only imagine the Russians using nuclear weapons against

our ships, and I cannot imagine the Russians doing that, despite the fact that they will not take a no-first-use pledge.

The conservatism of the Soviets at every level is such that it is really unbelievable. On the other hand, I can conceive of the reverse more readily. So, I think that it could happen.

The first no-first-use of nuclear weapons was against cities, and that is the only real case that there is. The next is second use.

FIRST USE AGAINST CITIES

Mr. LAGOMARSINO. It is an interesting aspect of this issue that the first two instances of use of atomic weapons were against cities, and not against military targets. On the other hand, we have had at least two major events in which we had plenty of military targets where we could have used them, and we did not. Korea, where we took a horrible beating, and where we had atomic weapons. We did not use them.

There were times in Vietnam, I am sure, where the people who were taking the pounding would not have said, no, if we had offered it to them. I think that our record is pretty good on not irresponsibly using nuclear weapons, or not using them at all.

Mr. YORK. If everybody is afraid of them, that is good. The question is whether they are enough afraid.

Mr. LAGOMARSINO. I am not sure whether we should renounce first use, or renounce any use.

Mr. YORK. I would be happy with either of them. No first use is what is before the committee, and that is a good step in the right direction.

Mr. LAGOMARSINO. But you would be happy with a resolution saying: "Under no circumstances."

Mr. YORK. An international agreement to that effect.

Mr. LAGOMARSINO. Based on that agreement by the Russians, you would disarm?

A MOVE IN THE RIGHT DIRECTION

Mr. YORK. Yes, but it is not my idea. Every arms control treaty the United States has signed in the last decade has said that this is our goal. I am not proposing something myself.

The last four Presidents of the United States have said that this is their goal. The last two General Secretaries of the Communist Party have said that this is their goal. It is always put in terms of appropriate international treaties, inspection systems, safeguards, and so forth.

Yes; I am in favor of moving in that direction.

Mr. LAGOMARSINO. Until that happens, and that is probably way down the road unfortunately, the way things are. What is the difference in the deployment, and the training, and all of that you referred to, which you would have with regard to a no-first-use which you do not have now under the present circumstances?

Mr. YORK. I cannot give you the details on that. But the deployments in Europe are based on the assumption that nuclear weapons would be used in the event of a massive conventional attack. The stated policies always make that assumption, and the organization, plans, and so on, are always based on that assumption.

If it was not merely a statement that there would be no first use, if that were followed up by a Presidential order and by Defense Department planning, it would result in the deployment of men and materiel such that we would cope, or we could hope to cope, with a conventional attack by conventional means.

It probably would mean that the Europeans would have to supply a larger number of troops to NATO. That would be a "for instance."

Mr. LAGOMARSINO. There might be several other possibilities. They might give up.

Mr. YORK. I don't think that they would.

FROM UNILATERAL ACTION TO NEGOTIATIONS

Mr. LAGOMARSINO. How would such unilateral action be designed so that it would eventually lead to a universal, formal agreement?

Mr. YORK. I don't know, except that if it became an important part of American foreign policy, it would be negotiated through the usual means, such as we have negotiated the other international agreements. There are plenty of forums for doing that sort of thing. As to who would say what to whom, I don't know.

Mr. LAGOMARSINO. We are doing that, but apparently you are proposing something that goes beyond that, namely that we unilaterally take some action, and then go on from there to the negotiations.

Mr. YORK. If that is not necessary, I would much prefer to see it done in a negotiated way.

Mr. LAGOMARSINO. Several times in your statement you mention the hair-trigger launch. Would you describe just exactly what that means?

EXPLICATION ON HAIR TRIGGER LAUNCH-ON-WARNING

Mr. YORK. I described it in connection with one particular kind of system, and that is the offensive long-range missile, where it has been frequently proposed, by both military and industrial people, that we construct a system such that the warning system, the radars and the warning satellites, feed their signals into a computer which would then process the data, and determine whether or not an attack is underway. If an attack is underway, then it would automatically launch our missiles.

That has been frequently proposed, but it has always been rejected, as it should be. It is a terrible idea. The reason that it has been rejected is twofold. One is because it is a terrible idea. The other is because it is not necessary. If it became necessary, even though it is a terrible idea, it might very well be adopted.

Mr. LAGOMARSINO. We have to avoid that system, if that is what it means, as opposed to being able to act rapidly, which concerns the admiral, concerns me, and I think many of us. How can you account for the fact that many proponents of ABM are now arguing that we should go to a launch on warning system.

Mr. YORK. I cannot account for each of them. In the cases I know, they happen to be persons who feel very confident about the ability of American technology to produce a safe and sound system.

SYSTEM TERMED TECHNOLOGICAL FIX

In my view, and I have said so before, they fail to take into account the fact that our doing this would lead others to do the same thing. You could not depend on them to build such a safe and sound system.

It is a question of how happy you feel with what is called the technological fix. That is a perfect example of a technological fix, but one which I think is a terrible idea.

Mr. LAGOMARSINO. What you have said, I think, is a very good argument for continuing technology, even though a lot of people say that we have enough weapons to destroy the Soviet's 10 times over, and so on.

But, do we have methods to prevent them from destroying our missiles and sites. I somehow think that this has not been developed yet.

Mr. YORK. Right now, we don't need it. Things are safe enough.

Mr. LAGOMARSINO. Admiral, I must say that I share your concern, and I hope that we are both wrong about the way the Russians are preparing in various ways. They are obviously preparing for nuclear or chemical warfare. I have seen some evidence at classified briefings that certainly points this out.

I don't have any further questions.

ADDITIONAL QUESTIONS TO BE SUBMITTED FOR THE RECORD

Mr. ZABLOCKI. If the other members have questions that have not been asked, or answered, I am sure the witnesses will not mind if we have them forwarded to you, to answer for the record.

Mr. York, and Admiral Miller, you have been excellent witnesses. This is an area of grave concern that does not supply easy answers. Thank you very much.

This meeting is adjourned until Tuesday, March 23, 1976, at 2:30 p.m., in this same room, when our witnesses will be Dr. Henry Rowen of Stanford University and former Deputy Assistant Secretary of Defense for International Security Affairs, who will discuss "What Objectives Should an Effective Command-Control System Seek To Achieve?" and Mr. Philip Farley, former Deputy Director of the Arms Control and Disarmament Agency, who will discuss some of the nonproliferation aspects of the first-use issue.

[The subcommittee adjourned to reconvene at 2:30 p.m., March 23, 1976.]

[The following questions were subsequently submitted to Admiral Miller and Dr. York. Those questions, together with the responses follow:]

RESPONSES BY ADMIRAL MILLER TO QUESTIONS SUBMITTED
BY CONGRESSMAN OTTINGER

Question. Much of your testimony is based on the assumption that all threats which we will face will come from a nation capable of a nuclear response, the Soviet Union. I don't believe that this is the case. Why would the United States need to brandish nuclear weapons before a non-nuclear state? And why shouldn't this Committee recommend a non-first use pledge against non-nuclear states? I might add that this proposal was endorsed by many nations at the N.P.T.

Review Conference this past spring, and that those nations indicated that such a pledge would relieve pressures for them to acquire a nuclear weapons capability.

Answer. I do not assume that all threats we will face will come from the Soviet Union or only from nations capable of a nuclear response. We may have confrontations with non-nuclear states such as Cuba. We may have confrontations with nuclear or non-nuclear nations whose geographical location is such that we have no adequate means of protecting our interests with conventional weapons. There are several areas of the world where we would have great difficulty mounting a conventional force of significant size on a sustained basis. The use of nuclear weapons with varying capabilities might be the only effective method of accomplishing our objectives, protecting our interests, and minimizing the overall destruction and death that might accrue.

With reference to the second part of your question, I disagree with those who feel that renouncement of first use by the United States would relieve pressures for non-nuclear nations to acquire a nuclear weapons capability. On the contrary, it will force many nations that rely on our umbrella to acquire weapons of their own. They will feel that we have created holes in that umbrella by the renouncement of first use.

Question. On page three of your statement you suggest that our nuclear umbrella is responsible for an era of "relative stability." I disagree; I believe that we have been very fortunate that these weapons have not been used, or misused, and that we have had such an era despite nuclear weapons. I would also point out that despite our nuclear umbrella a number of our allies, Taiwan and South Korea, are embarking on programs which make a nuclear weapons capability more likely. Of course, France has already done so. Doesn't this raise some questions in your mind regarding the efficacy of our nuclear pledge as tool of nonproliferation?

Answer. I don't believe that anyone can confidently state exactly what has been responsible for our era of "relative stability." But certainly the possession of nuclear weapons by the United States has not caused a nuclear war or resulted in the misuse of nuclear weapons. I believe that the existence of these weapons, in our hands, has forced many negotiations to take place that might not otherwise have come to pass. I have in mind such examples as the Cuban missile crisis among others.

I think it is unrealistic to believe that many nations, as they become more prosperous or desperate in their need for energy, will not attempt to acquire a nuclear capability of some kind. Whether they convert that capability to nuclear weapons will depend on many factors, such as means of survival. There is, and will continue to be, an increasing need for discussion, negotiation, and communications among all nations on the control of such weapons. I can subscribe to the idea that sometime in the future it would be highly desirable to outlaw nuclear weapons, as it would be desirable to outlaw all weapons. But I think it is unrealistic to assume that such action will occur very soon in the history of the world. At this time at least, I do not believe it is necessary or desirable for us to renounce the first use of nuclear weapons. Our possession of these weapons with considerable superiority compared to most other nations of the world, has not created a nuclear war, and there has been no misuse of the weapons. I see no need for legislation that would constrain us in an area where we have yet to witness a case of misuse. The record on misuse by all nuclear weapons powers seems to be pretty good.

Question. I agree with your point that the United States is becoming more dependent on our international enterprises. I also believe that all nations, regardless of political ideology, are interested in increasing trade. Why do you believe that we might need nuclear weapons to insure that the trade routes are free (short of general warfare)?

Answer. There are certain areas of the world, far from our shores, where we simply cannot, on a sustained basis, mount a conventional force of sufficient size to guarantee free passage. I have in mind that period in 1942 when the small German fleet denied us access to the Soviet Union through the North Atlantic. They denied us access through the Mediterranean, the Black Sea, and the Baltic. They even denied us access through the South Atlantic. Not many people recall that period when we feared German submarines and surface raiders so much that we routed our merchant ships to Russia via the east coast of the United States, through the Caribbean, the Panama Canal, along the west coast of South America, around Cape Horn, across the South Atlantic to the Cape of

Good Hope, up through the Mozambique Channel, and on through the narrow passages of the Persian Gulf where the cargo was unloaded and transported overland through Iran to the Soviet Union. Keeping those sea lines open on a continuous basis against the forces of other naval powers can now project around the world, would be extremely difficult for the United States. Employment of nuclear depth charges and other forms of nuclear explosives could well be the only means available for us to accomplish the task on a sustained basis.

Question. On page 5 of your statement you state that the Soviet Union appears "to be oriented much more towards the first use of nuclear weapons than does the posture of the United States." Has the Soviet Union ever had the alert and readiness procedures which we have had? Have they ever gone on an alert, involving nuclear weapons, for instance during the Cuban Missile Crisis or the 1973 Middle East War, as extensive in deploying nuclear weapons as the United States has?

Answer. I do not believe we know very much about the specifics of Soviet nuclear weapons release procedures and their command and control systems other than the fact that they practice the procedures quite often and involve some of the highest authorities in such practices. Their command and control systems are very redundant, much more so than ours. But we still have a large vacuum of information about the details of their systems, just as we do about the details of their nuclear warfare plans.

The extent of the involvement of nuclear weapons in their alert posture is also an area of limited knowledge. We do know they have an extensive deployment of nuclear weapons in their various categories of submarines and in the forward posturing of their short-range and medium-range ballistic missiles. We also suspect that many of their surface ships carry nuclear weapons on board as they deploy throughout the world to ports in Cuba, South Africa, and so forth.

I might add that there is not as great a need for the Soviets to deploy as extensively as the United States or maintain such high states of alert to guarantee mutual assured destruction or stability in a lesser confrontation. The geography of the two nations is most dissimilar. The U.S. is a much easier target to address than the Soviet Union or most of her allies.

What we do have in the way of hard information on Soviet concepts for the use of nuclear weapons is their articles and manuals on how to wage war. For example, a recent translation of an article published in *Red Star* on 9 December 1975 addresses the numerous advantages to be obtained from a nuclear strike in the battlefield, particularly when used in conjunction with conventional forces. The thrust of the author is to show how nuclear weapons can create instantaneous casualties, plus a favorable environment for rush attacks with large offensive formations, placing the enemy in a defensive role almost immediately after hostilities commence. The article is titled "Role and Place of Tactics in Modern Warfare," and the author is General Lieutenant Vasily G. Reznichenko, professor of military science.

Question. On page 6 of your statement you state that the Soviet Union has displayed a willingness to provide nuclear weapons in support of "third" nation activities." Has the Soviet Union ever placed nuclear warheads outside of their own territory? Are nuclear warheads stored in the Warsaw Pact nations?

Answer. I had in mind press reports indicating that the Soviets had deployed nuclear weapons into Egypt, at least for a short period of time. I have no personal knowledge of their actual placement of nuclear warheads outside of the Soviet Union, but I would strongly suspect that there are warheads in those central European countries where there are Soviet armed forces. I base this suspicion on the procedures and training manuals they have promulgated for the use of their land armies.

Question. On page 5 of your testimony you discuss the "Soviet emphasis on civil defense." Recently four scientists from Stanford University, Sidney Drell, John Lewis, Wolfgang Panofsky, and Lawrence Weller, questioned both the extent and the effectiveness of the Soviet programs in this area. They stated in a letter to Senator Stevenson that, "the Soviet program gives only minimal protection to their population and their military industrial base is totally exposed." Can you cite any evidence that the Soviet programs are as good as you suggest and relate that to their willingness to use nuclear weapons?

Answer. I know personally three of the gentlemen to whom you refer and am quite familiar with the writings of the fourth. I have considerable respect for

their views, opinions, and experience. I do not know the source of their information that would result in the statements you attribute to them.

I base my concern about civil defense on several sources, such as statements by Lieutenant General Daniel Graham, U.S. Army (Retired), a career intelligence officer and, until recently, the head of the Defense Intelligence Agency. General Graham recently stated that in evaluating the strategic balance between the Soviet Union and the United States, the single factor that gives him more concern than anything else is the disparity in civil defense plans and procedures. He has authorized quotation of his statement for the record.

I refer to the writings of Professor Leon Gouré in his publication of 1962 titled "Civil Defense in the Soviet Union." Professor Gouré stresses the philosophy, funding, and training programs associated with civil defense. Professor Gouré was with the RAND Corporation at the time of the publication of that study.

A recent briefing prepared on Soviet Civil Defense by the Office of the Secretary of Defense, January 1978, contains the following highlights:

(a) The Soviet Civil Defense Chief was upgraded to the rank of Deputy Minister of Defense in 1972.

(b) The 15 commanders of Soviet civil defense districts are of the two or three star general rank.

(c) There are 72,000 full-time personnel employed in civil defense.

(d) The expenditures for civil defense range from 0.5 to 1.5 billion dollars a year.

(e) Soviet estimates that "in a nuclear rocket attack the losses to the population in a large unprotected city may constitute 90 percent of the population, whereas in the case of a timely and complete dispersal and evacuation of the population the losses may be reduced to several percent of the total population." Urban fatality estimates by Dr. Eugene Wigner and Conrad Chester of Oak Ridge National Laboratory agree with the Soviet estimates that early dispersal and evacuation can reduce losses to a level between 6 and 8 percent.

(f) Soviet civil defense plans indicate that virtually every city over 100,000 population and perhaps some smaller cities of particular importance have been selected for evacuation.

(g) The 90-mile subway system in Moscow, some of which is 180 feet below the surface of the earth, is equipped with heavy blast doors and can accommodate up to 1,000,000 people in time of nuclear attack. Similar deep subways with heavy blast doors exist in Leningrad, Kiev, Baku, and other Soviet cities.

(h) Training the population is one of the most important functions of Soviet civil defense. Since 1954 civil defense training has been compulsory for all men between the ages of 16 and 55. Some 150 million people have received some form of civil defense training since 1967, with most adults receiving a 20-hour program. In 1973 a new training program was instituted providing each person with a minimum of 20 hours training annually. It also includes 90 hours for the civil defense leaders, and 44 hours for non-military civil defense teams. This program also includes disaster training, such as floods, forest fires, and earthquakes. The training begins early in grade school with civil defense curriculums depending on the age and experience of the student.

(i) Practical exercises and war games are included in the training program. Some evacuations and dispersal exercises have been conducted, but these have been of a small scale, including only part of the population of a town or industrial enterprise. More common is the training in expedient shelter construction or emergency rescue/decontamination exercises.

(j) The Soviet concept for civil defense involves building new towns and expanding small towns throughout the country to tap natural resources and settle undeveloped regions. New town building has been underway for a half century, and currently there are about 1,000 new towns in the Soviet Union, more than half built since the end of World War II. While the initial Soviet new town building occurred mainly in European Russia, a shift to the East has been discernible since the late 1950s. An estimated one-fifth of the Soviet population today lives in new towns, and new construction is expected to continue at the rate of about 20 a year. The result is that the Soviets have dispersed 60 to 80 percent of new industries in small or medium-sized towns during the last 10 years.

(k) Relocation facilities have been established for certain critical industrial enterprises. These facilities will be used by those workers who have evacuated from concentrated urban areas.

(l) Emphasis on grain storage capability and plans for increasing the storage capacity.

(m) There are weaknesses in the program, although they are difficult to find. The Soviets have not evacuated an entire city, conducting instead, limited evacuations of portions of cities or industrial enterprises. Problems have turned up during the drills, and when compounded in a wide-scale evacuation, could cause a delay in evacuation. Sustained evacuation is also a question, although dispersed grain storage may alleviate some of the problem.

(n) The Soviets have expended considerable energy and resources in their civil defense program. They are providing for the survival of their industrial base and political control. They are equipping the population with not only the means to survive, but also promoting the state of mind that they can survive a nuclear war. These are critical elements in the Soviets' ability to wage a nuclear conflict, especially a prolonged nuclear conflict.

Another source is a series of translations of Soviet civil defense documents prepared by the Oak Ridge National Laboratory. These documents cover Soviet civil defense in 1969, 1970, 1972, and 1974. Several hundred thousand copies of these documents have been prepared and distributed throughout the Soviet Union and are designed to give the philosophy of civil defense, the details of shelter construction, and generally serve as training manuals for teachers of civil defense. These manuals emphasize defense against chemical and biological warfare as well as nuclear warfare.

Leon Gouré's studies report on Soviet civil defense in 1969-70, stressing a compulsory 21-hour civil defense training program of the general populace and the special emphasis that is placed on training of children and youth starting with civil defense competitions and tactical exercises at summer camps by fourth graders and older children. It appears that in this period, school children in the fifth through eleventh grades were receiving a total of 115 hours of training, not counting extracurricular exercises and competitions. It is reported that in 1969 some 16 million school children participated in military games called "Zarnitsa" which included civil defense exercises. New training programs were added in 1970 for students in technical and vocational schools. Civil defense propaganda also remains at an all time high with extensive use being made of the media of mass communications.

Professor Gouré's most recent work is titled "War Survival In Soviet Strategy" It has just recently been published and contains significant evidence of Soviet Civil Defense capabilities.

An updated study on trends in the strategic balance and their significance by Professor T. K. Jones, dated March 1976, was included in testimony before the House Armed Services Committee. His study highlights abilities to survive in a nuclear exchange and the differences in emphasis on civil defense preparations between the United States and the Soviet Union. Professor Jones was one of the officials in early SALT talks. His words indicate that in June and July 1975, 23 million Soviet youths were in the countryside participating in massive "military sports" games. These games included survival training, identification of contaminated areas, and determining how to go around or through them in accordance with radiation safety rules.

It would seem that the evidence at least suggests more confidence in survival in a nuclear war by the Soviets than we observe in the United States.

Question. Would you agree that the policies which the United States has advocated in the past, during the era of American nuclear supremacy, have encouraged the present Soviet policies and their willingness to fight a nuclear war? Is there any relationship between our policies and their policies?

Answer. I don't think there is any question that the policies of one superpower affect the policies of another. The fact that the United States acquired the nuclear weapons capability before the Soviet Union undoubtedly spurred them to greater efforts to acquire such a capability. However, had the United States not acquired such a capability, the Soviets would not have been deterred in trying to develop such a capability. Further, had the Soviets developed the capability before the United States, say by the time of the Potsdam Conference, the nature of world affairs would undoubtedly be considerably different than it is today, with the U.S. in a questionable position of power and wealth.

Question. On page 8 of your testimony you note that "great attention" has been paid to our policy and authorization procedures for the release and use of nuclear weapons. Who has provided this oversight and would you comment on its extensiveness?

Answer. It has been my experience that concern and oversight has been provided at all echelons. President Eisenhower was certainly concerned about

release authority, particularly during the final days of his terms as President. Secretary of Defense Gates paid considerable attention to our policies for nuclear plans and release procedures. As I recall, he is quoted as saying that one of the most significant actions he ever took in public office was the creation of the Joint Strategic Target Planning Staff in Omaha, Nebraska, and the formulation of the policies associated with the preparation of our nuclear plans.

This attention has generally been demonstrated by successive Presidents, Secretaries of Defense, and Secretaries of State. I know personally that President Ford, when he became the Vice President, reviewed the responsibilities and details associated with our nuclear warfare plans and associated release, command, and control procedures. I know that he has continued to pay attention to the subject since becoming President.

We all have seen much attention to this issue by former Secretary Schlesinger, who is perhaps the best student of the subject we have had in high public office.

In addition, the issue is reviewed periodically, through exercise procedures, by the NATO ministers and all echelons of the military hierarchy in both the United States and NATO circles, that are involved in the nuclear weapons capability.

Question. On page 8 of your testimony you mention pressures to authorize the use of nuclear weapons on a contingency basis. In the late 1960s General Norstad (Supreme Allied Commander in Europe—SACEUR) implied in testimony before the Congress (don't have the citation immediately available but can get it) that he had been given such an authorization from the President. Can you confirm or deny this? Would you agree that the relationship between the President and the SACEUR would dictate the degree of such an authorization or if such an authorization might be given?

Answer. As I recall, General Norstad was the Supreme Allied Commander in Europe during the early 1960s and not the late 1960s, but I seriously doubt that he received any such authorization from the President of the United States, or even sought it. It could have happened, but I doubt it. I do know that General Norstad was very concerned about the authority for formulating the nuclear plans for Europe and guarded that authority carefully. He would not release that planning authority to U.S. commanders, recognizing his responsibility to the NATO nations as SACEUR.

The relationship between the President of the United States and SACEUR is somewhat different than the relationship between the President and the Chairman of the Joint Chiefs of Staff, but the release procedures are so designed that the President of the United States is still the final authority in the release of U.S. weapons for use by NATO nations. The NATO organization does not alter that basic premise.

Question. In the event that American troops have to evacuate a nuclear storage area, due to direct attack or internal unrest (for instance the Cyprus situation in 1974), what provisions are made for the "disposal" of the stored warheads? Would we allow the warheads to be captured?

Answer. I believe we would have to go into closed hearings with a witness who has more technical expertise than I do, to discuss our disposal procedures for stored warheads. However, it is difficult for me to visualize a scenario where a U.S. nuclear storage site would have to be evacuated with the weapons still in the site.

Question. What controls are there on those weapons in Europe, Pershing missiles and tactical aircraft, which are kept on peacetime "quick reaction alert?" How quick is "quick" and are these forces recallable?

Answer. Again, the details of our quick reaction procedures would have to be addressed in a closed session. The security of all weapons has been a matter of considerable study, particularly in recent months. Steps have been taken by the Department of Defense to add to the security procedures, including the security of our quick reaction forces.

Question. You indicate a reluctance to discuss the physical safeguards on our weapons deployed overseas. But I have found that there is widespread, though not extensive, discussion of our "permissive action link" program (for instance in Secretary Schlesinger's report to Congress on "The Theater Nuclear Force Posture in Europe"). Would you be willing to comment on this program and its extent? I might add that the physical aspects of these storage sites are discussed in an unclassified report to the Senate Committee on Foreign Relations (1973).

Answer. I can make the following statement with regard to our permissive action link program and security associated with nuclear weapons.

All nuclear weapons have some type of command and control mechanism which is designed to preclude unauthorized use, and all nuclear weapons are equipped with safety devices that meet rigid standards. In addition to the devices installed on nuclear weapons to insure their safety and security, there are two-man rules and control which require that no one person is permitted alone near a nuclear weapon without a companion who is qualified in the same specialty, e.g., an electrician must accompany another electrician when performing maintenance or inspection on a nuclear weapon. With regard to enemy capture of a nuclear weapon, similar safety and security devices thwart the arming, fuzing, and firing of the weapon, particularly if the enemy has little or no knowledge of the mechanical or electro-mechanical operation of the protective device. It is possible, however, that these mechanisms can be defeated by a sophisticated enemy over a period of time. Thus, emergency destruction devices and procedures have been developed so that nuclear weapons may be destroyed without producing a nuclear yield in the event that enemy capture is threatened.

The Permissive Action Link (PAL) Program consists of a code system and a family of devices integral or attached to nuclear weapons which have been developed to reduce the probability of an unauthorized nuclear detonation. The devices are designed to preclude the use of a nuclear weapon without first inserting the correct numerical code. The code system is a highly secure system which permits the using unit to obtain the proper numerical code only after PAL-unlock has been unauthorized.

Question. On page 10 of your testimony you state that you have no personal knowledge of "breaches" in our nuclear weapons security. Given your past commands I find this very hard to believe. Senators Symington, Pastore, and Baker, and Congressman Clarence Long have all done investigations on this question, in some cases have traveled to Europe, and have found a number of such instances. This is to say nothing of the number of nuclear accidents, euphemistically called "broken arrows," which can be documented. Would you comment on these?

Answer. I really have no personal knowledge of breaches in nuclear weapons security. I have visited many storage sites. I have been custodian of weapons. I have participated in the movement of weapons with both the Air Force and the Navy. There could have been breaches of security of varying degrees of magnitude, I suppose, but I have no personal knowledge of any. I am aware of the operational incident when a weapon was lost for a period of time off the coast of Spain, but that was an operational incident, not a breach of security. There have been incidents of one sort or another, but to the best of my knowledge, our safety precautions have worked and no nuclear explosion or improper custody of a weapon has transpired.

Question. Returning to the question of command and control. Is it not so that in situations not involving the Soviet Union the Joint Chiefs of Staff have requested preauthorization to use nuclear weapons—that they have stated to the President that they couldn't guarantee the success of an operation without access to nuclear weapons—I would cite the Laotian Crisis of 1962 and the Quemoy-Matsu Crisis of 1958. This is to say nothing of those occasions when a majority of the J.C.S. has urged pre-authorization of nuclear weapons use—for instance Dien Bien Phu, 1954. Would you comment on these occasions?

Answer. I have never personally encountered any situation where the Joint Chiefs of Staff have requested the preauthorization to use nuclear weapons. Procedures are in existence, as I have indicated, to expedite the release process in view of certain contingencies; but I personally know of no instance where the Joint Chiefs of Staff have requested such authority. That doesn't mean they haven't, but I don't know about it if so. Such action is certainly inconsistent with present-day atmosphere. It is difficult to visualize the Joint Chiefs of Staff requesting delegation of authority from the President at this time. The need is not there, and the political pressure associated with civilian control of the military would certainly not encourage such a request.

Question. On the top of page 10 you refer to the 1973 Middle East Alert. You imply that it was insignificant—a notch above our routine day-to-day alert posture. It is my understanding that it was at level three (on a scale of one to five—one being general warfare). The movement of nuclear weapons is not involved in such an alert? Was either the Strategic Air Command or our missile submarine force involved?

Answer. It would be inappropriate for me to discuss the details of the various defense conditions that apply to United States forces. Different defense condi-

tions involve different forces, sometimes including the Strategic Air Command and our submarine-launched ballistic missile forces. At other times, such forces are not involved. In the 1973 Middle East alert, the Strategic Air Command was involved, which is public knowledge. But, as I indicated in my statement, we were a long way from a condition where we would need the release of nuclear weapons.

To continue the subject of that 1973 alert, although the initial alert included nuclear forces, the sustained operation involved conventional forces and was centered on such forces rather than on the nuclear capability.

Question. With regard to our submarine force—what controls are there on the submarine commanders and the weapons under their control?

Answer. I don't feel it is appropriate in an open session to discuss the details of the procedures relating to our submarine-launched ballistic missile systems. Instead, I refer back to my answer to your previous question wherein I stated that all nuclear weapons have some type of command and control mechanism which is designed to preclude unauthorized use, and all nuclear weapons are designed with safety devices that meet rigid standards. The point I am trying to make is that with every system, starting with the President down to the man at the actual site of the weapon, there are several constraints, checks, and balances, which preclude unauthorized use. Without proper authority, it would take a coalition of a good number of people within a submarine to fire a submarine-launched ballistic missile, particularly with the warhead activated.

Question. On page 11 of your statement you comment on the present Administration's attentiveness to the nuclear war plans, the Joint Strategic Capabilities Plan and the S.I.O.P. I am very pleased to hear this. Might I ask how often has the President and the civilian members of the Department of Defense been briefed? Has it been at their request? Are these briefings presentations by the Joint Chiefs regarding the plans, are changes made according to the Administration's questions and concerns—does the Administration have any questions or concerns?

Answer. Guidance for the preparation of the nuclear warfare plans of the United States originates with the President, is amplified through an inter-agency process, and passed to the Joint Chiefs of Staff for implementation, via the Secretary of Defense.

The resulting plans are briefed to appropriate civilian authorities whenever there are significant changes or as requested. There is no set frequency, but, as I indicated in my statement, the current administration has demonstrated considerable attention to the subject.

Question. How would you define the term "general warfare" as it might appear in these plans?

Answer. I would define "general warfare" as an armed conflict between major powers in which the majority of the resources of the belligerents are employed.

**RESPONSES BY ADMIRAL MILLER TO QUESTIONS SUBMITTED BY
CHAIRMAN ZABLOCKI**

Question. What is the evidence to support your statement (top of page 6) that the Soviet Union has demonstrated a willingness to provide nuclear weapons to other countries?

Answer. I refer here to press reports indicating that the Soviets had placed nuclear weapons in Egypt. I don't believe the press indicated they had ever left Soviet custody, however.

Question. Do you subscribe to the basic assumption underlying most of the resolutions, i.e., that even so-called modest use in the form of tactical nuclear weapons would almost inevitably lead to full all-out nuclear war?

Answer. In no way do I subscribe to the basic assumption that even a so-called modest use of tactical nuclear weapons would inevitably lead to full all-out nuclear war. There are many situations where one or more weapons could be used without escalation. I have in mind, particularly, situations where the exchange might take place at sea or where warning shots are fired in the atmosphere or in desolate areas. The use of nuclear weapons at sea in a so-called modest way, by either or both sides, could easily be accomplished without escalation to all-out nuclear war.

Question. Can you describe a scenario under which first use would be proper (page 7)?

Answer. The scenario might be far fetched, but assume there has been considerable escalation in tension between the Soviet Union and the United States. We have determined that a pre-emptive attack is entirely possible on the part of the Soviet Union and could be started by missiles fired from their submarines. We are closely monitoring the activities of their submarine force, and receive indications that the attack is about to commence. Assume that we have the ability to destroy, with high probability, a submarine that is about to launch a boatload of nuclear tipped missiles at New York City. We can destroy the submarine with nuclear weapons with high probability, but not with conventional weapons. If we detect that the missiles are about to be fired, pre-emption on our part with the use of a nuclear depth charge could be construed to be quite proper.

Question. Does the ever-increasing complexity of the Command-Control System you describe on top of page 8 trouble you? In other words, doesn't the chance for something to go wrong increase in direct ratio to the complexity of the parts? In fact, don't you concede that in your statement on page 10 " * * * if I have had any concern, it is that the constraints and impediments on the release and use of nuclear weapons are so numerous that the speed of reaction in time of stress might become unacceptable."

Answer. Yes, I am concerned about the increasing complexity of the command and control system. As our plans become more flexible and more complex, the command and control procedures become more complex, in some instances. However, my concern is centered on our ability to execute a plan, not a premature release or misuse. The checks and balances now are so numerous and rigid that there should be concern about our ability to release under the most ideal conditions. We simply don't need additional constraints imposed to prevent misuse.

Question. On top of page 11 you say you are "impressed with the attention to nuclear war plans and their execution procedures, as demonstrated by the current President and the civilian hierarchy in the Department of Defense." That suggests two questions:

(a) Relative to the execution procedures, can you tell us how often a President (and his Constitutional successors) review those procedures?

(b) Relative to the civilian hierarchy in the Department of Defense, who are those persons and what is their relationship of authority to the military hierarchy?

Answer. The review of nuclear war plans by the high civilian and military echelons takes place whenever there are significant changes in either the authorities or the plans themselves. There is no set period of time. It is done on the basis of need.

It has been my experience that the civilian hierarchy in the Department of Defense who are most concerned with the nuclear war plans are the Secretary, his Deputies, the Assistant for Atomic Energy, the Assistant for International Security Affairs, and the Deputy Director for Research & Engineering. There may be others.

RESPONSES BY DR. YORK TO QUESTIONS SUBMITTED BY MR. OTTINGER

Question. On page 2 of your statement you state that a preemptive attack by either the U.S. or the Soviet Union is not feasible today. Would you comment on the relative feasibility, both at present and with regard to future potential?

Answer. Today it is not feasible in any real sense, i.e., it can't be done successfully. Of course, it is possible that some half-crazy leader might think it could be done, and he might conceivably act on that perception. I also think preemption will remain unfeasible for the foreseeable future if we continue to maintain any two of the current triad. Maintaining all three does help to nail down the correct perception of this unfeasibility, and the triad is useful for that reason.

Question. On page 3 of your statement you comment about our capability to develop a command and control system capable of controlling a "more delicately balanced hair trigger." You go on to cite the "record" as raising some doubts about this. would you elaborate on this?

Answer. The matters I have in mind are two well known cases of failure in the system. In one, the Greenland radars picked up reflections on the moon that looked very much as though a large missile attack was underway; happily no one believed it. In another, by a red defense alert issued to the nation's radio stations, telling them to switch over to the frequencies appropriated for that condition. Fortunately, no one believed it then either.

Question. From your experience in the Department of Defense and since that time, would you comment on the effectiveness of the "permissive action link" program. Were other programs considered and do you believe that they might have been more effective?

Answer. The PAL program is good as far as it goes, but it doesn't go far enough. I believe, for example, it is not used in Polaris boats. If that is indeed the case, a submarine crew which somehow became falsely convinced the world had already gone up in nuclear smoke could really trigger exactly that event.

Question. Do you believe that no-first-use against non-nuclear states would serve the cause of non-proliferation? What results would there be with regard to proliferation if we took a unilateral no-first-use pledge?

Answer. I am unsure of the answer to this one, but I don't believe it will be found in contorted complicated arguments that proceed along lines like this: "If we do this, they'll do that, and then . . ." Rather, I think the way to approach this is to say all forms of no-first-use pledges are steps of moderation, steps in the generally right direction. As such, if they are taken, they improve the general situation and thus create a climate in which other steps-in-the-right-direction are facilitated.

PART III

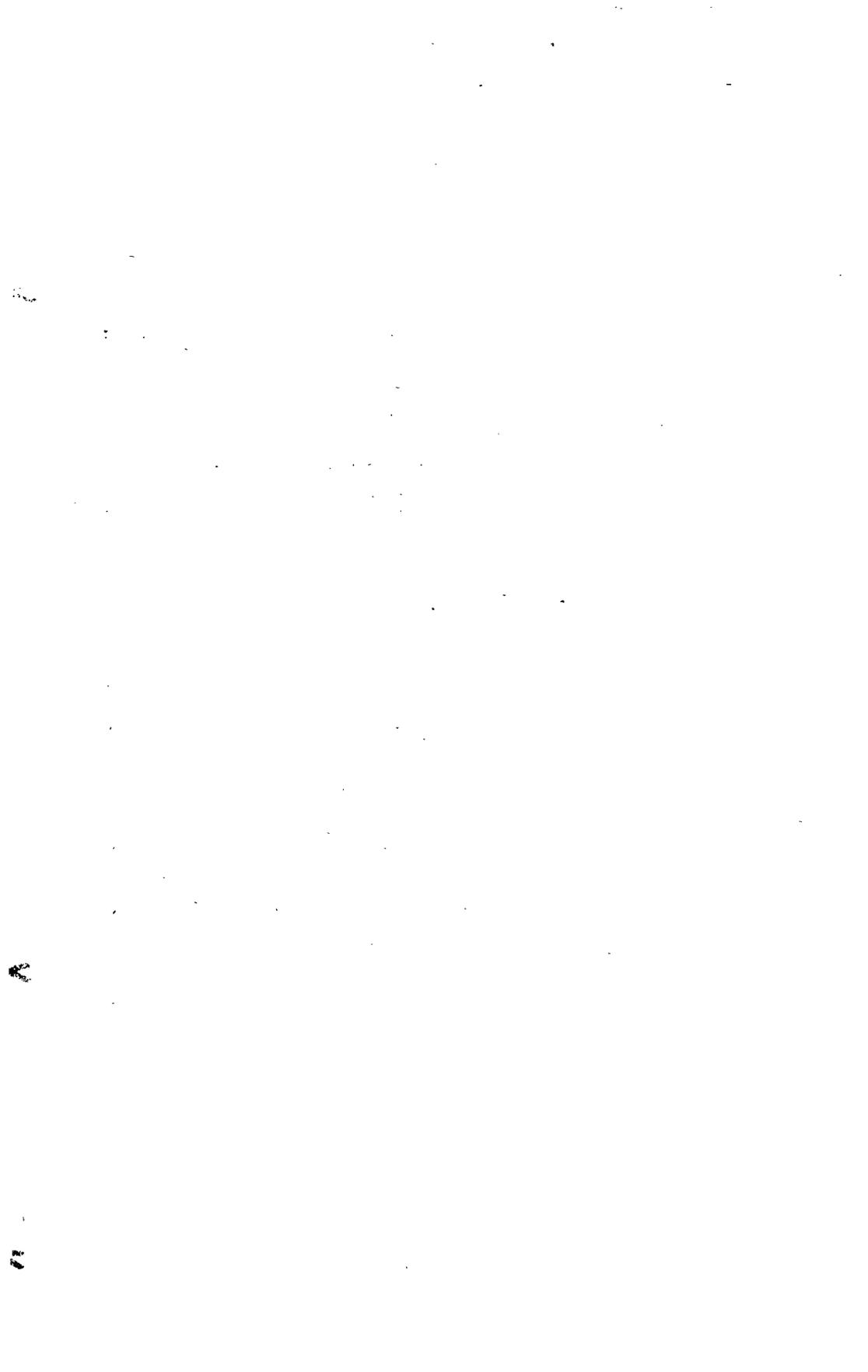
**COMMAND AND CONTROL: WHAT OBJECTIVES
SHOULD AN EFFECTIVE SYSTEM SEEK TO
ACHIEVE?**

and

FIRST USE: NONPROLIFERATION ASPECTS

March 23, 1976

	Page
Rapporteur summary -----	99
Hearing -----	105
Witnesses:	
Dr. Henry S. Rowen, Stanford University -----	106
Philip J. Farley, Brookings Institution and former Deputy Director of the U.S. Arms Control and Disarmament Agency -----	112
Material submitted for the record:	
Responses by Dr. Rowen to questions submitted by Chairman Zablocki -----	136
Responses by Dr. Rowen to questions submitted by Mr. Findley and Mr. Lagomarsino -----	138
Responses by Mr. Farley to questions submitted by Chairman Zablocki -----	139



RAPORTEUR SUMMARY

What Objectives Should an Effective Command-Control System Seek To Achieve?

and

First Use: Nonproliferation Aspects

(Prepared by Richard F. Grimmett, Analyst in National Defense and Mark M. Lowenthal, Analyst in National Defense, Congressional Research Service, Library of Congress)

Dr. Henry S. Rowen, in his prepared remarks, began by observing that the objectives of a command and control system depend on the broader aims of national policy on the use of nuclear weapons. In the course of his statement he made the following points:

(1) A central U.S. policy objective for years has been to meet military challenges without the use of nuclear weapons. (P. 106.)

(2) Six Presidents have consistently taken the position that we would use nuclear weapons in the defense of Western Europe and northeast Asia if nonnuclear defenses proved inadequate. (P. 106.)

(3) The principal intended targets for our nuclear weapons have been the military forces of our adversaries, not populations. (P. 107; see also hearing of March 18.)

(4) Little attention need be paid to command and control of nuclear weapons if one plans a single massive, nuclear response to a perceived attack. But a policy that emphasizes discrimination and flexibility in the use of nuclear weapons makes command and control systems a matter of concern. (P. 107; also March 18 and 25.)

(5) Various proposals addressed to the renunciation of first use of nuclear weapons have a common problem in that they call into question the will of the United States to provide effective protection to allies, and as a result they add to the incentive of these countries to acquire their own nuclear weapons. (P. 108; also March 18 and 25.)

(6) An explicit U.S. policy of renouncing attack on populations would increase the credibility of a nuclear response because such a response would not be suicidal and would be more closely matched to the nature of the attack. (P. 109; also March 16 and 18.)

(7) Objectives aimed at assuring effective control over nuclear weapons by proper authorities include:

(a) Having a well-protected strategic force and a command and control system which would provide strong incentives to commanders to avoid taking irreversible action in ambiguous situations (pp. 109 and 137);

(b) Assuring a reliable warning of nuclear attack with a low false alarm rate (p. 109);

(c) Developing procedures that would not require the irretrievable commitment of forces on the basis of assumptions that may prove false (p. 109);

(d) Taking steps to insure that nuclear weapons cannot be used by anyone in the chain-of-command without authorization (p. 109; also March 18 and 25);

(e) Maintaining the ability to communicate with adversaries via a "hot line" (p. 110; also March 18 and 25); and

(f) Insuring that we maintain a well-protected force that does not rely on a hair-trigger response. (P. 110; also March 16, 18, and 25.)

(8) Our command and control system should be supported by systems that will permit acquisition of current knowledge of the disposition of United States and allied forces as well as that of the enemy, enable communication with and direction of one's own forces, facilitate assessment of the results of attacks, and recovery and regrouping of our personnel. (P. 110.)

(9) Our command-and-control system should be geared so as to permit development and adoption of effective limitations of the scope of any nuclear conflict. (P. 110; also March 25.)

(10) It is a matter of utmost importance that the United States work intimately with allies on common problems, including the perception of threats, possible contingencies, possible responses, and similar questions. (P. 111; also March 25.)

(11) The alliances which the United States and the U.S.S.R. have with other countries provide the most effective means of persuading technically competent countries to refrain from acquiring nuclear weapons. For them to eschew such acquisition, however, these countries must be assured of at least minimal protection. (Pp. 112 and 137; also March 18 and 25.)

(12) The best way to avoid use of nuclear weapons is not to pass congressional resolutions on the subject but to make such use unnecessary by having adequate nonnuclear strength. (P. 112; also March 16, 18, and 25.)

Mr. Philip J. Farley, in his prepared statement, sympathized with the proposed resolutions regarding the first use of nuclear weapons but noted that he could not support most of them, in whole or detail. Mr. Farley stated that it is of highest importance that the United States and its official and private leaders show a sensitivity to the consequences of nuclear war and continually seek sound ways of lessening the risk of the outbreak of nuclear war. This is true because it will be harder for some states with major world or regional ambitions, basic uncertainties or insecurities to forego nuclear weapons indefinitely or renounce them should it appear that such weapons are likely to be employed in future hostilities. (P. 113; also March 18 and 25.)

Mr. Farley also made the following points in his opening remarks:

(1) A major contribution to the slowness of nuclear proliferation has been perceived U.S. determination to avoid the use of nuclear weapons in conflict. (P. 113.)

(2) In the current situation where there are powerful precedents and political inhibitions against using or threatening to use nuclear

weapons against nonnuclear powers in regional conflicts, states are able to conclude that remaining nonnuclear is better protection against a nuclear attack than starting a nuclear weapons program. (Pp. 113 and 140.)

(3) Current U.S. policy and practice includes restraint regarding the use or threat of use of nuclear weapons against all nonnuclear weapon states. This policy approach is a good one and preferable to one which would include an implied threat that we might use nuclear weapons against states that do not sign the Non-Proliferation Treaty, (P. 114; also March 25.)

(4) The U.S. nuclear umbrella and assurances not only provide allied governments with needed security commitments but also make renunciation of nuclear weapons tenable and politically defensible against nationalistic domestic critics and others. A no-first-strike pledge by the United States would undermine the position of non-proliferation advocates among our allies and reopen national debates on military nuclear policy. (P. 115; also March 18 and 25.)

(5) Internal NATO alliance difficulties which could be caused by a unilateral U.S. declaration of no-first-use of nuclear weapons would not be ameliorated by a formal agreement binding the Soviet Union to also forego a first strike or first use of these weapons. (P. 115.)

(6) Rejection of a first-strike strategy makes basic sense in a purely United States-Soviet context. But we live in a multidimensional world. Our nuclear forces should deter attack on both our allies and ourselves and in doing so undergird real nonproliferation in the real world. These objectives cannot be achieved by nuclear policies cast in bilateral terms. (P. 116.)

(7) It is the aggregate risk of demonstrated United States and alliance will, deployment of conventional and tactical nuclear forces, diversified survivable retaliatory forces, coupled with a combination of treaty obligations which is the effective deterrent in the eyes of our allies and our adversaries—rather than any explicit threat of first strike. (P. 117; also March 25.)

(8) To explicitly renounce first use of nuclear weapons is to risk shaking the mutually supporting structure of collective security and nuclear nonproliferation which has served us well. (P. 117; also March 18 and 25.)

Chairman Zablocki began the discussion by asking whether the U.S. deterrent might not be improved by increasing our conventional forces. Mr. Farley favored the maintenance of a fully adequate conventional defense in Europe, but stressed that it should be based on our perceived objectives there, and not in relation to its effect on our nuclear deterrent. He did not feel he could comment on a possible trade-off of conventional forces in place of tactical nuclear weapons, but questioned the need for more conventional forces in Europe. (P. 117; also March 18 and 25.) He noted some improvements that had been made in NATO, including a new antitank system, modernization of tactical air forces, and a better reserve system. However, Dr. Rowen noted that the Soviet Union had been steadily increasing its conventional forces in Europe and elsewhere and that this had had an enormous effect over the last 10 years and now posed a great challenge to NATO. (P. 118; also March 25.)

In response to a related question Mr. Farley agreed that it seemed logical that an improved conventional capability on the part of NATO might make it possible for the United States to renounce the first use of nuclear weapons, but there were practical political difficulties. The United States, in asking its allies to forego the development of nuclear weapons, had made them dependent upon the American nuclear umbrella, and they would want to continue to have this option in reserve. (P. 119; also March 18 and 25.)

Both Mr. Farley and Dr. Rowen stressed the effect that an American renunciation would have on our NATO allies. Dr. Rowen perceived a widespread concern in Western Europe that the United States lacked the will to use its available strength when necessary, and that coupled with the Soviet buildup this was having an unsettling effect. Mr. Farley essentially agreed, and said that the United States "poor mouthing" of its own strength worried its allies. He also felt that the proposed resolutions would have more of an impact on our allies, whom it would worry, and less of an effect on the Soviet Union, who would continue to be guided by the U.S. actual strength and capabilities. Dr. Rowen agreed, and said in response to a later question that the resolutions could give the United States "the worst of both worlds" in that our allies would believe in their intent and that the Soviet Union would not. He noted the so-called "Healey Rule" formulated by Denis Healey when he was Britain's Minister of Defense, that it takes a 5 percent probability of U.S. response to deter the Soviet Union, but a 95 percent probability to assure Western Europe. (P. 125.)

Both men felt that the United States should express an interest in developing talks with its allies regarding the use of technologically advanced—"smart"—weapons. Dr. Rowen said such a dialog is overdue, and the Europeans feel that the United States is holding back and not telling them enough. However, he warned against making such a proposal without following it up. He noted that the introduction of such weapons would increase NATO's flexibility in response to the Soviet threat, which he saw as being primarily one of fractionalizing the alliance and then exploiting this with a limited operation, rather than an all-out engulfing offensive. Under current NATO doctrine our response was limited to all or nothing, under which conditions some NATO members might "opt out" of the alliance. (Pp. 121 and 122.)

Mr. Farley felt that consultations on greater use of new weapons could help enliven NATO, and that the application of such technology would modernize our conventional defense and make it more relevant. Such a move, Mr. Farley said, would increase the effectiveness of our nonnuclear weapons and make our nuclear deterrent more credible. (P. 121.) It would have the added advantage of relying on the U.S. strengths in technology and industry rather than measuring our posture against Soviet strengths. Mr. Findley noted that this would also move the focus of our negotiating efforts to Brussels and away from Moscow, thus improving allied relations. (P. 123.)

In response to a question, Mr. Farley expressed surprise at former Secretary of Defense Schlesinger's statement that Warsaw Pact forces

could conceivably reach the Rhine in 48 hours in an all-out conventional attack. He felt that there were uncertainties in the situation which might change this, such as the relatively easier role of defense which NATO would face and the unlikelihood that the Soviet Union would pursue such an attack in face of a determined defense. Mr. Farley doubted that nuclear weapons could be kept out of such a conflict. (P. 134.) He did agree that NATO's reliance on tactical nuclear weapons had led to an underutilization and poor management of conventional forces but thought that this was less of a problem now than it had been. (P. 134; also March 25.)

Neither witness felt that the formalization of a no-first-use policy in legislation would be beneficial to the problem of nuclear proliferation; on the contrary, nonnuclear third powers might feel the need to begin to develop independent nuclear arsenals of their own. Mr. Farley was certain that the West European powers were fully aware of the probable effect of a tactical nuclear war in Europe, and acknowledged that the presence of 7,000 tactical nuclear weapons in Europe was a source of tension and of potential vulnerability in terms of sabotage. (P. 132; also March 16.) However, he questioned whether or not a no-first-use pledge was the best solution, noting that such a pledge would not cover British or French weapons. He felt that Mr. Aspin's approach might be best in the short run, but preferred to see the evolution of a situation where we would not have to rely on tactical nuclear weapons and thought that this was what the administration desired. (P. 132; also March 25.) In this connection, Dr. Rowen said that the Soviet Union also wanted to avoid the use of nuclear weapons. Their strong conventional machine was a strong incentive toward this end.

In response to a question about Mr. Bingham's resolution, House Joint Resolution 618, which would renounce a first-strike capability and counterforce capacity rather than being a no-first-use pledge, Mr. Farley noted that the real test would be in our actions but that it was difficult to draw the line between a retaliatory capability and counterforce. (P. 124.) Dr. Rowen felt such a renunciation on the grounds of the destabilizing effect of a first-strike capability might be possible. He agreed that the United States should not work towards such a capability as it did not make sense and would be destabilizing. (P. 123; also March 16 and 25.)

On the question of the destruction of the American command and control system by an enemy attack, which was raised by Mr. Solarz, Dr. Rowen said that some of the American nuclear forces, such as strategic aircraft and Polaris/Poseidon submarines would survive and thus give the United States a credible and usable deterrent. However, he did not feel that he was competent to answer the question of who, in this instance, would then have the legal authority to launch such a response if the civilian leadership were decimated. (Pp. 128 and 129; also March 25.)

Mr. Farley responded positively to the suggestion of an international conference on command and control procedures in which technology could be shared in order to enhance enemy procedures and reduce their possible errors. He felt this would be very helpful for nonproliferation, especially with the new nuclear powers, but less so

with the more developed states. (P. 131; also March 18.) He noted that such an effort had been made in the SALT negotiations but that the Soviet Union, with its "secrecy fetish," had backed off. The end result was the "Accident Measure" agreement in SALT, the practicality of which Mr. Farley doubted. (P. 131.)

Finally, Mr. Farley agreed with Mr. Ottinger that there was an inconsistency in American efforts at arms control and the continued force buildup, especially in technological areas, and that the risks inherent in mutual deterrence made efforts for a better conventional balance of preferred policy. In this connection Mr. Farley suggested the use of the MBFR negotiations, which he did not feel were being taken seriously. (P. 135.)

FIRST USE OF NUCLEAR WEAPONS: PRESERVING RESPONSIBLE CONTROL

Command and Control: What Objectives Should an Effective System Seek To Achieve? and First Use: Nonproliferation Aspects

TUESDAY, MARCH 23, 1976

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERNATIONAL RELATIONS,
SUBCOMMITTEE ON INTERNATIONAL SECURITY
AND SCIENTIFIC AFFAIRS,
Washington, D.C.

The subcommittee met at 2:30 p.m. in room H-236, the Capitol Hon. Clement J. Zablocki (chairman of the subcommittee) presiding.

Mr. ZABLOCKI. The subcommittee will please come to order.

This is the third in our series of hearings on "First Use of Nuclear Weapons: Preserving Responsible Control."

Last Thursday we examined the past performance and current adequacy of the command and control system, that system by which the decision to use nuclear weapons is exercised or delegated by the President. This afternoon we hope to explore that same subject from the perspective of, "What Objectives Should an Effective Command-Control System Seek To Achieve?" Our witness is Dr. Henry Rowen of Stanford University and former Deputy Assistant Secretary of Defense for International Security Affairs.

On a related subject, Mr. Philip Farley, former Deputy Director of the Arms Control and Disarmament Agency and currently of the Brookings Institution will discuss the "Non-Proliferation Aspects" of the first-use issue.

Gentlemen, we are pleased that you have taken the time from your busy schedules to share you expertise with us. As you know, this is a difficult subject, and we therefore welcome your insight and knowledge on these complex matters. Particularly to you, Dr. Rowen, we are grateful that you have come here so soon after your return from London. We know what a great sacrifice and effort you have made to be here with us.

Mr. Rowen, if you will proceed, please.

I might say to the committee that Dr. Rowen must leave by 4 p.m.

Mr. ROWEN. Yes.

Mr. ZABLOCKI. We would prefer to hear both of you gentlemen and then ask questions but if the time is such that you will be pressed, we will understand if you have to leave. We are starting right on time so if you will proceed, Dr. Rowen.

STATEMENT OF DR. HENRY S. ROWEN OF STANFORD UNIVERSITY

Dr. Rowen is currently with Stanford University in California. Prior to his current position he was President of the Rand Corporation, former Deputy Assistant Secretary of Defense for International Security Affairs and Assistant Director of the Bureau of the Budget.

Mr. ROWEN. Thank you, Mr. Chairman. My late arrival is responsible for the fact that my statement is just being distributed now and I apologize for not having it available sooner.

I was asked to make some comments about the possible objectives of an effective command and control system as they relate to various proposals for an explicit U.S. policy of no first use of nuclear weapons. These are obviously related. I think that it is clear that the objectives of a command and control system depend on the broader aims of national policy on the use of nuclear weapons. What have been these aims in the past and what might they be in the future?

The first, and I think really most essential point, is that it has been a central American policy objective to meet military challenges without the use of nuclear weapons if at all possible. We obviously have not used them since 1945, did not use them in two wars, nor in several serious crises. It has been the announced policy of several administrations beginning with the Kennedy administration in 1961, but even earlier was really the policy which has been labeled that of "massive retaliation" under Secretary of State Dulles. Secretary Dulles hedged and said that we would "use weapons of our own choosing." That really meant effectively nonnuclear weapons as it turned out.

EFFORTS MADE TO REDUCE DEPENDENCE ON NUCLEAR WEAPONS

I note here in my statement that we have put our money where our declaratory policy has been. The share of the Defense budget that goes to those forces which are exclusively or primarily for use in the nuclear conflict is fairly small. And it has been shrinking. I would guess that it is around 15 percent of the Defense budget. In the past, 15 years ago, it was a good deal more.

We observe also that Presidents, in addition to trying to reduce our dependence on nuclear weapons, have left open the possibility that we would use them in the defense of Western Europe and northeast Asia if nonnuclear defenses were inadequate.

What we might actually do with nuclear weapons, of course, has changed over time. There are six Presidents who have made statements on this subject covering a long span of time.

The military technology has changed enormously; the forces deployed on both sides have changed enormously. In the very early to those forces which are exclusively or primarily for use in the nuclear weapons was with long-range bombers, so-called strategic bombers, and their targets then were war-supporting industry and military forces of the Soviet Union. As the weapons stockpile grew, we put nuclear weapons overseas in Europe and in northeast Asia for use by forces there and made them available for a variety of other missions.

INTRODUCTION OF NEW WEAPON EFFECTS PROBLEMS

Throughout, the principal intended targets for these weapons have been the military forces of adversaries, not populations. However, technology made a very important change during the course of the 1950's. The invention of thermonuclear weapons and the introduction into the American force of very large yield weapons meant that it was in many cases virtually impossible to single out military targets or selected war industry, with weapons delivered quite inaccurately, without killing very large numbers of people. This, however, was not an inevitable outcome for all time.

As it turned out, as people learned more about the technology of thermonuclear weapons, it appeared that their principal effect would be in making it possible to have very little, rather low yield weapons. As time has gone on, the average yield in the American stockpile has dropped very sharply. This, together with the improvements in accuracy of weapons, means that it is possible now from a command and control standpoint to direct forces against military targets with very much reduced collateral damage to civilians.

CONCENTRATION ON MILITARY TARGETS

This concentration on military targets by the military planners was true even during the period in the 1960's when Secretary McNamara was giving a good deal of emphasis in his testimony and speeches to the expression "mutual assured destruction." He used it principally as an argument against excessive U.S. reliance on nuclear weapons and as a way of warding off congressional efforts to spend more money than he felt desirable on nuclear forces.

I go through this history, Mr. Chairman, to simply remind us all that Secretaries Schlesinger and Rumsfeld, in emphasizing nuclear restraint, discrimination, and flexibility, are by no means elaborating a new theme in American doctrine. It has not always been pursued consistently, but it is more than a thread that runs through a very long period in American policy, even back to Secretary Dulles' time.

This emphasis on discrimination and flexibility, which I believe is a completely proper one, makes command and control quite important. Suppose we did not have such a policy? Suppose we planned only on having a single massive, nuclear response which would throw all of our nuclear weapons against Russian cities? We would not need much of a command and control system. We might simply have radars or other warning devices hooked up to a computer and if the computer said that there was an attack occurring, it could give the "go" signal and the missiles would go. We would not need the President and the Congress to be involved in the release of nuclear weapons.

KISSINGER HINTS THAT U.S. LAUNCH MISSILES ON WARNING

This might seem a little far-fetched, more than a little far-fetched, but I draw your attention to some remarks of Secretary of State Kissinger in a recent speech in San Francisco in which he hinted, without apparent disapproval, that the United States might launch its missiles on warning of a possible attack. This would have to be a decision to launch missiles within minutes. I ask you, sir, what might be the role of the President or the Congress in making that decision?

I do not see how there could be one. This disturbing but somewhat cryptic statement by the Secretary was expanded upon, according to the Wall Street Journal, by remarks by anonymous senior officials suggesting that the United States might undertake instant and full retaliation if U.S. radars gave evidence that an attack was on the way.

Mr. Chairman, it seems to me that rather than pursue the issue of no first use of nuclear weapons you might inquire as to whether the officials in question really believe that our forces are so critically vulnerable as to require such desperate procedures, whether such procedures are in effect and whether their apparent nondisapproval signifies their support. I do not believe that our forces are so vulnerable, although additional steps are needed to assure their protection and I believe, as I hope the members of this committee do also, that such procedures would be extraordinarily dangerous.

NO-FIRST-USE SUBJECT OF MANY INTERPRETATIONS

No-first-use is the subject here, and as you know this is the subject of many interpretations. For example, there could be no use of nuclear weapons until they land on American territory. George McGovern in his 1972 national security position paper took that position more or less. What about use against U.S. forces stationed abroad? Or nuclear attack on U.S. allies? Any one of these, I believe, would remove U.S. nuclear protection from our allies and would effectively mean the end of the NATO alliance. Moreover, it would give great impetus to the creation of new national nuclear forces by countries which would then be deprived of nuclear protection from the United States. This would increase instability and would increase the likelihood of war and increase the likelihood of nuclear war. We would, not for the first time, see a policy have the opposite of its intended effect.

KOREAN DECISION BASED ON U.S. MILITARY PRESENCE

Another variant which has been proposed would have us renounce the use of nuclear weapons against countries that do not possess them. This would exclude, for instance, the use of nuclear weapons by U.S. forces in Korea against an overwhelming North Korean attack. Although the prospects of such a successful attack are not high, it is, I believe, of some importance to note that the recently announced agreement by the ROK not to buy a nuclear fuel reprocessing plant, a plant which would be an essential part of a ROK nuclear weapons program, depends crucially on the U.S. military presence including an explicit U.S. intent to use nuclear weapons if necessary in Korea's defense.

Congressman Aspin's proposed resolution on no-first-use is another version of this class of proposals. It would have the United States not threaten or use nuclear weapons against non-nuclear-weapon states which were members of the NPT unless it were engaged in aggression in concert with a nuclear weapon state. This proposal too has several ambiguities. What meaning, for instance, might be assigned to the phrase "in concert with" a nuclear weapon state? Suppose an American ally was being overwhelmed by a non-nuclear-weapon state, party to the NPT, which was receiving arms, logistics support, and volunteers from the Soviet Union or China. Would this resolution preclude any possibility of a U.S. nuclear threat? I raise this question not

because logic chopping is a very fruitful exercise here but all of these variants have a common characteristic: they all call in question the will of the United States to provide effective protection to allies, and in so doing, they add to the incentive of these countries to acquire their own nuclear weapons.

ALTERNATIVE LANGUAGE PROPOSED

Not to be entirely negative today, I have my own no-first-use proposal. I believe it is not subject to these criticisms. It is that we renounce the first use of any weapon, nonnuclear or nuclear, against population centers. This is not an original idea. It has for example, been suggested very recently by Fred Ikle, Director of the ACDA. It is consistent with the policy of restraint and discrimination that has been pursued, somewhat erratically to be sure, by a succession of U.S. political and military leaders over several decades.

Indiscriminate strategies which include attack on populations, in defense of allies, are incredible because they are suicidal. Moreover, they foster the belief that small, independent nuclear forces are both needed, and that they are good enough. An explicit U.S. policy of renouncing attack on populations would increase the credibility of a nuclear response because such a response would not be suicidal and would be more closely matched to the nature of the attack.

Those who advocate deliberate attack on populations, or those who, like Mr. Ottinger, believe that even the most limited use of nuclear weapons—say even the use of an atomic demolition mine on one's own territory—will with certainty escalate to the all-out level, will not be enthusiastic about this proposal, I would be pleased to be corrected. I think they should recognize that their view on the inevitability of escalation or even the desirability of attacking, and only attacking populations, provides the best possible argument for the creation of many national nuclear weapon programs.

TIGHT CONTROL OVER COMMAND AND CONTROL ADVOCATED

There are many implications here for command and control. We have not settled for radars hooked to computers that can say "go." We have paid a lot of attention to effective control over nuclear weapons by proper authorities. The first most important requirement here is that we have a well-protected strategic force and a well-protected command and control system so that commanders will not be under pressures to take irreversible action in ambiguous situations. It also means having as reliable warning systems as we can get and having procedures that would not require us to commit forces irretrievably on assumptions that might turn out later on to have been false.

SUGGESTIONS FOR EFFECTIVE COMMAND/CONTROL SYSTEMS

The development of the fail-safe response by the Strategic Air Command for its bombers in the 1950's was such a procedure and there are others. Another requirement is that nuclear weapons be tightly controlled to prevent unauthorized use by anyone in the chain of command. This objective can be sought by rigorous training, by pro-

cedures, and by the use of appropriate technologies. I am not sure if this has come out in any earlier discussion, Mr. Chairman, but I would mention the use of technology, permissive action links, as effective locks on bombs which could enable higher authorities to control and limit the use of weapons which are not in their physical possession. These are not foolproof; nothing is, but they could help. They could permit a higher alert state for weapons if that is desirable, together with better protection against unauthorized use. I also would include under the general heading of crisis control maintaining the ability to communicate with adversaries via a "hot line."

Central is the need for a protected force, one that does not rely on the hair trigger response. Officials who suggest, without disapproval, that we might respond in this way would do better to assert that this is contrary to our policies: Instead, they should endorse programs which would not put us or leave us in this position. I do not think we are in it today. An example of such a program for the future would be the development of a new generation of mobile intercontinental ballistic missiles that would not be vulnerable to an accurate Soviet missile strike.

SUPPORTING DOCTRINE OF DISCRIMINATION AND FLEXIBILITY

Another set of command and control objectives has to do with the support of a doctrine of discrimination and flexibility. These include obtaining current information on the disposition of enemy forces and on one's own and allied forces, being able to communicate with and direct one's own forces, assessing the results of attacks and being able to recover and regroup forces. In a nuclear environment, these requirements are exceptionally difficult to meet; but they certainly would not be less important in a nuclear exchange than in a nonnuclear one.

Of particular importance, clearly, in any contemplated use of nuclear weapons is a set of requirements that pay attention to the need for limitation and constraint. I suggest here the use of a dual criterion. A criterion which would, in our planning and execution in any operation, seek to achieve some limited military objective while avoiding undesired damage. This has not always been true if one knows the history of strategic bombing during the Second World War. Most of the bombs, in fact, missed the targets and landed on civilians. This was sometimes intended and sometimes not. With nuclear weapons, this would not do. One would need a careful definition of limitations. This could take the form of definition of geographic areas within which military operations would be conducted, choice of targets, choice of weapon yields, monitoring of collateral damage to the enemy as well as damage to his targets.

It essentially means the development of military options that responsible political leaders might conceivably take. I do not mean that any use of nuclear weapons any responsible political leader would readily or easily take, but I say "might conceivably take." I exclude as being conceivable deliberate attack on populations, but there are other limits, limiting responses, just as to the territory of the country attacked, limiting the use of nuclear weapons to the sea, or to a shallow area on the territory of the aggressor. Recall the history of the Viet-

nam war, or the Korean war. In the Korean war, crossing the Yalu was a very important boundary beyond which it became quite clear very early in the war, we did not want to go. It seemed very unhealthy. There are many conceivable boundaries we would not want to cross, nor would our adversaries not want to cross them either.

POSSIBILITY OF SELECTIVE ATTACKS BECOMING A REALITY

Within geographic limits, there might also be other constraints limiting attack to military targets or, depending on circumstances, also to selected war-related industries. I want to emphasize that improved precision of delivery together with lower yield weapons—nonnuclear as well as nuclear—will make it possible for selective attacks to be carried out on a wide variety of targets with very low collateral damage to populations. The situation in this respect is greatly changing from the 1950's and 1960's.

A question that naturally occurs, and I am sure that one of you will raise if I do not anticipate it is, would the Soviets also play the game in the way that I suggest? My reply is that the subject that I have been addressing is the objectives of an effective command and control system. The Soviets might not agree with these objectives and might not develop a powerful capacity to control their forces. If so, we might both be losers.

On the other hand, if we are able to act effectively to limited ends and they are not, then perhaps only they might be the loser because they might find it impossible to act in a nonsuicidal way and there is nothing in their behavior or doctrine to suggest that they have a penchant for suicide. They seem to have a remarkable degree of control over that tendency. The main question is, What does it make sense for us to do?

What makes sense for us to do is to focus much more than we have tended to in discussing the use of nuclear weapons on the impact on third countries.

WORKING INTIMATELY WITH ALLIES IS OF UTMOST IMPORTANCE

It is difficult, and I find it really impossible, to imagine realistic contingencies involving the United States and the Soviet Union that do not center on other parts of the world. Some of those countries really matter, and their perception and options crucially affect us. I believe that it is a matter of the utmost importance that we work intimately with allies on our common problems, including perception of threats, possible contingencies, possible responses, and the like. We do this in NATO largely through the nuclear planning group; we need to continue doing it through a variety of bilateral and multilateral institutions. To my mind, it is one of our most urgent needs.

Finally, some of the arguments for adopting one variant or another of a no-first-use policy are addressed to the problem of nuclear proliferation. We are now in an era where that has to be a central concern. Some of the variants make the problem worse, not better. Moreover, I do not believe that proliferation is adequately dealt with by the Non-Proliferation Treaty or nuclear safeguards of various types.

ROLE OF NPT IN ALLIANCE RELATIONSHIPS

There is another set of institutional relationships which has had, and I think promises to have a much more powerful effect on proliferation than safeguard arrangements. These are alliance relationships, not just of those of the United States but those of the Soviet Union—both are great powers and have ties with other countries. One could make a powerful case that these alliance relationships are the most effective way of persuading technically competent countries to refrain from acquiring nuclear weapons.

This is quite evident if you look at Western Europe, Eastern Europe and Japan. These are very technically competent countries. But none of them is high on the list for countries likely to get nuclear weapons in the next 15 years. I am not saying that it could not happen but certainly it does not appear to be very likely now. The principal reason for this is, I believe, because they are members of alliances.

What does being a member of an alliance mean? It often means that a great power has to offer protection. It is regrettable but true that such protection includes, and will often have to continue to include if these alliances are to function, nuclear guarantees as well as nonnuclear ones. I think the nonnuclear component is crucial; the more these third countries can feel secure without the need for nuclear threats, the better off we all will be. The best way to avoid use of nuclear weapons is not to pass congressional resolutions on the subject but to make such use unnecessary by having adequate nonnuclear strength.

Thank you, Mr. Chairman.

Mr. ZABLOCKI. Thank you, Dr. Rowen. Mr. Farley, if you will, please.

**STATEMENT OF PHILIP J. FARLEY, BROOKINGS INSTITUTION AND
FORMER DEPUTY DIRECTOR OF ARMS CONTROL AND DISARMA-
MENT AGENCY**

Mr. Farley is currently a Senior Fellow with Brookings Institution in Washington, D.C. He received his Ph. D. in 1941 at the University of California at Berkeley. Among his many positions, he has served as Special Assistant to the Secretary for Disarmament and Atomic Energy; Deputy Assistant Secretary for Politico-Military Affairs, Department of State; Deputy Director, U.S. Arms Control and Disarmament Agency; and alternate Representative of the United States for Strategic Arms Limitation Talks with the Soviet Union.

Mr. FARLEY. My remarks today deal with the nonproliferation aspects in particular, and I track very closely with a point which Mr. Rowen left off. I would add so that I do not introduce my remarks under a false expectation that in addition to the last Government assignment which I had and which you mentioned, that of Deputy Director of the Arms Control Agency, I was before that Director of the Political Military Bureau of the State Department, Deputy U.S. Representative to NATO, and before that with three Secretaries of State, Special Assistant for Nuclear Energy Matters, both military and peaceful; so that my perspective on nonproliferation is not that of a professional arms controller. I say this so that some of my friends who may want to disagree with me, will feel free to do so.

SEEKING NEW WAYS TO MINIMIZE NUCLEAR WAR

I wanted to say, quite honestly, at the outset that I believe the introduction of the various resolutions which are the subjects of these hearings is a good thing, even though I cannot support most of them in whole or in detail. It seems that the reasons and concerns that led to these resolutions are very important things. It is of the highest importance that the United States and its leaders, both in the executive branch and in the Congress and outside, show sensitivity to the consequences of nuclear war and a determination not to be content with things as they are or the formulas that we have been applying for the last 30 years but that we continually try to find new sound ways to lessen the risk of outbreak of nuclear war.

I think this is important in particular for the prevalence and strengthening of a nonproliferation regime in the world. It is important to the readiness of insecure or undecided states to refrain from launching on a path to nuclear weapons in enabling them to adhere to the Non-Proliferation Treaty. To the degree that nuclear weapons appear likely to be employed in future hostilities, it will be harder for some states with major world or regional ambitions, or basic uncertainty and insecurity about their neighbors or rivals, and I might add about their present allies, to forego nuclear weapons indefinitely or formally renounce them.

U.S. ROLE IS CONTRIBUTING FACTOR TO NONPROLIFERATION

I believe that continuing a major contribution to the slowness of nuclear proliferation which seems to me the remarkable fact about the past 12 years, rather than the early likelihood of new nuclear-weapon powers has been the perceived U.S. determination to avoid the use of nuclear weapons in conflict. I say "the United States" because of our widespread and active international role, and because of the historic fact that we are the one country to have used nuclear weapons. In major hostilities in Korea and Indochina, even in moments of great military difficulty, the United States has refrained from using, or even threatening the use of, nuclear weapons. American policy of avoidance has thus been dimly established and appreciated as not simply declaratory but operative. At the same time, other nuclear weapon states have also been hesitant to brandish their nuclear arms in word or deed.

The world thus finds itself in a situation today where there are powerful precedents and political inhibitions against using or threatening to use nuclear weapons against nonnuclear powers in regional conflicts. This is a good situation. From a nonproliferation perspective, this means—paradoxical as it may sound—that remaining nonnuclear is better protection against a nuclear attack than starting a nuclear weapons program. The latter would be weak and ineffective for some time, likely to heighten local instabilities—and would remove some inhibitions against nuclear attack.

SUBSTANCE OF RESOLUTION HAS PRECEDENCE IN TREATY OF TLATELOLCO

As I read the resolutions introduced by Representative Aspin, they would turn this de facto situation that I have been describing into a

formal declaration of U.S. policy. The substance of the texts has precedence in the language of Protocol II of the Treaty of Tlatelolco and the understandings accompanying U.S. adherence to that protocol pursuant to the advice and consent of the Senate. There is thus good precedence for the substance of such resolutions.

Seeking to turn such a declaration into a formal agreement, which is, of course not envisaged in the present texts, would be a somewhat more sensitive matter. The effort might fail, as some nations, that is, France, China, seem likely to refrain from negotiating such a limited measure when not tied to a specific geographic region. Finding language satisfactory to all nuclear powers would also present difficulties not to be underestimated. The chances of failure in the effort would thus be considerable, and might appear to raise doubts and concerns about the policy and intentions of the nuclear powers which presently are absent.

Any such negotiations, and I should add any unilateral declaration of policy by the United States, should be preceded and accompanied by careful consultation with our allies in Europe and Asia, whose interests will be more directly involved than in the case of the Treaty of Tlatelolco which related to Latin America and which was indeed initiated by the states of the region. I repeat the formula does appear consistent with our alliance interests and commitments, however. That is something we certainly would like to have understood with our allies before we commit ourselves to it.

IMPLIED THREAT PERCEIVED IN RESOLUTION

Both resolutions would renounce use or threat of use of nuclear weapons against nonnuclear weapon NPT parties. I suggest that this discriminatory formula deserves careful reflection. In current U.S. policy and practice, restraint regarding the use or threat of use of nuclear weapons applies to all non-nuclear-weapon states. This is sound policy, in our own international and moral interest. The narrower NPT-related formula carries an implied threat that we might use nuclear weapons against states which do not sign the NPT, even if they refrain from developing and testing nuclear weapons. We want all states, or as many as possible, to adhere to NPT: I am sure the purpose of the resolution language is to provide an incentive to do so. I do not believe it would be an important incentive, that any state now holding back would be moved to ratify by such a U.S. declaration.

I believe very strongly that it is important not to lower, even thus indirectly, the barriers—legal, political, or emotional, against recourse to nuclear weapons in local conflict. I believe NPT parties or prospective adherents would understand and approve this preference for the broad formulation rather than the narrow discriminatory one limited to NPT parties; my belief is supported by the language on this point, in the comment on article VII of the NPT in the Final Declaration of the 1975 NPT Review Conference. You will see that it avoids very carefully saying that security assurances are required only for NPT parties.

CONSIDERING ALLIANCE COMMITMENTS

The numerous resolutions regarding broader renunciation of first use or first strike with nuclear weapons raise a number of problems. I

shall address only the interrelationship between alliance nuclear policy and nuclear proliferation.

Nonproliferation considerations in this alliance context are central, not incidental. Our alliance commitments, including the support of our strategic and theater nuclear forces, have been crucial to states such as West Germany, Italy, Japan, Australia, among others, in decisions as to signature and ratification of the NPT. The U.S. nuclear umbrella and assurances not only provide allied governments with needed security commitments, but also make renunciation of nuclear weapons tenable and defensible domestically against nationalistic critics or other proponents of strong and modern national defense.

If the United States or the Congress now says that we will only consider using nuclear weapons in event of nuclear attack on the United States, which is the plain meaning of no-first-strike, our nuclear guarantee of allies in event of nuclear threat or attack against them would seem—and would be argued by opponents of the NPT and of dependence on the United States to be—abrogated. The core of our collective security treaties—the promise to deal with an attack on our allies as we would an attack on us—would be thrown in doubt.

APPROACH OF LEGISLATION COULD BE COUNTERPRODUCTIVE

As part of the major impact on alliance confidence and solidarity, there would be a reopening of national debates on nuclear policy, which would be consistent with article X of the NPT on withdrawal. The alternative to the alliance nuclear umbrella and the NPT nuclear renunciation would then be national German, Japanese, and other nuclear forces. Such a reorientation would not be quickly or lightly decided, but the internal and alliance debates would be deeply unsettling and have troublesome international ramifications. In the first instance, action might be limited to withdrawal from the NPT in order to keep options open; this in itself would cause international tension and reverse the current momentum toward a more comprehensive nonproliferation regime.

These difficulties with a unilateral U.S. declaration of policy would not be helped in the case of our NATO allies even by a formal agreement binding the U.S.S.R. also to forego first strike or first use.

The deployment of nuclear weapons in Europe was initially a move to counter the overwhelming preponderance of Soviet and Warsaw Pact conventional forces in Eastern Europe.

NEED TO RESERVE A NUCLEAR OPTION

In recent years, we and our allies have made progress in equipping and training our conventional forces in Europe to deal with a Warsaw Pact attack, thereby reducing the chance that it might seem necessary to turn to the nuclear option. The NATO consensus and doctrine remain however, that Soviet conventional power, plus the advantage of the attacker in choosing time and place, requires that the alliance reserve the option of recourse to nuclear weapons if necessary to repulse overwhelming conventional attack and defend NATO territory. This doctrine, and the U.S. nuclear weapons which make it feasible, are also part of the nonproliferation equation for our NATO allies. They have

the same appreciations we do of the catastrophic nature of either a United States-Soviet strategic exchange or a theater nuclear war in Europe. After all, it would be fought on their territory.

They and we concluded that the way to forestall—to deter—a conventional attack which might embrace much of NATO Europe and launch a process of escalation into local and strategic nuclear war is to make unmistakably clear to the Warsaw Pact leaders that they face the risk of such escalation with all its devastating consequences for them if they embark on even a conventional military adventure. A no-first-use pledge by the Soviets would in no way ease the security concerns which are fundamental here—and which determine in large part national decisions to seek or renounce nuclear weapons.

DECLARATIONS WARRANT CAREFUL SCRUTINY

Thus policy declarations regarding first use of nuclear weapons need most careful scrutiny and reflection. In my view, rejection of a first-strike strategy makes basic sense in a purely United States-Soviet context.

Our wisest civilian and military leaders have told us that no combination of offensive strike forces and defensive forces offers us prospect of executing a preemptive strike against the Soviet Union which would keep us from receiving a retaliatory strike from surviving forces which would be an unimaginable national calamity. Our nuclear strategy vis-a-vis the Soviet Union is a deterrent strategy in which preemption or first strike has no place. On a less theoretical plane, we understand as do Soviet leaders that a United States-Soviet nuclear exchange would be catastrophic for both, and that both should make every effort to avoid one by deliberate act or miscalculation.

These principles are embodied in the preambles and operative provisions of the two major SALT agreements of 1972, the accidents measures and hotline modernization agreements of 1971, and the agreement on the prevention of nuclear war of 1973. This is the path on which this Nation should persevere, rather than such paths as that of building a nuclear war-fighting capability with the implication that it might be possible to gain advantage or even victory in a strategic exchange. With such considerations in mind, I feel, as I said at the outset, much sympathy with the spirit of the various resolutions.

REALITY OF A MULTIDIMENSIONAL WORLD

However, we live not in a bilateral but in a multidimensional world. Our nuclear forces not only protect us by deterring Soviet nuclear attack on the United States. We want them to deter attack on our allies also—and by so doing to undergrid real nonproliferation in the real world. We cannot achieve the last two objectives—which are in the interest of our own security and a stable international order—by nuclear policies cast in bilateral terms. And to try to formulate declaratory doctrine on use of nuclear weapons in support of the broader alliance and nonproliferation strategy of deterrence is a formidable and prickly task.

In the real world, the reconciliation is not made by ingenious verbal formulas. It is made by the fact that—without explicitly planning for

or threatening the first strike which would as deliberate policy be a policy of desperation—a situation is set up by the combination of treaty obligations, demonstrated United States and alliance will, deployment of conventional and tactical nuclear forces, and diversified survivable retaliatory forces, in which there is ponderable risk of nuclear response inherent in any military move against our alliance. It is this aggregate risk, rather than any explicit threat of first strike, which is the effective deterrent in the eyes of our allies as well as the opposing powers. But to explicitly renounce first use is to risk shaking the mutually supporting structure of collective security and non-proliferation which has served us well.

ACCEPTABLE DETERRENT: INCREASING CONVENTIONAL FORCES

Mr. ZABLOCKI. Thank you, Mr. Farley. Thank you, Dr. Rowen.

Apparently there is not much difference of opinion between our two witnesses today. In your closing remarks both of you explicitly pointed to the difficulty of renouncing first use. I detect that both of you gentlemen support the proposition that increasing our conventional forces is an acceptable deterrent to the use of nuclear weapons. Relative to your views on the role and effectiveness of conventional forces vis-a-vis nuclear, some questions come to mind. The issue was initially raised by Congressman Ottinger in his testimony last Thursday. He expressed the view that we should increase our conventional arms in quantity, quality, and deployment so as to lower the nuclear threshold. Am I assuming that you gentlemen agree?

Mr. ROWEN. I do.

Mr. FARLEY. I agree with the proposition that we ought to maintain fully adequate conventional defense, for example, in Europe. I do not, myself, feel in a position to say that it is necessary to make major additions to the capability that is now being built by our allies and ourselves. I think it is sometimes too easy to use the avoidance of nuclear response as an excuse for increasing conventional forces. I think conventional forces have to be sized on the basis of the job to be done and building the capability to do it. I do not know whether that means more.

UNCERTAINTY VOICED REGARDING INCREASE IN CONVENTIONAL FORCES

Mr. ZABLOCKI. You would then not look upon an increase in conventional forces as a replacement for the tactical nuclear weapons stationed in Western Europe?

Mr. FARLEY. I believe that if we need increased conventional forces to be able to handle a Soviet attack and also to deter it, then by all means we should have that. I was only saying I do not know that we need increased conventional forces beyond what are now being put in place.

Mr. ZABLOCKI. You appear to be coming closer to the position that Admiral Miller took when he expressed reservations on the effectiveness of conventional forces. He said, and I quote him, "It will become increasingly difficult to protect U.S. overseas' interests with conventional weapons" and the tactical nuclear weapons may be our "only

option." Do I understand, Mr. Farley, you would agree with that point?

Mr. FARLEY. I was in the opposite direction. I am not so sure that we need more conventional forces, particularly we and our allies. I was reserving only on your question—do I believe that the need to avoid a nuclear response requires us to increase conventional? It is not clear to me that it does.

INTENSIFIED EFFORTS ON PART OF NATO ARE NECESSARY

Mr. ZABLOCKI. Dr. Rowen, would you care to comment on the role of the conventional forces, whether they are sufficient as a deterrent in our posture of protecting and assisting against any aggression in Europe?

Mr. ROWEN. I think we have to recognize the fact that the Soviet Union has been pretty steadily increasing the size and quality of its conventional forces, both in Europe and elsewhere. Looked at over a period of a decade or so, the cumulative change has really been quite large. This is a subject not without controversy, I realize. But I do not see how anyone can fail to conclude that the Russians have made very significant increases. I believe they have added something like 1 million men to their armed forces in the last half-dozen, or so, years. It is a much more difficult problem than 15 years ago to assure an adequate conventional defense of Europe, or in the Mediterranean area.

There is always the question of how much the United States should do to raise its forces and how much the allies should do. I do not really want to get us into that, but if we look at the aggregate, there is no question that there is an enormous challenge which suggests, I believe, a need for increased effort on the part of the aggregate of NATO. How much the United States should do as against others, is another matter.

CONVENTIONAL FORCES: IS THERE A PAYOFF?

Mr. ZABLOCKI. Chairman Mahon of the House Appropriations Committee recently asked a pointed question of the Navy Secretary. Mr. Mahon wanted to know what kind of a return or payoff we've received from our conventional forces; he notes that they were not a deterrent in the past. For example, the Soviet Union continues to make expeditions in such areas as Angola. Thus, in regard to the request for \$40 billion for conventional forces he asked the question: What was the return; what was the payoff? Would you care to comment?

Mr. ROWEN. I am interested in what the respondent said as far as Europe is concerned.

Mr. ZABLOCKI. The news account said he squirmed.

Mr. ROWEN. As far as Europe is concerned, I think the payoff has been 30 years of peace, for starters.

Mr. LAGOMARSINO. Will the chairman yield?

Mr. ZABLOCKI. I yield to the gentleman.

Mr. LAGOMARSINO. During a recent trip to the Middle East. Mr. Findley and I were on, we were told by leaders of many countries in that area that what they feared was not so much our lack of strength but our willingness to use it. Would you comment on that concern?

CONCERN VIEWED AS WIDESPREAD

Mr. ROWEN. It is a concern that is evidently widespread. I just returned from Europe last night. It is evident there and also in the Middle East. Many see America as paralyzed, as being in a more than usual chaotic state for an election year. It is not an ordinary election year, there are other forces at work. This, together with the evidence of the Soviet buildup and forces together with the Soviet evident willingness to use some muscle in some remote areas, has many people a good deal more nervous than anytime I can remember. I have been one way or another involved in this business for more than 20 years. This is an exceptionally unsettled period.

Some of the reasons for concern have to do with internal political developments within Europe. This is a somewhat independent matter, although not completely.

All of these forces push in a direction which is really unsettling to a lot of people in Europe.

Mr. ZABLOCKI. Dr. Rowen, you said one of the payoffs of conventional forces is that we have had 30 years of peace. However, might it not be that those 30 years of peace are due to U.S. nuclear superiority? Now that the nuclear gap is being closed might not that period of continued peace be in jeopardy?

U.S. POSTURE RESPONSIBLE FOR 30 YEARS OF PEACE

Mr. ROWEN. I know of no way of sorting out exactly what is responsible for what. We have had a total posture which has involved in addition to nonnuclear forces, a fair number of nuclear weapons backed up by more nuclear weapons at sea and in the United States. The whole posture has somehow contributed to 30 years of peace in Europe. There is no way of separating it. Do you know of any?

Mr. FARLEY. I think in the conclusion of my statement I tried to say that it is the combination. I agree very strongly that the conventional power we have mounted and on occasion used well, either in its deployment or use, have been very important. My concern really was a little different than what Mr. Lagomarsino said. It makes me want to say something a little different from what Harry Rowen said.

The reason that I try to avoid automatically saying "yes, we need more strategic forces; yes, we need more conventional forces in Europe," is, first, that we, too, have done a great deal to strengthen and our allies have done a great deal to strengthen our conventional posture. We have done a great deal to maintain an effective strategic deterrent.

I think we should not try to make our military forces do things which they cannot do, I really do not see how our military forces could have solved the Angola problem. If we constantly poor-mouth our strength and say, "The Soviet threat is very great; the Soviets are overwhelming us," we are in bad shape. Naturally, our allies begin to ask: We see that America worries about its strength, what is the difficulty? Is it lack of strength or American lack of clarity of perception and clarity of will?

I think as long as we really make a realistic appraisal of our strength, which I do not think yields a discouraging result at all, then

if it does require us to do more—fine; but we ought to be equally strong in stating that we have strength and where we have a clear requirement to use it, we will.

SOVIET PERCEPTION OF UNITED STATES VIEWED AS ONE OF RESPECT

Mr. ZABLOCKI. With the permission of the members, I might at this point ask one last question at this time.

Mr. Farley, what do you understand to be the Soviet perception of our policy, our will, and our posture?

Mr. FARLEY. First of all, I have to say that I do not really have firsthand experience in the past 3 years. My contact with the Soviet Union in the preceding years always gave me the clear impression that they retained a very respectful attitude toward American military power, American military professionalism, and towards the fact that the United States, when the crunch came, was going to back up its objectives and its policies. I have seen nothing to indicate change but I cannot say from firsthand contact.

Mr. ZABLOCKI. Wouldn't these resolutions tend to have the Soviets change their perception of our will?

RESOLUTION MIGHT INVOKE CONCERN AMONG ALLIES

Mr. FARLEY. In general, I do not think so. I think, and that is why I concentrated on it, that it would cause more trouble with allies who have, I think, and understandable sense of their dependence on us and are always looking at us to ask: Is the United States policy changing?—even if there is no reason for it. I would think the Soviet Union would look at more substantial things that underlay resolutions and would think that we had political motive in mind or something like that. They would look at our actual strength.

Mr. ZABLOCKI. Dr. Rowen, would you care to share with us your view?

Mr. ROWEN. I would not disagree with that.

Mr. ZABLOCKI. Mr. Findley.

Mr. FINDLEY. This may be somewhat repetitious but we have before us several resolutions. As I listen to your presentation, Mr. Farley, I get the very clear impression that even though you view these hearings as a worthwhile endeavor and even though you recognize some pluses as well as minuses to the legislative expression on balance, you think it best that the Congress not try to formalize policy in a legislative expression. Is that accurate?

Mr. FARLEY. Certainly on the points that were addressed here with one exception, that if there were consultations and acceptance by our allies, I would not object to Mr. Aspin's second resolution. I cannot say that it would do any harm. I think Mr. Rowen and I have some slight disagreement there. I do not think it would be an important contribution to the nonproliferation process but I do not see any reason to oppose it. I do think it should be reached in concert with our allies, not as a unilateral U.S. step.

Mr. FINDLEY. Dr. Rowen—

Mr. FARLEY. That's a good subject for NATO Parliamentarians.

ALTERNATIVE RESOLUTION MAY MEET CONCERNS

Mr. FINDLEY. I think it is. Dr. Rowen, you also feel that it would be best that Congress not try to formalize legislatively a policy statement in this field?

Mr. ROWEN. I think that is best. As I said in my statement, I have my own variant which does not look like any of those that have been put forward here. It is on no-first-attack against cities. Whether it would really make sense for the Congress to treat that as a resolution, I have not given much thought. Basically, I would agree with you; I do not think it is fruitful.

Mr. FINDLEY. A number of developments in recent years have caused me to fear that NATO as an effective institution has been declining. We have concentrated our policy in other parts of the world particularly negotiations with adversaries, and seemed to have neglected our European relationship. Now, we have a very revolutionary development in the form of a new generation of these high precision weapons. Has the time come for us to revise our doctrine so that we can more effectively exploit this technology, especially for Western European defense?

PRINCIPAL THREATS TO NATO

Mr. ROWEN. I think so. I have been engaged in a series of informal discussions with Europeans over a period of several years now with that as the central theme. It is not an easy task to work out the implications of a new technology. However, I think we have made a certain amount of progress. We have to realize that one of the basic assumptions which was embedded in the whole concept of NATO which was that any major attack was expected to result in a major response. Preferably without the use of nuclear weapons, but there would be a large-scale conflict, or worse, a major nuclear war. As time has gone on and political evolution has occurred along with technological evolution, it now seems increasingly obvious that the principal threats to NATO are not so much that Western Europe is going to be engulfed by Red Armies marching West. That is not excluded. But it seems pretty unlikely. More likely is that there would be fractionation or the creation of divisions within the alliance. This might be exploited militarily by the Soviet Union.

The march into Czechoslovakia was surprising and a successful event. The way things are going politically, an attempt of that kind might occur against a single member, or perhaps initially outside of NATO, perhaps Yugoslavia. That would have a big impact on NATO; on Italy, for example. At some future date, under political circumstances—hard to foresee—possibly not all of the members of NATO would respond. Some of them might opt out. The ability to have a response of a limited, discriminative kind, preferably non-nuclear, might be very discouraging to the more limited sort of attack, perhaps in the north or the south of Europe.

Mr. FINDLEY. These weapons, I would think, would lend themselves to defensive doctrines against masses of soldiers as well as tanks, they would be less visible, perhaps less burdensome to budgets, and would, I think, tend to restore some of the damaged credibility that our nuclear commitment to Europe now has.

Mr. ROWEN. These are among the hypothesis, I think that is the safest way to put it, that are being explored. I do not think anyone is in a position now to assert with confidence that that is so, but it might turn out that way.

DISCUSSIONS OF NEW DOCTRINE OVERDUE

Mr. FINDLEY. It would seem to me further that now would be an excellent time for our administration to express its interest in this development. Surely it would not be premature for our administration to announce its interest in opening discussions of this new technology and this new doctrine among its NATO allies. Would you agree that it is a timely idea?

Mr. ROWEN. It is more than timely; it is overdue. One of the standard European frustrations is that they have heard about this stuff; they read Aviation Week which is actually pretty informative on these matters; but when it comes to bilateral or multilateral discussions with the American Government, they feel that they are told far too little about what it is that they might buy, or that they might develop themselves. There is always a problem of our not revealing our latest red hot item. I think we probably have been too cautious. This is far too important a development and Europe is too important for us, to be holding back too much.

Mr. FINDLEY. Just the announcement of administration interest in this negotiating process, I think, would enliven the alliance, strengthen its cohesion, and revive interest in the future for this institution.

Mr. ROWEN. If we backed it up with some real stuff, I think—

Mr. FINDLEY. Mr. Farley, I have been preaching here. Do you agree with the message or not?

Mr. FARLEY. I am entirely in sympathy with the sermon. I do not myself know what is going on. If it is not being done, I concur completely that it should be.

FINDING MEANS TO MODERNIZE CONVENTIONAL DEFENSES

I will just add that I, myself, hope we are talking about a way of modernizing, making more relevant, our conventional defense—not a way of gradually bringing together new, sophisticated, tactical nuclear weapons which would blur the distinction between conventional and nuclear. I think it is very important not to do that. If we are strengthening the conventional defensive capability and not making use of our latest technology, it seems to me that is what the NATO organization ought to be doing.

Mr. FINDLEY. It certainly would multiply the effectiveness of our nonnuclear weapons and to the extent that nuclear weapons would be fitted into the high-precision delivery systems, it would certainly make our nuclear defense more useful and discriminate and, therefore, more credible. Perhaps they will even permit us to dismantle somewhat the outmoded system of tactical weapons we have there now.

Mr. FARLEY. If I could just add—It also seems to me to have the advantage of using what is the strongest in the American military and the industrial power rather than trying to measure what we do by what the Soviets are doing. It somewhat distresses me that when our

military capability is being measured, we ask whether we have the same number of tanks they do. It seems to me we ought to look for the capability in which we are strong.

NEGOTIATING POWER: SHIFTING FROM MOSCOW TO BRUSSELS

Mr. FINDLEY. Finally, Mr. Chairman, it has the further advantage, in my view at least, of shifting our negotiating posture away from Moscow to Brussels. All of these years we have concentrated on trying to make deals, negotiating deals, in the Soviet Union. I think it is important that we try to work out better arrangements within the alliance.

Thank you, Mr. Chairman.

Mr. ZABLOCKI. We have a recorded quorum call—Mr. Bingham—some of us will go. In an effort to save time, we will not recess, but we will be right back.

Mr. Bingham.

Mr. BINGHAM. Dr. Rowen, can I ask whether you are familiar with the resolution that I introduced, House Joint Resolution 618?

Mr. ROWEN. I think I have seen it.

Mr. BINGHAM. Will you read it quickly?

Mr. ROWEN. Yes.

Mr. BINGHAM. It seemed to me that your comments in your statement were not really relevant to a resolution of this particular topic. I wonder if I am correct or not?

Mr. ROWEN. I think they were, although I should have dealt quite explicitly with your variant. I agree with Mr. Farley that it does not make sense for the United States to seek to develop a capacity to wipe out the Soviet nuclear posture. I think it would be very costly to try and I think in the end that we would fail. If we were to come close to succeeding, we would risk creating a situation that would be unstable. On that point, which I take it to be in fact your central point, I am not in disagreement. It is stated more vaguely than that though in the resolution.

FIRST STRIKE SUBJECTED TO AMBIGUITY

The first-nuclear-strike formulation is really subjected to a great deal of ambiguity. It could be interpreted as meaning any first use of nuclear weapons. This could be very limited. On that point, I have all of the difficulties with respect to our allies that we have discussed.

Mr. BINGHAM. Let me interrupt. Let me say that if that is so, then it is a drafting problem because it is not intended to get at the situation where, let us say, in Western Europe there is a conventional attack and as a defense against that attack nuclear weapons are used. In my statement explaining this resolution, I drew that distinction very carefully from the resolution introduced by Mr. Ottinger and many colleagues which appeared to rule out that type of nuclear use. So if there was a failure to distinguish between the two, that is a matter of draftsmanship.

What I am trying to get at is whether there is not a way to put into words a renunciation of a policy which, in fact, both of you have agreed upon; that is, we do not want to develop a first-strike capabil-

ity. We do not want to appear to be developing that kind of a capability but if we do try to develop that it would be terribly destabilizing. A resolution of this general character might suddenly be a kind of congressional reinforcement of that practical approach to the problem.

Mr. ROWEN. It might.

INTEREST LIES WITH COUNTERFORCE CAPABILITY

Mr. FARLEY. I have thought a good deal beyond the drafting of the statement. I think the problem I have is that the real test of any such policy comes in—what do you do as a result of it? I really believe that there is no disposition on the part of the military men I know as well as the civilian leaders to plan for or conduct first strike as an instrument of deliberate strategic policy. What there is interest in, of course, is counterforce capability. Counterforce capability is an ambiguous statement for reasons that you, yourself, have spelled out quite elegantly.

On the other hand, even the most clearly retaliatory forces have an inherent counterforce capability. Indeed, much of the argumentation at the time MIRV's were being debated within the Government was that if we ever got into a state of nuclear exchange through initiation by the other side, it gave us a much more extensive capability for targeting enemy military targets. I find it very difficult to see, in practice, how one draws a clear distinction between retaliatory and counterforce capability.

ADDING TO COUNTERFORCE CAPABILITY COULD RESULT IN PRACTICALITY

The one case I can see something practical resulting is when missions are proposed, new forces are created, which would add to counterforce capability beyond what can then be rationalized on anything other than a war-fighting philosophy attempting to win a nuclear war. That seems to me not a matter of policy declaration but of what the executive branch will propose and the Congress will vote money for which, I think, should not go beyond retaliatory forces.

Mr. ZABLOCKI. Thank you.

Mr. Lagomarsino.

Mr. LAGOMARSINO. Thank you, Mr. Chairman.

It seems to me when we are talking about things like resolutions, declaring what we would do or what we would not do, that in the real world, as you pointed out, Mr. Farley, it is pretty obvious that these resolutions are either going to be believed or not believed. I am afraid that they would be believed by our allies and disbelieved by our adversaries. We could easily end up, if I am accurate, with the worst of both worlds, with perhaps no advantage at all. Obviously that would change somewhat as we go from first use to first strike, as we talk about things like use against others and so on; but it would seem to me that our allies would, unless they were consulted and agreed on specific points, have cause to be concerned and then, who knows what the reaction would be to that. It might be that they would strengthen their conventional forces in NATO—I kind of doubt that but it is possible. What also is possible, of course, as I think some

other witnesses did also, is that they might try to develop their own nuclear capability, particularly the West Germans.

DENIS HEALEY RULE DEEMED APPLICABLE

Mr. ROWEN. Mr. Lagomarsino, you formulated what I think of as the "Denis Healey Rule." Denis Healey, now the Chancellor of the Exchequer and former Defense Minister, when he was Defense Minister he said roughly, "It only takes a 5-percent probability of an American response to deter the Russians, but it takes a 95-percent probability of American response to reassure the Europeans." There is a problem there.

Mr. LAGOMARSINO. I think that is right. I think that we can find examples where the Russians have advanced and we have not done anything about it, or at least have not done enough to stop them, but we can also point out plenty of cases where they did not—where they backed off when the crunch came. The Berlin blockade was one; the Cuba blockade another; the alert with regard to the Middle East was another. At least they did not do what they had signaled they were going to do.

On the other hand, I cannot quite imagine the Russians believing that just because we said we would not be the first to use nuclear weapons, that we would not if it came down to their invasion of Western Europe, for example.

Mr. FARLEY. Even if they believe this, I believe the prudent political or military planner would have to set up his forces and make his own planning under the assumption that we wouldn't.

ADVERSARY TRUST QUESTIONABLE

Mr. LAGOMARSINO. I am sure that were they to announce tomorrow in Moscow that they would not be the first to use nuclear weapons, I doubt very much if our planners would say, "OK, we do not have to worry about that any more"—Unless, as pointed out the other day, we were able to deploy not only the orbiting satellites that we have now that apparently can take pictures of missiles and so on, but they would also read and record minds on a continuing basis.

I heard a briefing this morning that postulated that the existence of tactical nuclear weapons in NATO, or for use in NATO, is probably the strongest deterrent to an attack by the Russians in that the most likely, or perhaps the only way, that the Russians could win would be with a lightning strike with very massive personnel and tanks concentrated in one narrow area, which, of course, is a perfect target for tactical nuclear weapons. Would you comment on that? You mentioned that earlier.

USE OF NUCLEAR WEAPONS INTRODUCES ELEMENTS OF UNCERTAINTY

Mr. ROWEN. No one knows how a tactical nuclear war might actually develop. It has been studied for over 20 years. I think that there could be large concentrations of forces that might be vulnerable to attack, but it would be a two-sided exchange with nuclear weapons

going off and how would that net out in the crowded area of central Europe? It would be pretty bloody. How the net balance would be is pretty hard to say. I would say the Russians have a strong incentive to avoid the use of nuclear weapons at all. Moreover, they have developed a powerful machine that is intended to be effective without the use of nuclear weapons. You may have noticed in the last few days some stories to the effect that someone at the NATO Defense College has done a study which concludes that the Russians could reach the Rhine in 48 hours, which, as the German Defense Minister says would require the German police to clear the autobahns first. That seems a little fast, but the Russians are working at managing without the use of nuclear weapons because they have to regard the use of nuclear weapons as introducing large elements of uncertainty.

VARIOUS SCENARIOS DISCUSSED INVOLVING SOCIAL ACQUISITION

Mr. LAGOMARSINO. They have not only us and NATO to worry about; they have the Chinese. I would think that the scenario much more likely would be a continuation of the kind of thing that they seem to be doing now in Africa, perhaps in areas like Yugoslavia when Tito goes, and who knows what will happen—maybe Pakistan, coming in to help India. There are a lot of possible scenarios where they probably could move without us using nuclear weapons or maybe no weapons at all. I think they have a long ways to go before they have to try to crack NATO.

I have no further questions.

Mr. ZABLOCKI. Since Dr. Rowen has to leave and because there may be additional questions I might, at this time, ask unanimous consent that we forward questions to you, Doctor, as well as to Mr. Farley. Without objection, it is so ordered.¹

Mr. Solarz.

Mr. SOLARZ. Thank you, Mr. Chairman.

In terms of the nonproliferation problems to which you address yourself, Mr. Farley, would the development of a much more effective conventional capacity as part of the NATO forces—such that it was commonly agreed within the alliance that we had that conventional capacity to successfully resist a conventional attack on the part of the Warsaw Pact forces—make it relatively possible at that point to promulgate a non-first-use doctrine of nuclear weapons?

PREDICTION DEEMED DIFFICULT

Mr. FARLEY. I find that sort of prediction very difficult. Clearly, there is logic to what you say but you have rightly asked, would it be politically possible? I know from 25 years of consulting in NATO that it is very hard to predict how what seems to us a logical proposition will be received. You see, there is just a root political fact at the basis which is that we have asked NATO allies, most of them, to forego nuclear weapons. That creates an emotional bias as to how they consider questions like that.

¹ Questions and responses appear on pp. 136-141.

Mr. SOLARZ. The point that you and others have been making is that given the existing conventional imbalance between NATO and the Warsaw Pact there is a very strong feeling that it is only the nuclear umbrella which deters the Warsaw Pact from launching an attack. If that conventional imbalance were corrected, then presumably there would no longer be the same kind of need for a nuclear deterrent. Why would we not at that point be able to renounce first use without fear that some European countries would then develop their own nuclear weapons?

Mr. FARLEY. I think that is a reasonable line, both of forced planning and evaluation and of NATO discussions to pursue—I was just trying to give you the honest answer that when you take account of the basic factor that they are not going to have nuclear weapons, I am not so sure that any rationale will overcome the premise that they would hate to see us forego recourse to the nuclear deterrent in their defense.

Mr. SOLARZ. On a first-use basis?

Mr. FARLEY. Even a first use.

ARGUMENTS TEND TO VITIATE JUSTIFICATION FOR CONVENTIONAL BUILDUP

Mr. SOLARZ. That seems to me to be a very significant point. If, in fact, one offers the argument that we ought to increase our conventional capacity precisely in order to enable us to renounce the first use of nuclear weapons, and then you tell us that even if we achieve conventional parity, it may not be politically possible to do so without running a risk of the NATO countries developing their own nuclear capacities where they do not have them, then that would seem to vitiate the justification for the conventional buildup.

Mr. FARLEY. I have been very careful about saying unequivocally either that we need more conventional buildup or that it will buy this for us. I think there is a basic political fact that, in any nonproliferation regime, we have a discriminatory regime. I am afraid that if we ever got to the point where it was no longer possible to argue, that Soviet strength plus the advantage of the initiative meant we militarily had to have U.S. assurance that we would use nuclear weapons first, if necessary then a different rationale would emerge. But that is simply a gut feeling; nothing that I can document.

RESPONDING IN EVENT THE PRESIDENT AND SUCCESSORS ARE INCAPACITATED

Mr. SOLARZ. Dr. Rowen, you said that in the outset of your testimony that you were somewhat concerned by this rather cryptic comment by Secretary of State to the effect that we must launch nuclear attack simply upon indication on our radar screens that an attack had been launched against us. That brings to mind the problem that emerged in hearings last week on this subject. Some of the witnesses testified to the effect that given the command and control procedures that have been established in which the civilian authorities appear to have a very tight control over the circumstances under which a nuclear strike could be launched, that the real problem might not be

a hair trigger response that was ultimately unjustified. Rather the real problem maybe that under circumstances in which we needed to launch an attack, we might not be able to if the civilian leaders were unable for one reason or another to give the necessary directives. I wonder if you could address yourself to this problem? It seems to me that if in fact nuclear weapons cannot be launched except upon command of the President or his constitutional successor, that this might constitute a kind of incentive as it were for our enemies to smuggle a nuclear weapon into the Capitol in concert with a plan to launch a first strike. They may first eliminate the President and the Vice President and incapacitate our ability to respond, and then launch a first strike. We would be helpless.

How do we deal with that problem?

Mr. ZABLOCKI. If the gentleman from New York would yield, perhaps Dr. Rowen might wish to speculate why Secretary Kissinger made that remark.

Mr. ROWEN. I am not inclined to want to speculate on that one.

[Laughter.]

Mr. FARLEY. Here's where we need Mr. Lagomarsino's psychological satellite.

THE AUTHORITATIVE SIGNAL: FACTS ALLAY FEARS

Mr. ROWEN. I think you must recognize that there is a very significant component of the American long-range nuclear force which does not have to be used quickly in order to survive to launch. I speak of the seaborne component or, for that matter, the aircraft that can be launched initially on the fail-safe basis that I mentioned. That buys some time—with the submarines, of course, quite a lot of time is bought.

The facts are that with respect to these sizable parts of our strategic force, we are not faced with this critical decision. Moreover, I do not think we should allow ourselves to be in a position where, with any significant part of our strategic force, we should be forced to make a fast decision. Not launching when we should launch, or launching when we should not launch. We should design to avoid that position.

Mr. SOLARZ. I understand that, but I do not think you really addressed yourself to this problem. I do not know precisely what the command and control procedures are but we were led to believe that they were such that weapons could not be launched without the approval of the President, or if the President were eliminated, his constitutional successor.

SUBMARINE FORCE REMAINS PROTECTED

Mr. ROWEN. The problem you are posing is, suppose Washington goes up in a mushroom cloud? At least with the submarine portion of our force, that remains protected; the rest can disappear if all we are looking to see is who is in the line of succession.

Mr. OTTINGER. We would like to understand that that submarine force could not be used without a signal from the President.

Mr. SOLARZ. In other words if the President and the Vice President are wiped out and the Speaker of the House of Representatives and

the President pro tempore of the Senate and all the members of the Cabinet and the Supreme Court, there would no longer be a constitutional line of succession.

Mr. ROWEN. Everybody is gone; is that the idea?

Mr. SOLARZ. And the submarines cannot use the missiles unless whoever is President—

Mr. ZABLOCKI. May I interrupt? There is a vote on the Buchanan amendment.

Mr. ROWEN. That is a good time to stop.

Mr. ZABLOCKI. My question to Dr. Rowen is, Can you stretch your stay here a few additional minutes because I know there are several matters we would like to pursue?

Mr. ROWEN. How long will this take?

Mr. ZABLOCKI. We will be back in 4 minutes.

Mr. ROWEN. I have a meeting at 4:15; that is my problem.

Mr. ZABLOCKI. Though he is not a member of the committee, I do know that Mr. Ottinger would like to ask some questions.

Mr. SOLARZ. Can you just respond to that, sir?

Mr. ROWEN. I am not really familiar with the details; I am not your best authority. I think you set up a rather extreme case—in any case, I cannot really respond to your question because I am not an expert. There are more authoritative experts around than I am.

WORLD POSSESSING NUCLEAR WEAPONS REGARDED AS UNSAFE

Mr. OTTINGER. I wish we could pursue it more and I will have to go vote also. I just want to say, I appreciate the pat on the head that you have given to myself and the 92 cosponsors of the resolution and the several cosponsors of the other resolutions. I would say that in the real world we have to act differently because of the real dangers. I would pose it the other way around and I would pat you on the head and say, you are well intentioned but it is just very hard for me to conceive that you really think the world is a safer place, having 7,000 nuclear weapons positioned around Europe and several thousand others elsewhere with the declared intention that we are going to use them. If nothing else, all of the problems of command and control that I would like to get into with you: delegation of authority, unauthorized use, the possibility of their theft, the possibility of their seizure in the unstable countries where they are located, failures of communication which have occurred now on several occasions, the false alerts, the requests by the Joint Chiefs of Staff to use weapons in crisis situations. With all of these kinds of problems, are we really safer having these things around with the intent to use them?

Mr. ZABLOCKI. You have a minute left, Mr. Solarz. Do you have any more questions for Mr. Farley?

SKEPTICISM EXPRESSED OVER DEPLOYMENT OF MOBILE ICBM'S

Mr. SOLARZ. Mr. Farley, what is your view of what the likely impact of a mobile missile system would be on future efforts to achieve some kind of arms control?

Mr. FARLEY. This is mobile ICBM's?

Mr. SOLARZ. Yes.

Mr. FARLEY. I have always been quite skeptical of the practicality of deploying a land-based mobile system in the United States. It seems to me the problem that we had in finding sites for ICBM facilities illustrates what happens when it gets down to a particular neighborhood. On the other hand, the Soviet Union has lots of real estate and a population which has poor opportunities to object; so I think it is somewhat of an asymmetrical thing. I believe that it would add problems of verification which might not be unsurmountable at high levels of forces. If we seriously intend to try to pursue SALT negotiations toward limitations, the verifications get uncertain, I would like to see it avoided.

CONVENTIONAL CAPACITY OF NATO: IMPROVEMENT OUTLINED

Mr. SOLARZ. You indicated in your testimony that over the last several years there has been an improvement in the conventional capacity of NATO vis-a-vis Warsaw Pact. I had been under the impression that that had not been the case. Could you go over some examples of areas where there have been such improvements relative to the pact?

Mr. FARLEY. I do not feel in a position to make a net judgment but NATO has devoted a good deal of effort to improving antitank capabilities with ground antitank systems, airborne ones, helicopter systems. Perhaps we have not introduced precision-guided missiles to NATO, I just do not know. We certainly have introduced many, modern antitank systems and in the area of tens of thousands—not just a few. Many of our allies have excellent systems of this kind. Our allies are modernizing their tactical Air Forces which, of course, have a very important role for air superiority, for conventional strike against lines of communication which are very important for an attacking country which has to maintain petroleum and other supplies. Our allies have done a great deal of work in building up the effectiveness of their reserve system so that we do not just have a lot of paper forces which can be mobilized, but have units with some effective training for the military role.

Those are three efforts; I do not know what the net effect is.

OPINION REGISTERED FOR INTERNATIONAL CONFERENCE

Mr. SOLARZ. One final question, Mr. Chairman. In the testimony we heard last week there was some indication that the big problem confronting us might not result so much from our own command and control procedures, which appear to be relatively sophisticated, but rather from the inadequacies in the command and control procedures in some of the other nuclear powers. I was wondering what your reaction would be to the idea of calling some kind of an international conference of the nuclear states on command and control procedures in which presumably we would share with them some of the technological developments which we have been able to come up with in this area. It may paradoxically be in our national interest to enhance the command and control procedures even of our enemies as a way of reducing the possibility that they might accidentally, or unwillingly, launch a nuclear attack against us.

Mr. FARLEY. I think this point is very relevant in that nonproliferation context. I think what you say is particularly true when a country is just starting its nuclear force.

In the case of the present nuclear powers, there are, of course, a couple with whom we had more or less close relations. These are the British, and to some extent the French, in this sort of area. We, of course, have had some contacts in NATO as well as bilaterally.

SOVIETS UNWILLING TO TALK

It is quite interesting that in the SALT talks, we were involved in the subject. We tried to draw out discussion of it, particularly in the preparations for what I referred to as the Accident Measures Agreement of 1971. The Soviet response was: These are very important things; we are glad to know that you view them seriously; we want you to know that we too view them seriously. But they were simply not willing to talk about details even in private. They have this fetish of secrecy—even secrecy between their military and their civilians. All we have in the Accident Measures Agreement of 1971 is the first clause which says in effect: "Both sides agree to maintain and improve their measures against accidental or unauthorized launch" and similar things.

I am a little bit skeptical about what could be done to get the Soviet Union, or for that matter, the Chinese, to talk. The idea is good. The fact that it did not work once does not mean it might not work later.

Mr. ZABLOCKI. Mr. Ottinger.

Mr. OTTINGER. Thank you, Mr. Chairman.

It is your thesis, as your testimony would suggest that the principal inhibition on trying to rule out the use of nuclear weapons is that the Europeans would be encouraged to develop their own force if they did not have a nuclear umbrella from the United States. Is that correct?

Mr. FARLEY. Let me answer. This is quite important. I made the point that the Europeans are fully appreciative as we are of what they stand to lose in a nuclear war. A tactical nuclear war in Europe would be a catastrophe.

Mr. OTTINGER. Do you think the average European, the average Frenchman, the average German understands the implications of what happens if deterrence does not work?

DETERRENCE PROBLEM INVOLVES CREDIBILITY

Mr. FARLEY. As well as the average American and probably better because they have more debate on the subject. This is a very difficult subject to get appreciation of.

Mr. OTTINGER. I think it is terribly difficult. There obviously is a deterrent factor. The problem is of its credibility, the tremendous risks—you reduce somewhat the risks of a conventional war by having a nuclear weapons capability but the risks that you take on the potential for the total obliteration of Europe, or perhaps of modern civilization, are just so great as not to be worth what you have achieved in terms of deterrence. That is what really seems to be exceedingly bothersome. When you agree with Mr. Rowen, I am sorry he had to leave, and argue for an increased development of weapons and make them appear more

and more like conventional weapons, you eliminate, or tend to blur, the differentiation between conventional and nuclear weapons; then you increase the risks enormously. It seems to me that there has to be another way together with our European allies to deter a Soviet conventional attack. I do not hear anybody suggesting that we go ahead and do this unilaterally and not consult our allies, but together with our allies we should work toward the day when we can rely on conventional forces to deter a Soviet threat in Europe and enable them to feel secure that the tactical nuclear threat that hangs over them can be removed. That threat, of course, hangs over us as well. Why is that not an option worth exploring instead of saying, well, we cannot really move in this direction because the Europeans are going to automatically go to developing their own nuclear capability and therefore, the whole thing is beyond our capacity?

TACTICAL NUCLEAR WEAPONS IN EUROPE SHOULD BE SUBJECT OF DIALOG

Mr. FARLEY. Mr. Ottinger, I do not disagree with you at all about pursuing this sort of course you were just describing. The idea of working with our allies to mount an effective conventional defense, I am heartily in favor of that. I believe, myself, that it is quite questionable that you need 7,000 tactical nuclear weapons in Europe. I am sure that there is something to be done, whether within the 7,000 or within a lower number, to reduce the number that are vulnerable to attack, which create instabilities in a tense situation. We should make sure there is full protection against terrorists' attack, command and control is good, and so on. I believe it is an excellent subject for a dialog between the United States and its NATO allies. Is it as we make progress in these things possible to go to further steps? Is it going to be useful and possible to take a "no-first-use pledge"? I have no quarrel with Mr. Aspin's formula, myself. Is it going to be possible to dispense with tactical nuclear weapons? There, you get into complications because, for instance, there are French and British tactical weapons. They will be reluctant to be giving away their capability. But those are problems, not reasons, against the pursuit of these things.

GOVERNMENT REPRIMANDED

Mr. OTTINGER. That is my question. Why are not you and our whole Government pushing toward that kind of a resolution instead of coming to us and saying, You know this kind of an effort, while well intentioned really is not very constructive because it is not in the real world?

Mr. FARLEY. I am sorry; I wrote my statement before I read your statement. What I had were the resolutions. I said about the resolutions what I believe, and what I said—I hope it is clear—is that I think the Government—of which I am no longer a part—does work quite hard on putting us in a posture where we will not need to even consider a first strike in the strategic field, recognizing that it is impossible to imagine circumstances where that would be to our advantage. Second, to getting into a posture in Europe which makes this nuclear option—which is an important matter of doctrine to our European allies—something that as a practical matter is unlikely to come up.

Mr. SOLARZ. Would the gentleman yield for one question on that point?

Mr. OTTINGER. Yes.

Mr. SOLARZ. I am inclined to agree with what you just said but could you give us some kind of a very rough ball park estimate of what that might require in terms of an increase in our own defense budget?

WITNESS DISASSOCIATES HIMSELF FROM MILITARY EXPERTS

Mr. LAGOMARSINO. How much of a contribution do NATO allies have to make?

Mr. FARLEY. You really have the wrong witness. I am a diplomat and not a military expert. I have a certain degree of suspicion about military experts which is why I have kept disassociating myself from the idea that we need some massive conventional buildup. We did a great deal of study in the executive branch in preparing for the mutual and balanced force reductions in Vienna. There were many proponents in the executive branch of the position that if what we have to handle is the defensive mission, the NATO conventional forces are just about capable of doing the job. You will see a reflection of that point of view in the last defense posture statement of Secretary Schlesinger. So that it is not clear to me that we are talking about a massive buildup. We are talking about perfecting things that we are doing; second, we are talking about getting an understanding in NATO and in NATO populations that we, indeed, have such a capability.

Mr. ZABLOCKI. If the gentleman will yield?

Mr. FARLEY. I am not an expert on this.

Mr. ZABLOCKI. Is it not true, Mr. Farley, that excessive dependence on tactical weapons in Western Europe, especially in NATO, has led to a general underutilization, or questionable management of conventional weapons?

NUCLEAR RELIANCE HAS UNDERMINED CONVENTIONAL MANAGEMENT

Mr. FARLEY. I think that is always the case when there is a reliance on something which is sort of a gimmick. You say, well, we always have tactical nuclear weapons; we really do not have to take seriously the harder problems of the conventional.

I do think that that is knee-jerk reaction which is diminishing in NATO. I really believe that our NATO allies, who have worked very closely together among their own defense ministers for several years now, with informal and some degree of formal contacts with the French, appreciate both what you can do and what you ought to do to build up conventional forces.

Mr. OTTINGER. That is really one of the heartening aspects of this from my point of view, that former Secretary of Defense Schlesinger, in his recent presentation to Members of Congress and in our own inquiries in the Defense Department as to what it would take to have an adequate balance of forces in Europe indicate that there has been a tremendous strengthening of our forces in Europe over the past 4 or 5 years. What is really needed is the kind of thing that you were exploring before—a better organization of those forces or a modernizing of the conventional strategies and tactics rather than a huge buildup

at this point. There is almost an open admission on behalf of Secretary Schlesinger of a concern that in the course of selling the Defense budget each year we undermine our own strength and pose for ourselves difficulties, both with respect to our allies and with respect to the Russians. This is really quite harmful.

Mr. FARLEY. I am relieved to know that I am in such good and authoritative company.

CONFLICTING PREMISES NOTED

Mr. SOLARZ. If the gentleman will yield? I beg to differ with him as much as I respect his researches into the subject. I was at the meeting at which former Secretary Schlesinger spoke and I recall vividly that when he was asked what the result would be of a conventional conflict between NATO and the pact, that it was his judgment that the pact foresees that if the conflict were limited to conventional weapons, it would triumph within a matter of weeks. I was under the impression that, however much we may have strengthened the NATO forces over the last few years, it was still more or less the consensus among the military people who study these things that in the event a full-scale nonnuclear war broke out in Europe, the Warsaw Pact would not have a very difficult time in winning such a war in a very brief period of time. Are you saying that is not the case?

Mr. FARLEY. I am really personally surprised that Mr. Schlesinger would come out with such a clear position on it because there are two uncertainties. One is that, granted there is probably more military power on the Warsaw Pact side—you never know, but probably—nevertheless, it is easier to defend than to attack and hold, and particularly if the attacker must penetrate for distances. In the second place, you are talking about a situation which is happening in the whole world. The question is, is it likely, if there really is a systematic and determined defense, that the Soviet Union would have anything to gain to pursue it. The idea that war would go on for some weeks and they would then gradually triumph by attrition seems implausible. It is equally implausible, regarding a hypothesis of sustained European war that you could keep nuclear weapons out or that the Soviet Union would find the attack worth doing.

FEASIBILITY OF NEGOTIATIONS

Mr. OTTINGER. I think the Secretary did make some conflicting statements there.

[Laughter.]

Mr. ZABLOCKI. That demonstrates his flexibility.

[Laughter.]

Mr. OTTINGER. I think my friend from New York and I are saying that if you get an adequate conventional force, however that might be defined, and whether it takes more troops, more tanks, or better organization, what you have is something that the experts ought to apply themselves to achieving. Don't we then put ourselves in a position where it is both feasible and desirable to try and negotiate for the elimination of tactical nuclear weapons? Doesn't it then become feasible to persuade the French, who have these weapons, that

their use and the whole strategy based on their use is really suicidal and poses an unacceptable danger to them.

MBFR TALKS NOT TAKEN SERIOUSLY

Mr. FARLEY. That makes excellent sense and I have been taking on myself the distasteful role of saying there is a lot of history, a lot of national pride and uncertainty, involved here. I do not think it is going to be an easy thing. It is a very productive direction to pursue.

If I could just make one plug for arms control, Mr. Chairman? One thing which I think is not really taken seriously in this country is the Vienna negotiations on mutual force reductions. Like anything, you will not know if it is a success until it succeeds. I have had no reports to suggest that it is not a serious effort to get into a problem which is more complex, if anything, than SALT. If one can get even an initial agreement there which is based on a principle that the forces involved on the two sides are to be balanced and equal, whether they start out that way or move that way by graduated reductions, then you have a framework within which to try to proceed toward this objective that Mr. Solarz and you have talked about: to get demonstrably balanced conventional forces which take first the pressure off the option for use of the tactical nuclear weapons and then permit a rational discussion of whether you need to maintain them.

Mr. SOLARZ. Would the gentleman yield for one question?

Mr. OTTINGER. Sure.

SUGGESTION WOULD REQUIRE REVERSAL OF MILITARY DEVELOPMENT

Mr. SOLARZ. I think you put it very well, but how do you relate to the framework which you suggest we try to establish in these Vienna talks the obvious buildup which has taken place on the part of the Soviet Union in terms of both their conventional and strategic capacities over the course of the last decade? What you are suggesting in a sense would presumably require a reversal of the whole direction of that military development over the course of the last decade. Do you see any political or military relationship between these two things?

Mr. FARLEY. Again, I am just not an authoritative witness on these things. I have to say that when I am told about the tremendous Soviet buildup, I have always to ask: What is it the Soviet Union sees as its security threat? Are they building forces beyond what could make some sense?

Until it is approached in that perspective, at least, I am always going to have a questionmark—are they doing something that makes it totally out of the ball park for us to take these other efforts seriously?

Mr. OTTINGER. You say you are convinced we have been moving in this direction in our arms control negotiations and the agency's efforts. How do you square that with our continual expenditure, our continual buildup of tactical nuclear weapons and strategic nuclear weapons, and the refinement to be able to hit targets more accurately? It does not seem to me that we have been acting consistent with any efforts to try to eliminate the tactical nuclear threat as our principal line of defense in Europe.

NUCLEAR PREOCCUPATION TERMED "UNFORTUNATE"

Mr. FARLEY. I did not think that the United States or NATO had been moving in the direction of strengthening or making more sophisticated the tactical nuclear deployment in Europe. There has been a lot of talk of mininucs and so forth. It was my impression that they came mainly from the weaponeers in this country—the people who have new gadgets to sell.

On the strategic side, as I indicated just in passing in my statement, the nuclear preoccupation with war-fighting capabilities is unfortunate, is an inconsistency in our basic policy that ought to be very critically scrutinized in Congress and reversed.

Mr. ZABLOCKI. There is a vote on the floor regarding the Hutchinson substitute amendment to the District bill. The Chair has several questions relative to your testimony Mr. Farley. If there are any others that have questions that were not answered, we will ask you to provide the answer for the record. In view of the fact that the former Secretary of Defense, Mr. Schlesinger, was mentioned several times, it is not the Chair's intention to come to his defense; he can do that very well. But he was invited, as the members know, to be our opening witness. That invitation still stands—we will welcome him for another day of hearings so that we can hear from him and he can defend himself on some of the questions.

INVITATION STILL EXTENDED TO DR. SCHLESINGER

Mr. OTTINGER. I told him I think it was really his obligation.

Mr. ZABLOCKI. If anybody can persuade him, you can.

Mr. OTTINGER. These are his policies we are discussing and I think he ought to be here.

Mr. ZABLOCKI. This meeting of the subcommittee is adjourned until 2:30 p.m. on Thursday, March 25, when our witnesses will be administration spokesmen from the Departments of Defense, State, and the Arms Control and Disarmament Agency.

[Whereupon, at 4:26 p.m., the hearing adjourned until 2:30 p.m. on Thursday, March 25, 1976.]

[Questions were subsequently submitted to Dr. Brown and Mr. Farley, those questions, together with the responses, follow:]

RESPONSES BY DR. ROWEN TO QUESTIONS SUBMITTED BY CHAIRMAN ZABLOCKI

Question. On p. 3 you state that the use of nuclear weapons leading inevitably to massive destruction and genocidal levels of damage is not "a technologically determined outcome." Is it a common sense determined outcome?

Answer. First, some elaboration on the technological aspect is in order. It should be evident that at a time in which nearly zero errors in accuracy will be feasible, that warheads can be made quite small and, therefore, that collateral damage can be greatly reduced. This trend is especially clear in the U.S. arsenal but it is also evident in that of the Soviet Union. With precise delivery and small warheads, destruction of people requires a deliberate decision; it is no longer a by-product of attack on military targets. Second, the participants in a nuclear exchange would have a powerful incentive to behave in their own self interest. To assume, as is often done, that the participants in a nuclear conflict would inevitably behave in a suicidal manner is unwarranted. This, of course, is no guarantee that they would behave in a non-suicidal fashion.

Question. In his testimony here last Thursday, Adm. Miller said that if he had any concern relative to the Command-Control System it is that the constraints

and impediments on release and use of nuclear weapons are so numerous that we might not be able to get them off in time. Do you agree?

Answer. Adm. Miller is much better informed than I am about the workings of the Command and Control System. However, given the fact that much of our strategic force is protected, I doubt that we should be too concerned about rapid launch. Moving away from fixed ICBMs to mobile ones will, in any case, greatly help with this problem.

Question. You raise interesting questions (on p. 6) regarding the phrase "in concert with" in Congressman Aspin's resolution. I would simply observe that the phrase is in the spirit of Protocol 2 of the Treaty for the Prohibition of Nuclear Weapons in Latin America to which the U.S. is a party.

Answer. The existence of the Latin America nuclear free zone makes it the most plausible part of the world for the application of Congressman Aspin's approach.

Question. In terms of the first objective (p. 8) of an effective Command-Control System, is there the implication in what you say that as presently constituted, a commander with strong incentives could take irreversible action in ambiguous situations?

Answer. I do not have in mind so much an individual commander who might commit us irrevocably to the wrong action, although that is a possibility I suppose, but rather a confluence of circumstances in which the participants in a Command and Control System could take a number of actions producing such a result. Errors and ambiguities in warning, assessment, alerting and other moves might, at least in principle, produce a dangerous situation. One that can be minimized if our forces are well enough protected that we would not have to act too quickly on the basis of ambiguous information.

Question. Is there in our current Command-Control System any degree of potential false alarm?

Answer. I am not familiar enough with the workings of our present Command-Control System to give a factual response. However, in principle, there is no way of guaranteeing no false alarms without incurring some risk of a failure to respond to real alarms. The system needs to be designed so that the response to a false alarm is not a terribly costly one.

Question. To the extent you know our current Command-Control System, is there any chance, even remote possibility, of unauthorized use by anyone in the chain of command?

Answer. Again, lack of knowledge excludes my responding on the facts.

Question. Is there the possibility that the very increasing technical complexity of our Command-Control System (a complexity which might be compounded by some of your suggestions) would in and of itself become a problem?

Answer. There certainly is a possibility that the Command and Control System might have characteristics that could create problems. However, what these might be is beyond my knowledge.

Question. On p. 11 you talk about the perception of threats. If you were a Soviet military or political leader what would be your perception of the U.S. threat?

Answer. If by the U.S. threat you mean the threat of a major nuclear attack intended to "disarm" the U.S.S.R. Soviet leaders should not be concerned. The Soviets have very good intelligence on U.S. capabilities and should know our limitations. Moreover, they have taken many steps in recent years to reduce their vulnerability.

Question. You say (on p. 12) that our alliances in other words, our nuclear umbrella, has provided the most effective way of persuading them from acquiring their own nuclear capabilities. If that is so, how do you explain the fact that France and the U.S. (and India) felt compelled to go nuclear?

Answer. You equate our alliances with our nuclear umbrella. I did not. What has mattered most, and remains important, is the total relationship between the great powers, U.S. and U.S.S.R. and their allies. Part of this relationship in some cases involves the possible use of nuclear weapons in defense of an ally. For the U.S. this is especially important in Europe and Northeast Asia and much less important elsewhere.

In the case of France, the French nuclear program has been motivated mostly by political symbolism. It has also, to some extent, been seen as a hedge against the U.S. turning away from Europe. What is more significant in Europe is the large number of technically competent countries that have not acquired nuclear weapons.

India's political isolation together with perceived threat from China and rivalry with it, not to mention its own power ambitions, provide more than a sufficient explanation for its bomb program.

RESPONSES BY DR. ROWEN TO QUESTIONS SUBMITTED BY CONGRESSMAN FINDLEY AND CONGRESSMAN LAGOMARSINO

Question. Laurence Martin recently wrote that "weapons are outstripping the capacity of men to use them to their full potential effect" and that "commanders may well have more information than they can digest." He went on to add that in a future European conflict, for instance, the fighting may be so intense that we would not have time to sort out effective operating techniques by trial and error as has been done in past wars.

Prof. Rowen, would you comment on this?

Answer. Mr. Martin's argument is a plausible one. It is difficult to see how high intensity wars, non-nuclear and especially nuclear, could be carried out without even more confusion than in the past and probably with too little time for much learning and adaptation. It should be noted, however, that Israel in 1973 after an initial setback seems to have made significant and successful adaptation in its combat doctrine within days. But generalizing from the experience of Israel is probably a mistake.

Question. The importance of precision guided weaponry is becoming increasingly more apparent. How successful have we been in integrating these weapons into our existing posture?

Will some sort of organizational reform be required in order to properly exploit this weaponry?

Have we been successful in formulating effective doctrine to guide the actual employment of these weapons?

Answer. My impression is that this integration has been slower than should have occurred (but not slower than experience with large organizations would lead one to predict). However, the limitations of the current generation of weapons needs to be recognized. On the battlefield at least, the dominant problem is that of target acquisition; having precise weapons won't help much if one cannot find the targets. Where these technologies have the largest potential impact is for naval forces and air defenses. On balance, I am not confident that we yet adequately understand the significance of these technologies.

I don't know for certain if organizational reform is needed to properly exploit these technologies but I doubt it. The technologies of precision are so pervasive and affect so many different military activities that it is difficult to see what organizational changes might be appropriate.

Question. Some have argued that a proper integration of precision guided weaponry would lead to a major revision in the assignment of roles and missions to the Services. Professor Rowen what is your evaluation of this prediction?

Are there important bureaucratic resistances to the adoption of these weapons?

Answer. So far I am not aware of any revision in roles and missions that these technologies might make appropriate.

I think that there has been bureaucratic resistance, at least in the past. For example, some people in the Services might have thought that the buying of more precise weapons would lead to cuts in forces. If so, this was based on a bad political prediction; other factors besides cost-effectiveness dominate such decisions. As to whether there are "measurable" resistances today, I am not sure. It is important to be aware, however, of the very high unit cost of many of these weapons. Even though their unit effectiveness is also high, it is not totally foolish for those making procurement decisions to be reluctant to spend up to hundreds of thousands of dollars per piece of ordnance.

Question. Might not precision weapons with their low collateral damage possibilities help to alleviate the justifiable German concern about conventional conflict in Europe? Wouldn't this be an important consideration inasmuch as fear has in the past led to excessive reliance on trip-wires and the American deterrent rather than adequate conventional preparation?

Answer. It might help some, but there is no way the prospect of a major war in Europe can appear other than horrifying to the Germans.

Question. Prof. Rowen, you mention in your statement the possibility of acquiring mobile missiles. Some have argued that as the competition shifts from fixed land based missiles to mobile ones, the Soviets will again have the advantage because of their large amount of usable geography, cloud cover, and so forth. Would you comment on this?

Answer. This is a design problem. A feasible, and to my mind the best, alternative open to us is the so-called shelter-mobile system for ICBMs. It would fit our constraints while offering a high degree of protection. The Russians might choose a different basing alternative given their different set of opportunities and constraints.

Question. Wouldn't the proposed range constraints for the cruise missile greatly hamper its effectiveness in the European theater and elsewhere? For instance, wouldn't it force our ships and submarines to remain close to the coasts where they would be more vulnerable and where they would also be precluded from accomplishing other important missions, such as the protection of sea lanes?

Answer. I believe that this is true. There is likely to be a considerable advantage, especially for ships, in not having to be too close to the area of intense combat operations. The proposed range limitation (which are unverifiable in a reliable way by national means of verification) of 600 Km are too short.

Question. Have we done enough to make our theater nuclear forces, storage sites, and other exposed, lucrative targets in Europe less vulnerable to pre-emptive attack by the Soviets?

If we assume some period of political warning, what additional steps can we take to increase the protection of these forces.¹

Question. Have we ever tested our procedures for consultation on the use of theater nuclear weapons among our European allies?¹

Question. The importance of preserving responsible civilian control over our strategic forces cannot be denied. Yet again and again we have seen public hostility arise with respect to such systems as Airborne Command posts, Project Sanguine, and so forth, which are designed to contribute to this important goal. How can we explain this paradox?¹

Question. Prof. Rowen, can you discuss some of the contingencies you think we may have to face on the Northern flank of NATO? Do these scenarios seem perhaps to be even more immediate and realistic than a Soviet attack in the central region?

Answer. The flanks are more exposed to Soviets than the center and in that sense more vulnerable. Moreover, there are no allied forces in Norway. It is not conceivable that, under some circumstances, the Soviets might make a move in the North, for example against the Northern counties of Norway. For this to be a plausible action for the Soviets, I believe that there would have to be a substantial degree of disintegration in the alliance or at least serious preoccupation with some other problems. It is important to avoid such a situation and also for the Norwegians, the U.S. and others to develop suitable military counters. Much can be done to make such a Soviet move a costly one to it.

Question. Do we train and deploy our forces on the assumption that theater nuclear weapons will be brought into play at the very beginning?

Answer. As a general matter I believe that we do not. However, U.S. commanders in Central Europe have often assured that nuclear weapons would be available very early. But this is not, I believe, so much a matter of training and deployment as it is recognition on their part of the formidable power of the opposing Soviet forces combined with a lack of realism on what political leadership is likely to do.

RESPONSES BY MR. FARLEY TO QUESTIONS SUBMITTED BY CHAIRMAN ZABLOCKI

Question. The opening two paragraphs of your statement state that the U.S. must show a sensitive concern over the consequences of nuclear war—particularly to the "insecure or undecided states" as a means of convincing them to refrain "from launching on the path to nuclear weapons." Within the last few days it has been reported in the Pakistan Times that France has agreed to sell Pakistan a fuel reprocessing facility which will give them a nuclear weapons capability. What did the U.S. do or fail to do, in terms of showing sensitive concern, that brought about that situation?

¹ In response to these questions, Mr. Rowen replied: "I am not well enough informed to be able to reply usefully to the questions."

Answer. What the U.S. does or does not do is never the only factor at work in a complex situation, and is often not the deciding one. In the case of Pakistan's interest in obtaining a chemical separation facility, it seems likely that the most important factor is Pakistani rivalry with India, against the background of two armed clashes and the Indian "peaceful nuclear explosion." Like India, Pakistan has avoided explicitly undertaking nuclear weapons development and production. It no doubt wishes to take a step showing it is not totally outpaced in nuclear development by India. A plutonium separation facility, whatever its role in the eyes of the Pakistani, is not necessarily a commitment to weapons. A number of countries, both parties and non-parties to the NPT, have carried out plutonium separation; these include the FRG, Italy, Spain, Japan, and Argentina among others. If Pakistan were to forego acquiring such a plant, it would make sense economically in view of the limited size of its nuclear power program and the current technical and economic uncertainties of use of plutonium as a reactor fuel. If it goes ahead, that in itself does not commit Pakistan to a nuclear weapons program. There are many reasons why Pakistan would be wiser to forego exercising the nuclear weapons option, and many incentives which would facilitate such a decision on its part. One of the incentives, I am convinced—but only one—is the current consensus that nuclear war and use of nuclear weapons are to be avoided, to which the U.S. as well as other nuclear powers contribute. That is a good consensus, to which we should continue to adhere in word and deed. Though not decisive, it may have some constructive influence on future Pakistani nuclear policy.

Question. You also say (bottom of p. 2) that "remaining non-nuclear is better protection against a nuclear attack than starting a nuclear weapons program." If that is true, once again, how do you explain the decision of a relatively poor country like Pakistan apparently wanting to go nuclear?

Answer. I believe my quoted proposition is true. If Pakistan does "go nuclear," it will not be any safer from nuclear attack, and probably more exposed. That would not be the first time weapons acquisitions have made a country more vulnerable, not safer.

Question. In that same connection, there is an underlying theme in your statement which says in effect that the U.S. nuclear umbrella keeps our allies from seeking their own nuclear weapons capability. If that is true, how do you explain the fact that both England and France (and India, to a lesser extent) felt compelled to have their own nuclear capability?

Answer. I did not say our nuclear umbrella keeps our nuclear allies from going nuclear. I said it helps our non-nuclear allies to refrain from going nuclear. India of course is not an ally and has no U.S. security commitment. British and French nuclear weapons programs have a complex history, involving among many other things wartime relations with the U.S., and their status as permanent members of the U.N. Security Council. In seeking to contain further proliferation at the present time, we have to examine the concerns of non-nuclear-weapon states. For many of them who are allied to U.S. the U.S. security guarantee with its implied nuclear umbrella is a central consideration.

Question. May we explore what I see as one of the basic thrusts of your position. From a non-proliferation perspective, you apparently agree that a policy of threatened first use is both feasible and necessary, and that it must be an element of American diplomatic and military strategy. If so, do you see any possible alternatives? (NOTE: Probable answer.)

Answer. I favor collective security measures, both political and military, and complementary arms control measures (such as SALT and MBFR) to make the security situation of ourselves and our allies increasingly confident and stable. First use of nuclear weapons is now not a "threat", but one available resort in the course of self-defense and thus an element in deterrence of conflict. The need to have recourse to nuclear weapons—with attendant risks and consequences which our allies appreciate as clearly as we—should be made increasingly unnecessary and unlikely in fact; at present it is not clear that the likelihood of employment of nuclear weapons would in fact be reduced by any declaration of policy or exchange of pledge regarding first use.

There are other avenues for reducing the risk of use of nuclear weapons, many of which have been identified in your valuable hearings: refinement and strengthening command and control, avoidance of vulnerable deployments, limitation of forward deployments, substitution of high precision conventional weapons for nuclear weapons, etc.

Question. Mr. Farley, do you subscribe to the basic assumption which seems to underlie most of the resolutions before us, i.e., that even so-called modest use of tactical nuclear weapons would almost inevitably lead to full all-out nuclear war?

Answer. In Central Europe, any use of nuclear weapons carries a very high risk of escalation, even to a strategic U.S.-Soviet nuclear exchange, for reasons which have been set forth in the very voluminous literature on this subject. In other situations, the process of escalation is less close to inevitable, though whenever the U.S. and the U.S.S. are involved through clients (as in the Middle East) the risk is present and can be high. There are of course other very weighty reasons (touched on in my statement) why "even so-called modest use of tactical nuclear weapons" is to be avoided.

Question. Would a no-first-use policy make conventional war more likely?

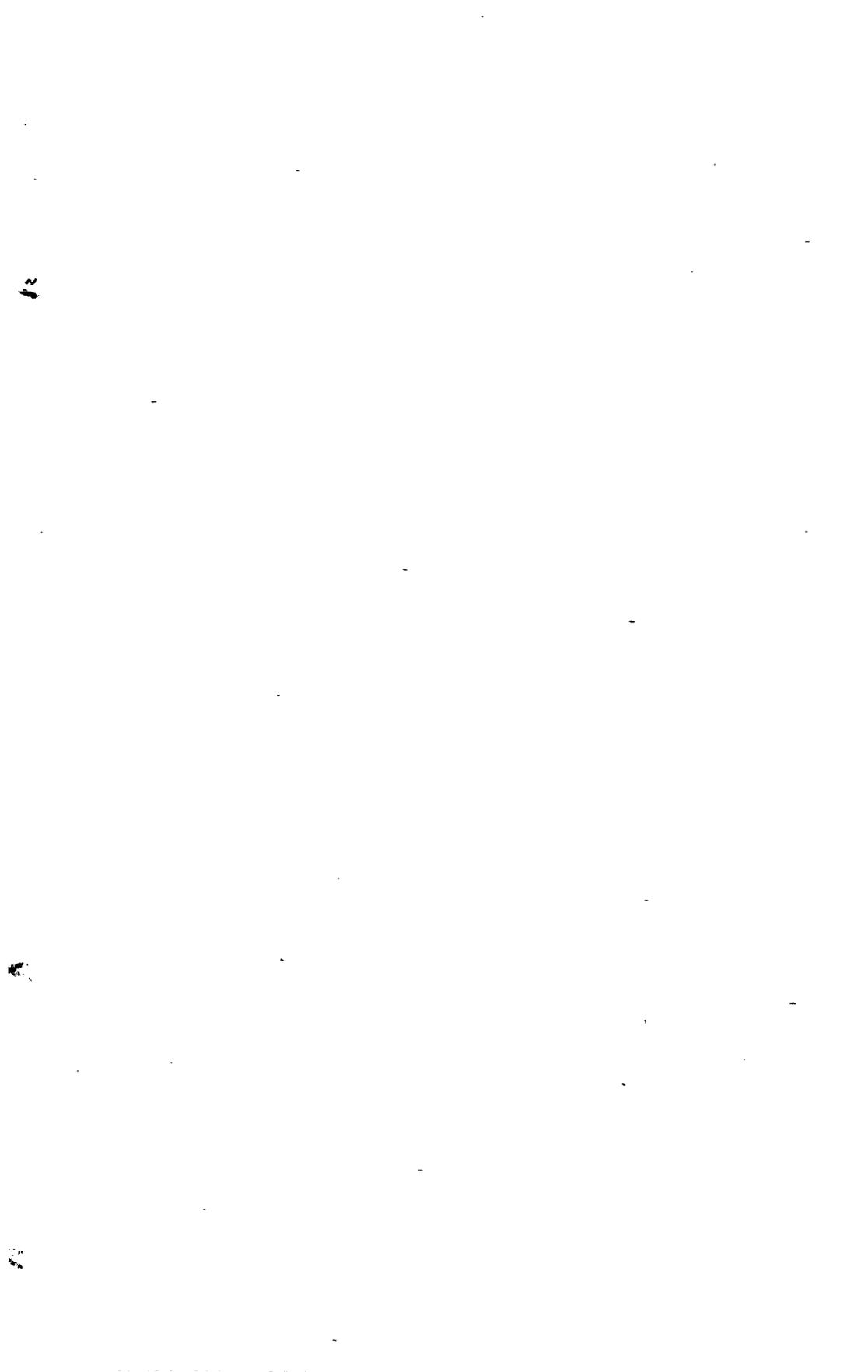
Answer. There are a few situations in which conventional attack may be less unlikely if recourse to nuclear weapons as an "equalizer" is excluded. Central Europe is one, as explained in my statement. There have been speculations that the Soviet Union may consider its eastern front to be another. There are other situations where similar concerns do not arise for many countries, as in the Latin American Nuclear Free Zone. A conditional "no first use" formula of the kind contained in H.J. Res. 723 appears to meet the concerns that have been expressed about an unconditional policy even as applied to Central Europe.

Question. What would be the effect of a no-first-use policy adopted unilaterally? Would it lessen the nuclear arms competition? Also, what evidence is there that the Soviet Union would eventually join in such a policy?

Answer. As I explained, in our relationship with the Soviet Union our doctrine is deterrence, not first use or threat thereof. Even so, nuclear arms competition prevails. I do not think translating the present *de facto* situation into either a U.S. or a U.S.-Soviet declaration would have marked effect on that competition.

Question. You dwell at some length (on p. 7) on the relationship of deterrence to basic U.S. strategic policy. While you appear to endorse the basic notion of deterrence you also say that the U.S. should avoid building a nuclear "warfighting" capability which would seek to "gain advantage" over a potential enemy. But isn't that the very essence of deterrence, i.e., the attempt of one side to control the other by superior advantage. Thus, are you suggesting that as a threat system, deterrence is inherently stable? Further, do you see the tension-producing consequence of the policy of deterrence as that of fanning research and development of weaponry by both sides as each seeks to gain the advantage?

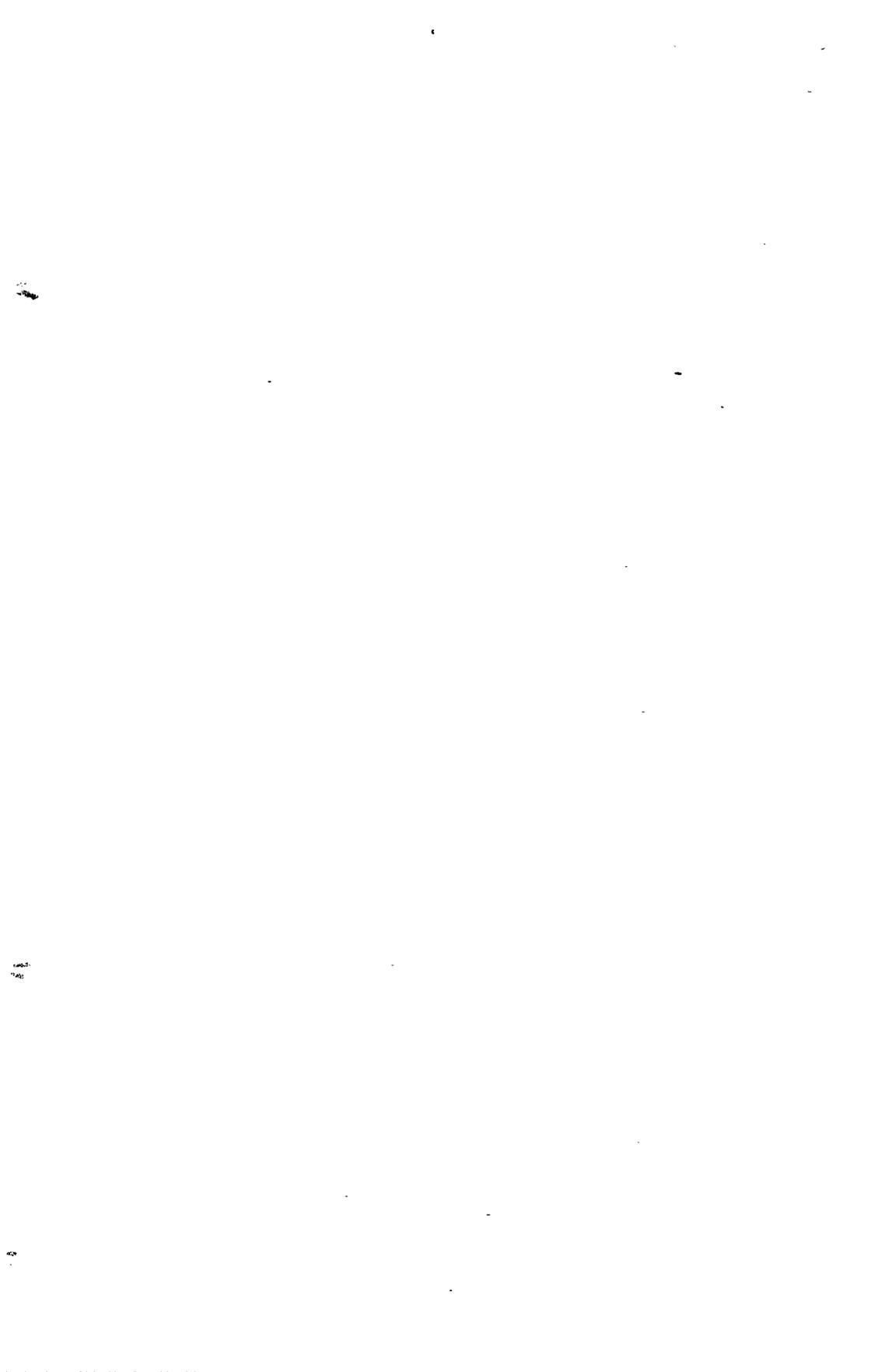
Answer. No.



PART IV
EXECUTIVE BRANCH POSITION ON FIRST USE-FIRST
STRIKE POLICY

March 25, 1976

	Page
Rapporteur summary	145
Hearing	151
Witnesses:	
Hon. Fred C. Ikle, Director, U.S. Arms Control and Disarmament Agency	151
George S. Vest, Director, Bureau of Politico-Military Affairs, Department of State	155
Dr. James P. Wade, Jr., Deputy Assistant Secretary of Defense	159
Material submitted for the record:	
Text of footnote to speech given by Secretary of State Henry Kissinger on February 3, 1976	166
Explanation of the footnote regarding "launch-on-warning" in Mr. Kissinger's February 3 speech, provided by Mr. Vest	167
Excerpts from the public record describing the 1950 occurrence regarding possible use of nuclear weapons, provided by Dr. Ikle	178
Statement on situations involving failures in communication systems, provided by Dr. Wade	182
Responses by Dr. Wade to questions submitted by Chairman Zablocki	184



RAPPORTEUR SUMMARY

Administration Witnesses on Proposed Resolutions Dealing With the First Use-First Strike Policy With Regard to Nuclear Weapons

(Prepared by Richard F. Grimmitt, Analyst in National Defense, and David E. Lockwood, Analyst in U.S. Foreign Policy, Congressional Research Service, Library of Congress)

In his prepared statement, Dr. Fred C. Ikle began by emphasizing his longstanding interest in the question of first use of nuclear weapons. He explained the difference between the concepts of "first use" and "first strike" and proceeded to discuss aspects of the first. (P. 154.) He pointed to the slow but significant evolution in U.S. attitudes and doctrines regarding first use of nuclear weapons which has had the effect of reducing the number of possible situations in which it would occur. Dr. Ikle cited two instances to illustrate his point; the May 1971 ratification of the Treaty of Tlatelolco setting up a nuclear free zone in Latin America and the May 1974 statement of the U.S. delegate to the conference of the Committee on Disarmament in which he stated categorically, that the U.S. Government has no intention whatever to treat tactical nuclear weapons as interchangeable with conventional arms. (P. 154.)

While moving in a positive way to reduce the number of possible first use contingencies, Dr. Ikle expressed opposition to an unqualified no-first-use undertaking by the United States. (P. 154; see also hearings of March 18 and 23.)

Dr. Ikle also said that a broader and more general nonuse assurance, as called for by many nonaligned states at the May 1975 Review Conference of the Parties to the NPT, could undercut our commitments to allies. It would raise concern, he felt, about their security and thereby increase their incentive to acquire independent nuclear weapon capabilities. (P. 154; also March 18 and 23.) In this regard, he referred to a significant imbalance in conventional strength in NATO's central front. (P. 155; also March 23.) He reminded his audience that the principal U.S. goal is deterrence of war altogether and that NATO's doctrine of potential first use can enhance this deterrence. (P. 155; also March 23.)

Dr. Ikle said that in particular regions of the world and under appropriate circumstances, a nonuse pledge in conjunction with an effective nuclear-weapon-free zone arrangement might be desirable. (Pp. 154 and 155; also March 23.) However, he warned that any such nonuse undertaking might lead our allies to worry about an even broader application of the nonuse principal, thereby undermining their continued faith in the reliability of their alliance with us.

The American refusal to renounce the first use of nuclear weapons is not a belligerent position, Dr. Ikle insisted. Nuclear weapons would

be used only in the most extreme circumstances where large-scale military aggression threatened the vital interests of the United States and its allies. (P. 155; also March 18.) Our reliance on first use could become less important, he added, if the imbalance in conventional arms on NATO's central front can be reduced over the years to come by improvements in U.S. and allied conventional defenses and through arms control arrangements. (P. 155, also March 16, 18, and 23.)

Dr. Ikle concluded his formal statement by opposing any resolution renouncing the development of a first strike capability. He gave two reasons for his view: first, that the development of such a capability is already contrary to existing U.S. policy; and, second, the resolution could be interpreted as condemning, without distinction, all strategic capabilities for attacking military targets. (P. 155; also March 16, 18 and 23.)

Mr. George S. Vest, in his prepared statement, emphasized that the concept of a disarming nuclear first strike has no part in U.S. national policy. He explained that an attempt to develop the capability for such an attack could be destabilizing in a crisis situation. The fact was, he added, that neither the United States nor the Soviet Union now or foreseeably have the technical means of acquiring a first strike capability. (P. 157; also March 23.)

Turning to the question of how best to deter a conventional attack, he stated that the primary defense is the conventional capability of the United States and its allies. He stressed, however, that the United States cannot categorically rule out the tactical use of nuclear weapons in response to major nonnuclear aggression; otherwise the choice would be restricted to either holocaust or surrender. (P. 158; also, March 18 and 23.)

Mr. Vest identified three specific points which Congress might address as it considers the various proposals before the subcommittee.

(1) The most basic question is what would be the effect on deterrence and on control of escalation if the United States were to renounce the possibility of being the first to use nuclear weapons. He maintained that a potential aggressor could interpret an American renunciation of the first use as a guarantee that he could use any level of conventional forces without fear of provoking a nuclear response. Present U.S. defense concepts envisage limited nuclear retaliation if necessary to demonstrate resolve to an attacker and to gain time for renewed diplomatic action to control escalation. Such an approach reduces the likelihood that war will break out in the first place. (P. 158.)

(2) A second question is what would be the effect on our allies of a U.S. renunciation of first use? In Mr. Vest's judgment, "if we were to sever the escalatory ladder between conventional defense and strategic retaliation, allied states might doubt U.S. willingness to employ its strategic forces for their defense." (P. 158; also March 18 and 23.)

(3) A third important question was what would be the effect of a renunciation of first use on the likelihood of nuclear weapons proliferation? Reducing the protection of our nuclear umbrella might cause some near-nuclear states to decide that they could no longer rely on us and that they should therefore develop their own nuclear weapons capability. (P. 159; also March 18 and 23.)

Mr. Vest then turned to the question of no-first-use against non-nuclear-weapon states party to the NPT. He questioned whether such a policy adopted by the United States would alleviate the principal security concerns of the non-nuclear-weapons states, which tend to

worry mostly about the possibility of conventional armed conflict with neighboring non-nuclear-weapons states. They also fear that their neighbors might develop nuclear weapons, thereby upsetting regional of this deterrence. (PP. 160 and 161; also March 18 and 23.)

In the third prepared statement of the session, Dr. James P. Wade, Jr., discussed each of the three general categories of resolutions that were the subject of the hearings. With respect to the first, the renunciation of first use of nuclear weapons, he reiterated the administration position that it would not contemplate the use of nuclear weapons in other than the gravest circumstances. (P. 160; also March 18.) However, he explained that both nonnuclear and nuclear forces must be maintained as an adequate defense against enemy threats. To enhance deterrence, he added, it is necessary to make clear in advance that we will apply whatever force, conventional or nuclear, is needed to defeat an attack. Dr. Wade stressed that altering the doctrine of flexible response to exclude first use would remove an important underpinning of this deterrence. (Pp. 160 and 161; also March 18 and 23.)

Turning to the second concept, renunciation of the so-called first strike, Dr. Wade said that the United States is not developing a disarming first strike capability nor is it possible for either side to do so. Even though this was the policy, a resolution renouncing the strategy of first strike would not lead to greater security for us and could lead to serious misunderstanding by our allies. (P. 161; also March 16.)

Dr. Wade next addressed the question of a policy declaration not to threaten use of nuclear weapons against certain nonnuclear states—those which are parties to the NPT and not engaged in aggression in concert with a nuclear power. He doubted whether a nonuse resolution would alleviate the genuine security concerns that have at times played a critical role in a non-nuclear-weapon state's choice not to join the NPT. He also felt that such a policy would tend to encourage more countries to pursue a nuclear weapons capability for their own defense. (P. 161; also March 23.)

Dr. Wade concluded his formal statement by asking the subcommittee members to give careful consideration not only to the substantive issues raised in the hearings but also to the question of preserving the President's authority to take responsible action in the interest of the country's national security. (P. 162.)

In the discussion period which followed the presentation of prepared statements Chairman Zablocki asked why countries like the United Kingdom and France have gone nuclear even though they have the U.S. nuclear umbrella protecting them. Mr. Vest pointed out that Britain had shared in the development of such weapons and France had developed them for De Gaulle's own purposes. (P. 162; also March 18.) These examples did not symbolize how other nations viewed the situation. Indeed, after the Soviets had begun to redress the nuclear balance in the early 1960's, our NATO allies began to question whether the United States would risk nuclear war on their behalf. This led to discussions on the formation of a special multilateral force in NATO to be equipped with nuclear weapons. The MLF did not materialize, but the Nuclear Planning Group did and serves as an illustration of how allied interest in nuclear planning and information sharing was rationalized in a positive way. (P. 163.)

On the question of military research and development and its effect on the arms race, Dr. Wade commented that both sides have an affirmative responsibility to provide for their national security. This cannot properly be called an "arms race" as such. (P. 163.)

The question was raised as to whether it might be preferable to extend the treaty concept of a nuclear free zone, such as currently exists in Latin America, to other regions, instead of passing the resolutions before the committee. Dr. Ikle stated that he was prepared to consider such an idea, but not if it involved a universal guarantee. Extension of the concept to other areas should not be ruled out. Mr. Vest observed that the principle of a nuclear free zone was admirable but it had to be examined on its own merits. Not every region is as homogeneous as Latin America, and practically no other region in the world is free from deep-seated hostilities among neighboring states. Dr. Ikle added that United Nations discussions had highlighted this latter point. (P. 164; also March 23.)

Chairman Zablocki raised the issue of Admiral Miller's comments before the subcommittee regarding delegation of nuclear authority to the NORAD Commander and its pending revocation by the Defense Department. Dr. Wade noted that the command and control system for nuclear weapons was a very sensitive subject—too much so for detailed discussion in open session. He added that Admiral Miller's statement had not been authorized by the Defense Department. (Pp. 165, 184 and 185; also March 18.)

In response to questions about Secretary Kissinger's speech in San Francisco on February 3, Mr. Vest indicated that there had been no change in U.S. policy regarding the use of nuclear weapons. In spite of what one might infer from a footnote to the speech, the decision regarding the use of nuclear weapons rests with the President. The United States, he added, has not decided to go for a launch-on-warning system. (Pp. 165, 166, and 174; also March 18 and 23.) The footnote to Kissinger's speech merely referred to hypothetical examples involving a planners explanation of an option. He will attempt to ascertain why the footnote had been deleted from some copies of the speech. (P. 167.)

Dr. Ikle cited the current Defense Department posture statement to illustrate how our current delivery system poses problems for Soviet planners and to prove that we have not adopted a launch-on-warning approach. It is not our policy now, and we are not moving toward such a policy. To do so would only increase the risks of accidental nuclear war. (Pp. 167 and 168.)

Mr. Bingham asked why the Defense Department is seeking new generations of weapons if it believed that we currently had a standoff with the Soviet Union. Why is it necessary, he asked, to add the sufficiency when the Soviets can't destroy our weapon arsenal, and we can't destroy theirs? Dr. Wade responded that we are obligated to keep our systems and forces up to date if we are to have a credible deterrent. If we did not keep our technological capabilities at high levels, we would lose the balance that currently exists. To keep this balance and maintain the survivability of our systems we need new weapons such as the B-1 bomber, the Trident, and the MX program. (P.

170.) Mr. Vest concurred with these observations and pointed out that this is what had led to the SALT negotiations. (P. 171.)

Mr. Bingham stated that despite our disclaimers, the U.S. approach to weapon systems development suggested that we might be going for a first-strike capability. He believed that the passage of his resolution would serve to prove beyond doubt that this was not our policy. Mr. Vest acknowledged that it would be destabilizing if the United States ever achieved a first-strike capability. (Pp. 171 and 172; also March 23.) This of course, is not U.S. policy, and the President has so stated. However, we have long lead times in the development of new weapon systems, and defense planners have to put their minds to evolving new ones to protect the strategic balance. But our fundamental policy is clear, and we were striving merely to maintain the balance. Dr. Ikle added that there was a distinction between developing the capability of disarming the Soviet Union, and destroying its military forces without at some time destroying all of its strategic capabilities. (P. 172.) The proposed resolution by Mr. Bingham did not take these into account. Mr. Bingham agreed, noting that this would be an easy change to make. Would such an amendment gain Dr. Ikle's support for the resolution? Dr. Ikle responded that the resolution's use of the word "renounce" suggested that we were giving up something and was not justified. (Pp. 172 and 173.) He went on to say that there is no evidence in the writings of Soviet analysts that the U.S.S.R. was interested in renouncing its nuclear options. If anything, the evidence is in the opposite direction. They know what our thinking is regarding a first strike with nuclear weapons but have given no clear indication that they share it. (P. 173; also, March 18.)

In response to subsequent questions, the witnesses made the following points:

(1) Dr. Ikle described a low-yield nuclear weapon as one whose effects are not much different from those of conventional weapons. (P. 175.)

(2) All three witnesses noted that due to new technology factual cruise missiles might constitute an important new weapon, highly accurate, flexible and inexpensive. But development was still at an early stage, and the U.S.S.R. could probably follow suit. (P. 176; also March 18 and 23.)

(3) Dr. Wade noted that continuing improvements are being made to insure that our nuclear storage sites and weapons can survive an attack. (P. 176; also March 16.)

(4) Dr. Wade stated that nations pay more attention to nuclear capability than to statements regarding the possible use of that capability. (P. 177.)

(5) Dr. Ikle stated that despite the absence of public statements Pakistan was gravely concerned that India had exploded a nuclear device. He noted that Pakistan has a small Canadian reactor and good scientists. Its government wants to obtain a separator for plutonium—an acquisition we are opposing. Should they obtain reprocessing plants they could go nuclear at some point. Mr. Vest added that at the present time Pakistan does not have the capability to build nuclear weapons, but it has skilled personnel and it appears to be seeking the materials and equipment which would give it the option to go nuclear. (Pp. 179 and 180; also March 23.)

(6) Dr. Ikle noted that the amount of damage that we could inflict on the Soviet Union after absorbing a nuclear first strike was dependent upon the circumstances of the strike, but we would be capable of inflicting substantial damage. (Pp. 180 and 181.) Dr. Wade agreed to provide information for the record on various case scenarios. (P. 181.)

(7) Dr. Wade stated that we had numerous means of protection to deal with situations such as an irrational President or the destruction of the nuclear command and control system. (P. 182.)

At 3:58 p.m. the subcommittee went into executive session for further discussion with the witnesses.

FIRST USE OF NUCLEAR WEAPONS: PRESERVING RESPONSIBLE CONTROL

Executive Branch Position On First Use-First Strike Policy

TUESDAY, MARCH 25, 1976

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERNATIONAL RELATIONS,
SUBCOMMITTEE ON INTERNATIONAL SECURITY
AND SCIENTIFIC AFFAIRS,
Washington, D.C.

The subcommittee met at 2 p.m. in room H-236, the Capitol, Hon. Clement J. Zablocki (chairman of the subcommittee) presiding.

Mr. ZABLOCKI. The subcommittee will please come to order. This is a fourth and perhaps final session of the subcommittee hearings on "First Use of Nuclear Weapons: Preserving Responsible Control."

Our witnesses today are Fred C. Ikle, Director, U.S. Arms Control and Disarmament Agency; accompanied by James L. Malone, General Counsel. George S. Vest, Director, Bureau of Politico-Military Affairs, Department of State; and James P. Wade, Jr., Deputy Assistant Secretary of Defense.

I might say to my colleagues, there may come a point in today's hearing dealing with very sensitive information, the disclosure of which could endanger national security. Thus, it will be necessary to go into executive session, and if we reach that point and a quorum is present we will deal with the matter accordingly.

Dr. Ikle, if you will proceed, please, to be followed by Mr. Vest and Dr. Wade.

STATEMENT OF HON. FRED C. IKLE, DIRECTOR, U.S. ARMS CONTROL AND DISARMAMENT AGENCY

Fred Charles Ikle, Director of the U.S. Arms Control and Disarmament Agency, is from California, where he was head of the social science department of the Rand Corp. from 1967-73.

Prior to assuming his present responsibilities, Dr. Ikle was known mainly for his contributions to strategies for reducing the risk of war. His work has covered analysis of ways to protect against accidental or unauthorized use of nuclear weapons, how nations negotiate, and the adequacy of the strategy of nuclear deterrence.

Ikle's work on the risks of accidental or unauthorized use of nuclear weapons contributed to improved safeguards by the military services, including the introduction of the "permissive action link," a device for making it physically impossible to arm a nuclear weapon without a release signal from a remote authorizing source.

Born in Switzerland, Dr. Ikle came to the United States in 1946. In 1948, he received his master's degree and, in 1950, his doctorate, both in sociology, from the University of Chicago.

He has been cochairman of the California Arms Control and Foreign Policy Seminar, and is a member of the International Institute of Strategic Studies, the American Sociologist Association, the Population Association of America, the American Political Science Association, and the Council on Foreign Relations.

Mr. IKLE. Mr. Chairman, members of the committee, I welcome the opportunity to appear before this subcommittee to discuss the question of first use of nuclear weapons.

In talking about first use of nuclear weapons, it must be made clear we are talking about their use only as a last resort; that is, only in the face of an overwhelming conventional attack that United States and allied forces cannot turn back with conventional arms alone. We are not talking about use in a "first strike" to eliminate Soviet strategic forces.

I will, with your permission, summarize the written statement.

Mr. ZABLOCKI. Without objection, the complete statement will be made a part of the record.

Mr. IKLE. U.S. attitudes and doctrines on the first use of nuclear weapons have changed over the last 25 years. Thus, in his 1954 message to Congress, President Eisenhower said: "A wide variety of atomic weapons—considered in 1946 to be mere possibilities of a distant future—have today achieved conventional status in the arsenals of our Armed Forces." By contrast, in a press conference in 1971, President Nixon explicitly ruled out the suggestion that our use of air power in Indochina might include tactical nuclear weapons. He called it "rather ridiculous."

CIRCUMSTANCES FOR POSSIBLE FIRST USE HAVE BEEN NARROWED

In brief, the United States has greatly narrowed the range of circumstances in which it might possibly consider the first use of nuclear weapons. For example, in May 1971, the U.S. Government in ratifying the treaty for the prohibition of nuclear weapons in Latin America, agreed not to use or threaten to use nuclear weapons against Latin American States party to the treaty's nuclear-free-zone arrangement. However, the United States submitted a formal statement of understanding that if an armed attack by a contracting party were assisted by a nuclear weapon state, this would be interpreted as a violation of the treaty. Or take another example: In May 1974, in answer to Swedish questions about low-yield nuclear weapons that would blur the distinction between conventional and nuclear explosives, the U.S. delegate to the conference of the Committee on Disarmament stated that:

The U.S. Government has no intention whatever to treat such tactical systems as interchangeable with conventional arms. We fully appreciate that the distinction, or "firebreak," between nuclear and non-nuclear arms is a major factor in preventing nuclear warfare, and we will not act to erode this distinction.

NONUSE PLEDGE: COULD UNDERCUT SECURITY ARRANGEMENTS

While we narrowed the range of situations in which we might consider first use, the United States has not adopted an unqualified no-first-use policy. At the May 1975 Non-Proliferation Treaty Review Conference, many nonaligned states called on the nuclear powers to pledge never to use or threaten to use nuclear weapons against non-

nuclear-weapon states. The United States and the other nuclear powers opposed this. The United States noted that many non-nuclear-weapon states depend on the nuclear deterrence of present security arrangements. A nonuse pledge could undercut such arrangements and thereby increase the incentives of such allies to acquire their own independent nuclear weapons. The United States pointed out that the principal security concerns of non-nuclear-weapon states is not the threat of nuclear attack by the United States, U.S.S.R., or the United Kingdom, but rather the threat of conflict with neighboring non-nuclear-weapon states; thus, it seems doubtful that a worldwide nonuse commitment would be a powerful incentive to renounce nuclear weapons.

We are now faced with superior conventional strength in areas where we have important commitments: I refer in particular to NATO's central front. We are trying to rectify this imbalance, first through the Mutual Balanced Force Reduction (MBFR) negotiations, and second, by improving United States and allied conventional defense forces. In this context, it must be remembered that our principal goal is the deterrence of war altogether, and that NATO's doctrine of potential first use can enhance this deterrence.

NUCLEAR-WEAPON-FREE-ZONE ARRANGEMENT

Under appropriate circumstances and in particular regions of the world, a nonuse pledge in conjunction with an effective nuclear-weapon-free-zone arrangement might contribute to the security of the non-nuclear-weapon states concerned, as does the Latin American nuclear-free-zone. When we consider any no-first-use policy we must keep in mind how our principal allies perceive their positions. Some of our most exposed allies are major industrial nations which have the technical and industrial resources to develop nuclear weapons, but have decided not to do so in the interest of global stability. Their willingness to foreswear nuclear weapons depends to a large extent on their continued faith in the nuclear deterrence provided by alliance with the United States—deterrence which would be undermined by a no-first-use pledge. Our posture should not be misunderstood. It is not belligerent. It allows for nuclear weapons to be used only in the most extreme circumstances where large-scale military aggression, which threatens the vital interests of the United States and its allies, cannot otherwise be dealt with. If the imbalance in conventional arms can be reduced over the years to come by arms control and by improvements in United States and allied conventional defenses, our reliance on first use could become less important. Such a trend would be all to the good. It would strengthen our alliances by reducing their political vulnerability to nuclear blackmail.

REJECTION OF PROPOSALS URGED

For these reasons, Mr. Chairman, I join those of my colleagues in the executive branch in urging that the Congress reject those proposed resolutions before you which would explicitly require the United States to foreswear the first use of nuclear weapons.

And with regard to House Joint Resolutions 618, 626, and 714, the executive branch appreciates the spirit of these "first-strike" resolu-

tions. However, it is already the policy of the United States not to develop a disarming first-strike capability against the Soviet Union.

Mr. Chairman, this completes my statement. I would welcome any questions you may have.

[The prepared statement of Dr. Ikle follows:]

PREPARED STATEMENT OF HON. FRED C. IKLE, DIRECTOR, U.S. ARMS CONTROL AND
DISARMAMENT AGENCY

Mr. Chairman, I welcome the opportunity to appear today before you and the other members of the subcommittee to discuss a question in which I have had a long-standing interest, the question of first use of nuclear weapons.

In talking about first use of nuclear weapons, it must be made clear that we are talking about a defensive resort to nuclear arms in the event of an overwhelming conventional attack that U.S. allied forces cannot turn back with conventional arms alone. I am not at this point speaking of a strategic "first strike" designed to eliminate the retaliatory capability of Soviet strategic forces, a point addressed later in my statement.

Over the last 25 years there has been a significant, albeit slow, development in U.S. attitudes and doctrines regarding such first use of nuclear weapons. This development can be fairly summarized as a narrowing of possible events for which U.S. policy envisages first use. Thus, in his 1954 message to Congress, President Eisenhower said: "A wide variety of atomic weapons—considered in 1946 to be mere possibilities of a distant future—have today achieved conventional status in the arsenals of our armed forces." By contrast, in a press conference in 1971, President Nixon explicitly ruled out the suggestion—he called it "rather ridiculous"—that our use of air power in Indochina might include tactical nuclear weapons.

Two formal steps—one in 1971; the other in 1974—are illustrative of this narrowing of first-use contingencies.

On May 12, 1971, the United States Government through its ratification of additional Protocol II to the Treaty for the Prohibition of Nuclear Weapons in Latin America, the so-called Treaty of Tlatelolco, undertook not to use or threaten to use nuclear weapons against Latin American states party to the Treaty's nuclear-free-zone arrangement. In adhering to Protocol II, the U.S. submitted a formal statement of understanding that: The United States Government would have to consider that an armed attack by a contracting party, in which it was assisted by a nuclear-weapon state, would be incompatible with the contracting party's corresponding obligations under Article I of the treaty. In May 1974, in answering Swedish questions about low-yield nuclear weapons, the U.S. Delegate to the Conference of the Committee on Disarmament stated:

"In response to speculation that further development of low-yield tactical nuclear weapons would blur the present distinction between conventional and nuclear weapons, I wish to state categorically that the U.S. Government has no intention whatever to treat such tactical systems as interchangeable with conventional arms. We fully appreciate that the distinction, or 'firebreak', between nuclear and non-nuclear arms is a major factor in preventing nuclear warfare, and we will not act to erode this distinction."

But while we have been moving in a positive way to reduce the number of possible first-use contingencies, we do not believe that an unqualified no-first-use undertaking by the United States is advisable. At the May 1975 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, many non-aligned States called for commitments by the Nuclear Powers never to use or threaten to use nuclear weapons against Non-Nuclear-Weapon States. The U.S. and the other nuclear powers opposed such an undertaking. The U.S. noted that mutual security arrangements have alleviated the security concerns of many Non-Nuclear-Weapon States and that non-use assurances could undercut such commitments to Allies, thus raising concerns about their security, and thereby increasing their incentive to acquire independent nuclear weapon capabilities. Pointing out that the principal security concern of Non-Nuclear-Weapon States is not the threat of nuclear attack by the U.S., U.S.S.R., or the U.K., but rather the possibility of conventional armed conflict with neighboring Non-Nuclear-Weapon States, the U.S. expressed doubt at the Conference that a world-

wide non-use commitment would serve as a powerful incentive to renounce nuclear weapons.

Further, we are faced—at least for several years—with certain significant imbalances in conventional strength in areas where we have important commitments: I refer in particular to NATO's central front. Rectification of this imbalance in Europe is being sought both through the Mutual Balanced Force Reduction negotiations and by U.S. and Allied conventional defense improvements. In this context, it must be remembered that our principal goal is the deterrence of war altogether, and that NATO's doctrine of potential first use can enhance this deterrence.

In the longer term, under appropriate circumstances and in particular regions of the world, it is possible that a non-use pledge in conjunction with an effective nuclear-weapon-free zone arrangement might supplement the security of the Non-Nuclear-Weapon States concerned, as did the Treaty of Tlatelolco, to which I earlier referred.

As we consider any such non-use undertaking, however, we must keep in mind that our Allies might be concerned that such assurances could lead to even broader non-use undertakings. Among the most geographically exposed of our Allies are major industrial nations which in the interest of global stability, have decided not to develop nuclear weapons, although they unquestionably possess the technical and industrial resources to do so. The willingness of such nations to forswear nuclear weapons depends to a considerable extent upon their continued faith in the reliability of their alliance with the United States.

Yet, our refusal to renounce the first use of nuclear weapons should not be misunderstood. It is not a belligerent posture. It does not propose that nuclear weapons would be used except in the most extreme circumstances where large-scale military aggression threatened the vital interests of the United States and its Allies. Indeed, one of our principle security objectives is to reduce reliance on nuclear forces by strengthening our conventional military posture, and particularly by redressing the imbalance in conventional forces on NATO's central front. If the imbalance in conventional arms can be reduced over the years to come—through improvements in U.S. and Allied conventional defenses and through arms control arrangements—our reliance on first use could become less important. Such a trend would be all to the good.

For these reasons, Mr. Chairman, I urge that the Congress reject those proposed resolutions before you which would explicitly require the U.S. to forswear the first use of nuclear weapons, namely House of Resolution 11, House Joint Resolutions 533, 534, 535, 536, 575, 630, 713 and 723.

We appreciate the spirit underlying House Joint Resolutions 618, 626 and 714. It is in fact U.S. policy not to seek to develop a disarming first strike capability. However, we believe the proposed resolutions would be unhelpful for two reasons. First, they fail to recognize that the development of a disarming first strike capability is contrary to existing U.S. policy and suggest, erroneously, that the U.S. is currently seeking to achieve such a capability. Second, by failing to distinguish between a disarming first strike capability and other kinds of capabilities against military forces, the resolution could be read as condemning, without distinction, all strategic capabilities for attacking military targets.

Mr. Chairman, this completes my statement. I would welcome any questions you may have.

Mr. ZABLOCKI. Thank you, Dr. Ikle. We will have questions after we hear from Mr. Vest and Dr. Wade.

STATEMENT OF GEORGE S. VEST, DIRECTOR, BUREAU OF POLITICO-MILITARY AFFAIRS, DEPARTMENT OF STATE

George S. Vest was born in Columbia, Va., on December 25, 1918.

Mr. Vest, a Foreign Service Officer, Career Minister, is Director of the Bureau of Politico-Military Affairs, Department of State.

Before assuming his present post, Mr. Vest was Special Assistant to the Secretary of State for Press Relations and Department Spokesman. In 1973 he headed the U.S. Delegation to the Conference on Security and Cooperation in Europe (CSCE). Before that he was Deputy Chief of the U.S. Mission to NATO (1960-72), and Deputy Chief of the U.S. Mission to the European Communities

(1967-69). Over the course of his career, Mr. Vest has served in Bermuda, Ecuador, and Canada, as well as with NATO in Paris.

A graduate of the University of Virginia (AB, 1941; MA, 1947), he served overseas in North Africa and Italy during World War II as an officer in the U.S. Army.

Mr. VEST. Thank you, Mr. Chairman. Could I have your permission to excerpt from my statement and have the whole statement put in the record?

Mr. ZABLOCKI. If there is no objection, Mr. Vest's statement will be made a part of the record. The Chair hears no objection.

Mr. VEST. Thank you very much.

I welcome this opportunity to discuss with you the issues relating to the possible initial use of nuclear weapons. The Department of State shares the concern underlying the proposals which these hearings are considering. We must try to make nuclear war less likely, and do so in ways which preserve this country's security.

I would like to discuss, first, the reasoning which underlies our policy regarding the initial use of nuclear weapons. The central objective of U.S. strategic nuclear forces is to deter nuclear attack on and nuclear coercion of the United States and its allies. This objective requires as a minimum that these forces, even after absorbing an all-out first strike, be able to inflict an unacceptable level of damage on our enemies. In addition, we must maintain an overall military capability that can meet any level of enemy attack with a deliberate and credible response.

Now, if I could look at the subject, I would like to turn to three issues which it seems to me are raised by these hearings. I see three points which are basic.

RENUNCIATION AND EFFECT ON DETERRENCE

The first and most basic question, of course, is, what would be the effect on deterrence and on control of escalation if the United States were to renounce the possibility of being the first to use nuclear weapons. It is axiomatic, I would maintain, that U.S. nuclear capability and the willingness to use it are fundamental factors in deterring the outbreak of war or in deterring the escalation of a war to levels of intensity that could properly be described as a nuclear holocaust. A potential aggressor could interpret an American renunciation of the first use of nuclear weapons as a guarantee that he could use any level of conventional forces without fear or provoking a nuclear response. This interpretation would undermine the implicit escalatory risk which is central to deterring aggression against the United States and its allies. Moreover, by reducing any enemy's uncertainty, renunciation of first use would greatly simplify his planning and conduct of conventional operations.

EFFECT ON OUR ALLIES

A second question is, what would be the effect on our allies of a U.S. renunciation of first use? The security relationships we have with these countries have contributed to the stability of entire regions of the world. The present strategic parity between ourselves and the

Soviet Union makes all the more important the maintenance of the collective strength of our alliance systems. In my judgment, if we were to sever the escalatory ladder between conventional defense and strategic retaliation, allied states might doubt U.S. willingness to employ its strategic forces for their defense. The general effect would be to undermine our allies' faith in our commitments and cause them to question the willingness of the United States to come to their aid against any kind of armed aggression.

EFFECT ON NUCLEAR WEAPONS PROLIFERATION

A third important question is what would be the effect of a renunciation of first use on the likelihood of nuclear weapons proliferation? I fear that renunciation would raise the question of whether an attack on our allies would become more likely because potential enemies have been assured that the United States and the allies would only respond conventionally. Reducing the protection of our nuclear umbrella might cause some near-nuclear-weapon states to decide that they could no longer fully rely on us to assist in deterrence and defense and that they should, therefore, develop their own nuclear weapon capability.

Last, I would like to stress that I take it as a categorical imperative that the United States must strive to minimize and if possible, eliminate resort to military force—both nuclear and conventional. Focusing on only one form of conflict, as these resolutions do, not only distorts the problem but more seriously could even make the other form of warfare—conventional—more likely.

In summary, Mr. Chairman, the Department of State shares the deep desire of the sponsors of these resolutions to find ways of reducing the likelihood of nuclear war and inhibiting the proliferation of nuclear weapons and thereby better to assure a peaceful world that is consistent with our national interests. We constantly strive to reach this goal, but our reasoning has taken us in a different direction than that advocated by the sponsors of these resolutions.

Thank you.

Mr. ZABLOCKI. Thank you.

[Mr. Vest's prepared statement follows:]

PREPARED STATEMENT OF GEORGE S. VEST, DIRECTOR BUREAU OF POLITICO-MILITARY AFFAIRS, DEPARTMENT OF STATE

I welcome this opportunity to discuss with you the issues relating to the possible initial use of nuclear weapons. The Department of State shares the concern underlying the proposals which these hearings are considering. We must try to make nuclear war less likely, and do so in ways which preserve this country's security.

I would like to discuss first the reasoning which underlies our policy regarding the initial use of nuclear weapons. The central objective of US strategic nuclear forces is to deter nuclear attack on and nuclear coercion of the US and its Allies. This objective requires as a minimum that these forces, even after absorbing an all-out first strike, be able to inflict an unacceptable level of damage on our enemies. In addition, we must maintain an overall military capability that can meet any level of enemy attack with a deliberate and credible response. Recent improvements in US strategic forces and in command and control are intended to enhance the flexibility of our forces to meet all

these contingencies. Flexibility—that is, the ability to use our forces in a variety of ways—should help to decrease the chance of aggression.

I want to emphasize that this policy in no sense implies that the US is embracing as our national policy the concept of a disarming first strike. By "disarming first strike," I mean an attack designed to deprive a potential enemy of its basic strategic retaliatory capability. We recognize that an attempt to develop a capability for such an attack could be destabilizing in a crisis situation and thus contrary to our best interests. In point of fact, neither we nor the Soviet Union now or foreseeably have the technical means of acquiring a first strike capability. Our strategic arsenal is sufficiently large, flexible, diversified, and survivable so that our basic retaliatory force would survive an enemy first strike. The USSR has the same capacity.

Turning to the question of how best to deter a conventional attack, our reasoning is that the primary defense against such an attack is the conventional capability of the United States allied to the collective or individual conventional capabilities of our partners. Because of the horrors of nuclear warfare, we believe that this must continue to be our policy. We cannot, however, categorically rule out the tactical use of nuclear weapons in response to major non-nuclear aggression if such an attack could not be contained by conventional forces. While such an eventuality may be extremely remote, in situations where our vital interests are at stake, our choice must not be restricted to either holocaust or surrender; rather we must maintain the option for limited use of nuclear weapons to achieve a limited political and military objective.

I believe this reasoning is valid in a world where nuclear forces exist, where resources for conventional forces are finite, where tensions remain, where countries continue to rely on United States' power to assist in deterring aggression, and where the United States is also dependent on its Allies to mount an adequate level of deterrent force.

Let me now turn from the basic reasoning underlying our position on the use of nuclear weapons to the issues raised by these hearings. I see three specific points which the Congress might address as it considers the various proposals before this Subcommittee. The first and most basic question, of course, is what would be the effect on deterrence and on control of escalation if the US were to renounce the possibility of being the first to use nuclear weapons. It is axiomatic, I would maintain, that US nuclear capability and the willingness to use it are fundamental factors in deterring the outbreak of war or in deterring the escalation of a war to levels of intensity that could properly be described as a nuclear holocaust. A potential aggressor could interpret an American renunciation of the first use of nuclear weapons as a guarantee that he could use any level of conventional forces without fear of provoking a nuclear response. This interpretation would undermine the implicit escalatory risk which is central to deterring aggression against the United States and its Allies. Moreover, by reducing any enemy's uncertainty, renunciation of first use would greatly simplify his planning and conduct of conventional operations.

I think that we should also consider the effects on our planning of a policy which would limit policy-makers to a choice of either conventional response or possible defeat. One might cynically argue that in the final analysis all bets are off if the United States were faced with an impending defeat, but I think we should recognize that a delay in using a limited number of small-yield nuclear weapons might require the US to plan on using more and larger nuclear weapons later to stave off defeat. Present US defense concepts envisage limited nuclear retaliation if necessary to demonstrate resolve to an attacker, to gain time for renewed diplomatic action to control escalation, or to convince the aggressor to restore the *status quo*. This approach, we believe, does not increase the likelihood of nuclear war but, on the contrary, reduces it by strengthening deterrence and thus reducing the possibility that war will break out in the first place.

A second question is what would be the effect on our Allies of a US renunciation of first use? The security relationships we have with these countries have contributed to the stability of entire regions of the world. The present strategic parity between ourselves and the Soviet Union makes all the more important the maintenance of the collective strength of our alliance systems. In my judgment, if we were to sever the escalatory ladder between conventional defense and strategic retaliation, allied states might doubt US willingness to employ its strategic forces for their defense. The general effect would be to undermine our

Allies' faith in our commitments and cause them to question the willingness of the United States to come to their aid against any kind of armed aggression.

A third important question is what would be the effect of a renunciation of first use on the likelihood of nuclear weapons proliferation? I fear that renunciation would raise the question of whether an attack on our Allies would become more likely because potential enemies have been assured that the US and the Allies would only respond conventionally. Reducing the protection of our nuclear umbrella might cause some near-nuclear-weapon states to decide that they could no longer fully rely on us to assist in deterrence and defense and that they should therefore develop their own nuclear weapon capability. I believe that this might also be the case even with the more limited proposal to foreswear first use against non-nuclear-weapon states party to the Non-Proliferation Treaty.

A no-first-use policy against non-nuclear-weapon states party to the NPT is designed, obviously, to encourage wider NPT adherence and enhance the security of NPT parties. The most pressing security concern, however, for many non-nuclear-weapon states is often the possibility of conventional armed conflict, probably with neighboring non-nuclear-weapon states, and not the activities of the major nuclear powers. To the extent that nuclear weapons are the object of concern in such situations, it is typically, if not invariably, the fear that their neighbors might develop these weapons, thereby upsetting regional power relationships. I question whether a no-first-use policy adopted by the United States would alleviate that type of security concern. I should add that, in my opinion, a limited non-use assurance could be seen by Allies and potential enemies as the opening wedge to the more sweeping non-use pledge, and thus at least some of the problems I discussed in association with the broader no-first-use policy could arise with these limited assurances.

Lastly, I would like to stress that I take it as a categorical imperative that the US must strive to minimize and if possible eliminate resort to military force—both nuclear and conventional. Focusing on only one form of conflict, as these resolutions do, not only distorts the problem but more seriously could even make the other form of warfare—conventional—more likely.

In summary, Mr. Chairman, the Department of State shares the deep desire of the sponsors of these resolutions to find ways of reducing the likelihood of nuclear war and inhibiting the proliferation of nuclear weapons and thereby better to assure a peaceful world that is consistent with our national interests. We constantly strive to reach this goal, but our reasoning has taken us in a different direction than that advocated by the sponsors of these resolutions.

Mr. ZABLOCKI. Dr. Wade.

STATEMENT OF DR. JAMES P. WADE, JR., DEPUTY ASSISTANT SECRETARY OF DEFENSE

James Paul Wade, Jr., born on December 26, 1930, he received a B.S. degree in Engineering from the United States Military Academy, West Point, New York, in 1953; an M.S. in Physics in 1959, and a Ph.D. in Physics in 1961 from the University of Virginia, Charlottesville, Virginia. He graduated from the US Army Command and General Staff College in 1966. During the period 1955-1957, Dr. Wade was a member of the staff of the NATO Defense College in Paris, France. In 1961 he was assigned to the Physics Staff of the Lawrence Radiation Laboratory, University of California, Livermore, California. In 1966, he was assigned to the J-3 Operations Directorate, USCINCEUR, Paris, France. Dr. Wade was appointed a Staff Specialist in the Strategic Technology Office of the Advanced Research Projects Agency, Arlington, Virginia, in 1967. In 1970, he joined the staff of the Deputy Director, Defense Research and Engineering (Strategic and Space Systems), Department of Defense. In 1972, Dr. Wade was appointed Assistant Director, OSD SALT Support Group, Office of the Deputy Director, DDR&E (Strategic Systems.) He participated as the senior OSD staff adviser on the United States Delegation to the Strategic Arms Limitation Talks with the USSR. In 1973, he was assigned the additional task of the Assistant Director, Net Technical Assessment, Office of the Director of Defense Research and Engineering, Department of Defense. In August and November 1974 respectively, the Secretary of Defense appointed Dr. Wade to be the Director, Department of Defense Strategic Arms Limitation Talks (SALT) Task Force, and Deputy Assistant Secretary of Defense, International Security Affairs, (Policy Plans and National Security Council Affairs).

Mr. WADE. Thank you, Mr. Chairman and members of the subcommittee.

I appreciate the opportunity to present the views of the Department of Defense on the three general categories of resolutions that are the subject of this hearing: Renunciation of "first use of nuclear weapons;" renunciation of so-called "first-strike;" and declaration of intention not to threaten or use nuclear weapons against certain non-nuclear states. I would like to treat each of these in turn, specifically addressing the issues involved, current U.S. Government policy, and our position on the resolutions being discussed. After that, I will be pleased to answer your questions.

The term "first use" is associated with the initial use of nuclear weapons before such weapons have been employed by an aggressor. As you all know, the United States would not contemplate the use of nuclear weapons in other than the gravest of circumstances.

We and our allies devote substantial resources to sustaining and improving our conventional weapons capability, so that we may avoid having to threaten the use of nuclear weapons. It is our policy to maintain conventional forces sufficient to defend against a nonnuclear attack on NATO or on other allies. Yet, we believe we must maintain forces including both nonnuclear and nuclear, capable to deter enemy first use of nuclear weapons and which can respond to a wide range of contingencies including failure of the conventional defense. We maintain these capabilities so that our adversaries perceive that we have not only the capability but the will to use nuclear weapons if necessary. The will and the capability are essential ingredients of deterrence, necessary both to give caution to any enemy considering an attack and to perceive the solidarity of our alliances. Our nuclear capable forces thus complement U.S. allied conventional forces. We hope these forces together will deter any adversary from committing aggression against the United States or its allies. We enhance deterrence by making clear, in advance, that we will apply whatever force, conventional or nuclear, that is needed to defeat the attack.

ASSURANCES GIVEN TO ALLIES

We want the attacker to realize the enormous risks he is taking. If the attacker could be certain that the United States would not use nuclear weapons, it would remove a major complication in his tactical planning on what forces he needs and remove a major uncertainty about the risks attendant to aggression. It would not be in the best interest of U.S. security to remove this uncertainty from any adversary's planning.

Over the years, we have given repeated assurances to our allies that nuclear weapons would be used in their defense, if needed to assure their survival. The deterrent posture of the combined United States and allied forces in NATO is dependent on the flexible response doctrine that whatever force is necessary will be applied to repel and defeat an attack from the Soviet-Warsaw Pact forces, including the first use of nuclear weapons should the situation dictate. Altering the doctrine to exclude first use could remove the underpinning which has been allowing us to proceed in confidence to improve our conventional forces.

A denial of the option of first use would tell all of our allies that we would be willing to see them suffer a conventional defeat without coming to their aid with nuclear weapons. It could convince them that they must acquire their own nuclear weapons with all the attendant implications for nuclear proliferation.

It is our judgment that renunciation of the first use of nuclear weapons would be a dangerous step. We oppose those resolutions which propose that the United States renounce the first use of nuclear weapons.

"DISARMING FIRST STRIKE" TERMED MORE PRECISE

Turning now to the second concept, renunciation of so-called "first strike." This is an ambiguous term which has caused much confusion. A more precise term would be "disarming first strike" in the context of the resolution, referring to an attack intended to disarm an adversary by destroying his ability to strike the United States with nuclear forces. As the President has stated, we are not developing such a first strike capability, nor is it possible for either side to do so. The nuclear forces of both superpowers are today so extensive and elements as a whole are sufficiently survivable that neither side for the foreseeable future should hope to be able to achieve the capability of being able to eliminate the retaliatory capability of the other.

Although our policy is not to develop a disarming first strike capability or attempt a disarming first strike, a resolution renouncing "the strategy of a nuclear first strike" would not lead to greater security for us, and could lead to serious misunderstanding by our allies regardless of the specific language. To avoid confusion the term "first strike" would have to be explicitly related to the disarming first strike associated with the strategic forces, as discussed here.

PROBLEMS OUTLINED WITH NPT APPROACH

The third concept we are addressing today concerns a resolution on nonuse against certain nonnuclear states—those which are parties to the NPT and not engaged in aggression in concert with a nuclear power. U.S. policy today recognizes the limited impact of U.S. nuclear weapons on such nonnuclear states. If the United States were to adopt the nonuse policy set forth in this resolution, however, a country which feared an overwhelming conventional attack from a neighboring country might be motivated to pursue a nuclear weapons capability for its own defense.

This potential loss in international stability does not appear to be offset by any significant enhancement of the security of non-nuclear-weapon states party to the NPT. Their most pressing security concern is usually the possibility of conventional armed conflict with neighbors. To the extent that nuclear weapons are feared, it is often the fear that non-nuclear-weapon state rivals will develop such weapons, upsetting regional power relationships. The nuclear ambitions of neighboring states in a region are the fundamental concern of other states, not the activities of the nuclear powers. We question whether a statement of policy by the United States as envisioned in this resolution would alleviate the genuine security concerns that have at times played a critical role in a non-nuclear-weapon state's choice not to join

the NPT. Therefore, we doubt such a statement of policy would serve as any real incentive for states to adhere to the NPT.

PRESERVING THE PRESIDENT'S AUTHORITY

I have discussed our understanding of the issues involved as they relate to each category of the proposed resolutions that this committee has before it. The members should give very careful consideration not only to the other substantive issues raised but also the question of preserving the President's authority to take responsible action in the interest of this country's national security.

Thank you, Mr. Chairman, this concludes my statement.

Mr. ZABLOCKI. Thank you, Dr. Wade.

In defense of our strategic policy all of you gentlemen contend that the elimination of our first-use policy might force our allies to seek their own nuclear weapon capability and thereby add to proliferation and danger of nuclear war. If that is true, how do you explain the fact that England and France and to a lesser extent, India, have been compelled to have their own nuclear capability, and that states may be seeking nuclear capability despite the fact we have a nuclear umbrella?

Mr. IKLE. How do you want to handle this?

Mr. ZABLOCKI. Anyone or all of you.

WITNESS CLAIMS RENUNCIATION MAY ENCOURAGE ALLIES' NUCLEAR CAPABILITY

Mr. VEST. Perhaps I will start.

Sir, Mr. Chairman, you used the phrase that we feared that such a step would force our allies. I believe what all of us are saying is that it would not force them, but the perception our allies might have might encourage them.

Mr. ZABLOCKI. My question is this: despite the fact that we have already given them assurance, they have not been discouraged from seeking their own nuclear capability?

Mr. VEST. If we go back to history, the British had already been involved in a nuclear program before we got into this particular strategic relationship which we are describing today. The French followed their own policy for President De Gaulle's own reasons, but the countries we are talking about are the other countries with whom we share the alliance, not those countries which already have it. At the present time, the alliance is, I think, a contented group of countries who have confidence in the mutual relationship which we all have there, but I do not think that the British or French can be taken as symbolic of how the other countries view the nuclear situation.

PRELUDE TO NUCLEAR WEAPONS SHARING

Mr. ZABLOCKI. Can you give us a definite example in open session where a country had indeed considered its own nuclear capability and was deterred because—

Mr. VEST. I cannot do that, but if I could go on I would say this: that at an earlier stage within the alliance, perhaps in the early sixties—I cannot give you an exact year—certainly there was a great deal

of agitation within the alliance in Europe to have a multinational force, for example, which would have been a prelude to sharing nuclear weapons in some unrefined concept at that time. However, this was, I think, the evidence of a sense of unease and uncertainty on the part of our allies about exactly what kind of nuclear umbrella they had and what kind of relationship they had to the whole affair.

As a result of that we have eventually ended up with a nuclear group within the alliance in which all of the countries party to the NATO atomic stockpile program sit and exchange information, keep in touch with what we are doing and what each of them is doing. Pressures that might have existed in one or another of those countries back in the early sixties have not manifested themselves since that time.

The nuclear planning group within the alliance has been, I think, a mutually satisfactory arena in which the countries in it discuss their nuclear concerns. But we had to establish this nuclear planning group back in the early sixties to be able to share what was happening.

CONSEQUENCES OF DETERRENCE

Mr. ZABLOCKI. On a related matter, all of you have commented on the role of deterrence in basic U.S. strategic policy. The very essence of deterrence is the attempt of one side to control or gain advantage over the other.

Given that fact, do you see the tension-producing consequences of deterrence as that of fanning research and development of weaponry by both sides as each seeks to gain the advantage?

Mr. WADE. Well you have a continuing change in technology, deployed technology. Both sides have the responsibility of providing for their security, and prevention of nuclear war is part of that responsibility. One element of deterrence is to maintain the survivability of the deterrent forces so one side cannot be disarmed through a disarming first-strike attack. So there is a competition between both sides to see that their deterrent forces remain survivable, and as such, provide a stability in the nuclear relationship with the other side for the purpose of preventing a nuclear war from ever occurring. Whether this is competition, it is the responsibility of both sides. It does not follow that the essence of deterrence is the attempt of one side to gain advantage over the other.

Mr. ZABLOCKI. I presume the others agree.

Let me ask a question of Dr. Ikle.

Do I understand from your comments that you personally oppose the idea of extending the principle contained in the Treaty for the Prohibition of Nuclear Weapons in Latin America into a worldwide nonuse commitment treaty. Is my understanding correct?

EXTENDING A UNIVERSAL TLAHELCO CONCEPT OPPOSED

Mr. IKLE. That is correct.

Mr. ZABLOCKI. But, would it not be an appropriate legislative alternative to the resolutions before us, if we are going to have any expression in legislation? Would it not be a preferable alternative to the resolutions we are considering?

Mr. IKLE. Well, Mr. Chairman, this comes close to the idea of one of the resolutions introduced by Congressman Aspin, but I think it goes farther than it would be prudent to go because it would have an impact beyond the areas where we have the guarantee of the nuclear-free zone and the assurance among neighboring countries.

In my opening statement, I expressed our willingness to consider extending the same guarantee to other areas where the arrangement for a nuclear-free zone prevails. For the time being, the Latin American nuclear-free zone is the only one, but we have made it clear in discussions, in both the Conference of the Committee on Disarmament and in the U.N., that if there were other such areas established, we would then favorably consider extending the same guarantee. What we would favor is nuclear-free zones in appropriate areas, and under appropriate conditions, but not the universal extension of this guarantee.

MODIFIED ASPIN APPROACH?

Mr. ZABLOCKI. You would see no problem with a modified Aspin approach?

Mr. IKLE. It depends on how it would be modified. Obviously, if its modification is consistent with our current policy of favorably considering the extension of such guarantees where appropriate nuclear-free zones exist, it might be acceptable.

Mr. ZABLOCKI. Mr. Vest.

Mr. VEST. Yes, sir; I would just like to add a footnote to what Dr. Ikle has said. That is, the principle behind such zones is an admirable principle but I think we have to look very carefully that when we have such a proposal, wherever the area may be, that we examine it on its merits and assure ourselves that actual circumstance make it a desirable and appropriate thing.

What is feasible and desirable, for example, in an homogeneous area like Latin America, with its own regional agreement, with its own security understandings, and with its own basic relationship to the outside world is, as I am sure you understand, not at all necessarily easily transferrable to another portion of the world which is not homogeneous, which has no common basis for unity, no historical regional tradition of cooperation and no easy method for verifying whatever might likely be assumed.

PRACTICAL DIFFERENCES EXIST BETWEEN LATIN AMERICA AND OTHER AREAS

In fact, the problem is that when we look at the other areas in the world there is practically no other area of any size where you do not run up against deep seated hostilities and where the countries are not ready, really, to cooperate but ready to embark on exploiting each other.

So it is certainly true each time we look at one of these areas it is not easy. The practical differences between Latin America and the rest of the world are very large.

Mr. IKLE. This difficulty of finding a genuine nuclear-free zone became apparent in extended discussions in the U.N.

Mr. ZABLOCKI. The Chair notes that a quorum is present. It is not my intention to close the meetings to go into executive session but I would entertain such a motion if it is necessary.

Mr. FINDLEY. I so move.
 Mr. ZABLOCKI. You move?
 Mr. FINDLEY. I so move.
 Mr. ZABLOCKI. The clerk will call the roll.
 Mr. BERDES. Mr. Zablocki.
 Mr. ZABLOCKI. Aye.
 Mr. BERDES. Mr. Bingham.
 Mr. BINGHAM. Aye.
 Mr. BERDES. Mr. Findley.
 Mr. FINDLEY. Aye.
 Mr. BERDES. Mr. Lagomarsino.
 Mr. LAGOMARSINO. Aye.
 Mr. ZABLOCKI. The motion carries unanimously.

DELEGATION TO NORAD PROBED

I want to make it clear that it is our intention to invoke an executive session only if it is necessary. And I hope that the question I now ask of Dr. Wade will not necessitate going into executive session. But in our testimony last Thursday, Dr. Wade, Admiral Miller confirmed that a delegation of authority to use nuclear weapons had been made to the commander of NORAD. This was within the context of a discussion on control and command. Can you tell us why DOD decided to reveal that information at this time; also is it correct that the authority is being revoked and, if so, why and when will it be revoked?

Also tell us in precise detail the circumstances and exact understandings under which the NORAD commander would ultimately exercise that delegated authority.

Mr. WADE. Sir, as to the first part of your question, the Department of Defense did not authorize the statement. May I say right from the start that the subject of command and control, management, and employment of nuclear weapons is a very sensitive subject. We here in this room are not interested in providing information of this kind to those people outside of this room whose interest is not compatible with our own. These matters are very sensitive. It is just inappropriate for discussion in this type of—

Mr. ZABLOCKI. I will withdraw my question for now. Other members may have additional questions. We will come back to this question in executive session.

Mr. Findley.

KISSINGER GIVES CREDENCE TO LAUNCH-ON-WARNING

Mr. FINDLEY. Thank you, Mr. Chairman.

Mr. Vest, I would like to refer to a controversial footnote that is appended to the speech by Secretary Kissinger of February 3.¹ I am sure you are familiar with it. The speech was actually delivered in San Francisco and the footnote indicated that neither the Soviet Union nor the United States would allow its missile silos to be destroyed, rather, we would launch our missiles before they were actually hit on indication of radar warning alone.

¹ Speech delivered before the Commonwealth Club of San Francisco and the World Affairs Council of Northern California, entitled, "The Permanent Challenge of Peace: United States Policy Toward the Soviet Union."

It strikes me as very distressing that a responsible American official would give credence to such a policy. I know how things develop in the executive branch. I think it is quite possible the Secretary was not even aware of the footnote when he began to present his speech. Perhaps that is one possible explanation.

In the past we have always emphasized the necessity of relatively invulnerable second strike forces as a way of avoiding such an awful choice as having to rely on radar screen warning, and I am sure none of us want a situation in which we have only 10 minutes in which to evaluate ambiguous technical radar indications and on that basis make the most momentous decision that mankind could ever make.

MEANING OF THE FOOTNOTE

I go to this length because despite the fact that this footnote was deleted from the text later distributed, it was referred to a month later in the Wall Street Journal which quoted Dr. Kissinger on this very point as well as quoting an unidentified State Department official to the effect that the likely American response to a Soviet attack will be "instant and full retaliation if American radar spotted Russian warheads on the way."

So I have a couple of questions in regard to this.

Has our strategic policy changed so as to embrace a launch on warning contingency?

Mr. VEST. Shall I answer these seriatim?

Mr. FINDLEY. If you would like.

Mr. VEST. I would invite either of the other two gentlemen to join me.

Mr. FINDLEY. I think it is a welcome opportunity to clear the air.

Mr. VEST. Yes, sir. There is no change in our fundamental strategic

Mr. FINDLEY. I think it is a welcome opportunity to clear the air. policy whatsoever, and the decision is left and the capacity rests with the President to do what is necessary.

Mr. FINDLEY. Have you read the text of the footnote?

Mr. VEST. I see the text here in front of me.

[Text of footnote follows:]

To be sure, there exist scenarios in planning papers which seek to demonstrate how one side could use its strategic forces and how in some presumed circumstance it would prevail. But these confuse what a technician can calculate with what a responsible statesman can decide. They are invariably based on assumptions such as that one side would permit its missile silos to be destroyed without launching its missiles before they are actually hit—on which no aggressor would rely where forces such as those possessed by either the U.S. or the U.S.S.R now and in the years ahead are involved.

FOOTNOTE NOT VIEWED AS DEMONSTRATION OF POLICY

Mr. FINDLEY. Does the executive branch stand by that as an explanation of our policy?

Mr. VEST. The text as I read it, is about planning, a description of the kind of thing that can exist in planning papers only. This is my interpretation of what this was. This is not a demonstration of our agreed policy. This is merely thinking for illustrative purposes at the planning level.

There is no change in our fundamental commitment to maintain a force which will survive in a Soviet first strike or be available at the will of the President in the case of alert.

Mr. FINDLEY. Can you tell us why it was removed from copies later distributed?

Mr. VEST. Mr. Findley, I am sorry, I do not know. I will see if I can find out. I do not know the origin of the footnote nor anything about its subsequent treatment, but it certainly does not bear on or alter our fundamental strategy, which has not changed.

[The following was subsequently submitted for the record by Mr. Vest:]

**EXPLANATION CONCERNING SUBSEQUENT REMOVAL OF FOOTNOTE
IN KISSINGER SPEECH OF FEBRUARY 3**

The footnote in question has consistently been printed in all of the Department of State's editions of Secretary Kissinger's speech; that is, in the Department's press office release, the Public Affairs release, and the February 23, 1976 issue of the Department of State *Bulletin*. Secretary Kissinger may not have spoken the words in the particular footnote during the actual delivery because he often drops portions of prepared speeches due to a shortage of time. However, the Department of State always stands by the complete prepared printed version of his statement and does so again in this case.

The footnote simply notes possible scenarios in planning papers and the uncertainties which any responsible statesman and would-be-aggressor would have to take into account. This section of the speech emphasizes the need for restraint in strategic arms competition and does not imply any shift in policy or a move toward launch-on-warning.

Mr. FINDLEY. Your explanation of why it was listed there reminds me of Barry Goldwater's difficulty back in his campaign of 1964 in which he was accused of proposing the defoliation of North Vietnam. He later tried to insist all he was doing was quoting some Defense official as listing that as one option that might be undertaken. For our Secretary of State to now list this as a serious possibility in an important speech before a prestigious audience strikes me as being very dangerous.

POLICY DESCRIBED IN POSTURE STATEMENT

Mr. VEST. I understand your question, sir.

Mr. IKLE. Mr. Findley, I think it is clear.

I think our policy on this issue is well described in the Defense Department posture statement of this year which it says it has been and continues to be the policy of the Defense Department to design strategic offensive systems in such a way that they can either ride out an attack before being launched, or if launched on warning, can be reliably recalled, as in the case of U.S. bombers.

Mr. BINGHAM. What was the last part of your sentence?

Mr. IKLE. If launched on warning, can be reliably recalled, as in the case of U.S. alert bombers.

Mr. BINGHAM. As the case?

Mr. IKLE. This is a misprint. As in the case of U.S. alert bombers.

**FREEDOM TO USE SEA-BASED MISSILES TO BE FACILITATED BY SALT
AGREEMENT**

This has long been the policy, and it is for this reason that we develop our strategic arms control agreements in the way we do, with the idea of having the freedom to use sea-based missiles. This trend has already been encouraged and followed in the SALT I agreement. It is likely to be further facilitated by a SALT II agreement which is based on Vladivostok. It is something that takes place over a period of time and the vulnerability of land-based missiles is not absolute in any period of time but may gradually increase.

I do not know the history of why this footnote was there and disappeared again. What may have brought about this theme and other discussions on this subject is a prediction of the problems Soviet strategic planners would face, not changes that we want to make or have made on our side, namely, that a Soviet planner planning for a disarming first strike would have to ask himself what he could rely on and to what extent he could rely on our missiles not being launched as an attack takes place. To the extent that these missiles have a capability of being launched fast, as they ordinarily do, he would then realize this enormously complicates the planning of his attack. He would have to consider not only simultaneity but also the impact of the warning that his attack might give. So it is really psychology on the other side that this discussion was addressed to.

A VERY DANGEROUS TREND

Mr. FINDLEY. Well, from that I would conclude that our Secretary of State wanted the Soviets to feel that that is a real policy possibility in response to what might be an accidental firing, might be a misadventure of some kind that is not really authorized by highest authority in the Soviet Union?

Mr. IKLE. I think it would be a very, very dangerous trend which would undermine and undo what we try to accomplish in strategic arms talks, if there is increased emphasis on the idea of launch-on-warning. As the DOD posture statement I have just read points out, our policy goes in the opposite direction.

Mr. FINDLEY. Are fixed-based missiles so vulnerable today that there is the need for us to raise this policy option?

Mr. IKLE. Well, there is no intention of raising this policy option. We do have alert forces. Maybe Dr. Wade would want to comment further on this. The fact that forces can be launched rapidly does complicate the planning of the surprise attack and, therefore, helps deterrence. At the same time, we must bend every effort to prevent any sources of the accidental outbreak of war among the various sources. An accidental outbreak of war, unchecked by launch-on-warning, probably would be the most dangerous.

Mr. ZABLOCKI. Mr. Ottinger.

CONTINGENCIES FOR LAUNCH ON WARNING?

Mr. OTTINGER. It is not clear from the posture statement, it does not use the plan as an example. Are there contingencies under which

we would in our present planning launch on warning other than a recallable plane? Do you want to answer this in open session?

Mr. IKLE. I think we should not improvise to answer your question beyond this carefully worked out statement in the Defense posture statement. Perhaps Dr. Wade would like to answer.

Mr. OTTINGER. I will have to go up and vote, Mr. Chairman.

Mr. ZABLOCKI. While my colleagues are returning perhaps I might continue on another statement of Secretary of State Kissinger. Mr. Vest may be able to shed some light on it. That was his statement on the participation of Soviet and particularly Cuban expeditionary forces in other parts of the world. In effect, he said our country will not stand by idly permitting this to continue.

Can you say to what extent would our country be involved and what he had in mind? Are we going to use nuclear weapons? How are we going to stop them?

Mr. VEST. I am very sorry, I do not think I can enlarge upon what he himself has chosen to say.

Mr. ZABLOCKI. You are familiar with it?

Mr. VEST. Yes; I understand from his speech and the questions that have been addressed to him since that time, but I will have to leave him where he is.

CIRCUMSTANCES UNKNOWN AT PRESENT TIME

Mr. ZABLOCKI. Can you shed any light on the answers he gave to the questions that were asked of him since that time?

Mr. VEST. He has taken the position that you would have to be aware of the circumstances before you could make hypothetical and firm predictions as to exactly what steps you would take. We are not in position to say what those circumstances are at the present time. It is not an unprecedented thing in history. In fact, you could go all the way back if you want to the Monroe Doctrine, there are many times when you issue warnings and state attitudes on policy without stating what you might necessarily do if your perceptions of the world are ignored by other people.

I am sorry, I really do not have anything. Mr. Zablocki, I think I could add to that in this area.

Mr. ZABLOCKI. Mr. Vest, would you at least answer what areas of the world he was referring to?

Mr. VEST. I would have to inquire, sir.

Mr. ZABLOCKI. There was no conversation since or prior to his statement, in the Department?

Mr. VEST. No specifics that I am aware of, sir. The conditions are dependent upon the activities of other parties themselves and what do they do and where they manifest themselves.

Mr. ZABLOCKI. Mr. Bingham.

STATEMENT DEEMED "AT ODDS" WITH DEFENSE SUPPORT FOR NEW WEAPONS

Mr. BINGHAM. Thank you, Mr. Chairman. I am sorry I was late. I have not had a chance to catch up with all the statements. I would like to ask one question of Mr. Wade, Dr. Wade.

You state on page 3 of your prepared statement, Dr. Wade:

The nuclear forces of both superpowers are today so extensive and elements as a whole sufficiently survivable that neither side for the foreseeable future could hope to be able to achieve the capability of being able to eliminate the retaliatory capability of the other.

My question is this. This statement, in which I concur, seems to me to be at odds with the kind of statements that one frequently hears from the Defense Department in support of proposals for additional weapons systems, new generations of weapon systems, and so forth, that are based on the projection that our deterrent will not be sufficient, our survivability will not be clear.

ONGOING PROGRAMS LISTED

Mr. WADE. The statement is based on the strong conviction that the American people were and are willing to spend the necessary resources to maintain the condition that our deterrent forces are not going to be placed at risk. The programs that we have currently underway, in R. & D., are namely, the Trident program—the follow-on to the Polaris/Poseidon SLBM force, the B-1 program, which will replace the aging B-52 force, the MX ICBM program now under R. & D., which is an option to augment and/or to replace the current fixed silo ICBM force which is becoming vulnerable. These forces will be deployed in a timely way. This statement is sound. The American people are going to see that these necessary programs are deployed and that our deterrent forces should remain effective, as so stated.

If you note the programs underway in the Soviet Union, namely, their heavy investment in ICBM's, SLBM's, and follow-on bombers that they certainly are strongly interested in maintaining their relative posture and even improving their posture vis-a-vis the United States. You might question the fact whether they are really interested in changing the relative balance between us. It is our job to see that does not happen to our disadvantage. Does that answer your question?

Mr. BINGHAM. No, it does not. Your statement in your prepared statement is that, as I understand it, neither side for the foreseeable future is going to be able to achieve the capability of eliminating the retaliatory capability of the other.

That being the case, why do we need all these additional forces that you just described, which simply add to what is already sufficient for that retaliatory capability?

CONFUSION OVER DOD STATEMENT

Mr. WADE. That is not what the statement says. What it says is that these forces are going to remain survivable and effective as long as we continue to do the necessary R. & D. and deploy the necessary follow-on weapon systems that we have underway at this time. The statement is based on an expected prudent behavior by the United States in assessing what the risk is, and being able to respond to the risk. I believe that this kind of action will take place.

Mr. BINGHAM. You are reading something into the statement made in your prepared text that I do not see there. That says the forces are today so extensive and elements as a whole are sufficiently survivable that neither side for the foreseeable future should be able to

achieve the capability of eliminating the retaliatory capability, and now you are saying in answer to my question that this is only true only if we continue to develop new weapons systems.

Mr. WADE. That is correct.

TECHNOLOGY MUST PROCEED

Mr. VEST. I feel rather obligated to say something because I have almost the same statement without consultation, I might say as Dr. Wade. But I think it is our considered judgment, given all the experts we talk to and the studies we make, that we are at that level of parity at the present time; that weapons, if you will, are merely the same as the other fields of technology. The technologies are evolving and we have to try to do what we can to keep an eye on what they are doing and not let them get out of step.

The SALT negotiation is a parallel example. If there are areas where we can agree not to go launching off into new and expensive directions, fine; we can then prudently forswear certain activities, but otherwise we have to proceed with the technology in armaments the same as we do with automobiles. There are new metals and new developments which have to be taken into account, and I have the same statement in my paper as well.

Mr. BINGHAM. Part of the difficulty here is that what I think we are concerned about, those of us who are concerned with the problem, is that while we keep insisting that we are not trying to develop a first strike capability in a sense which that is a first strike to the extent of disarming the opposition, we seem to be at least talking about development of weapons, counterforce weapons and the like. It would at least make the policy clear that by development of such counterforce weapons, for example, we are not attempting to achieve that kind of preemptive first strike capability because it is our policy that we are not going to engage in this kind of first strike.

POLICY DOES NOT INCLUDE FIRST STRIKE CAPABILITY

Mr. VEST. Well, I opened my big mouth and got into this. I think you have to face the fact that in our world you have a large number of people engaged in government. Now, there is one portion of our Government, the President, his executive agents and what not, who set the policy, and who have made it very clear, and various statements have already spelled this out, that we recognize it will be destabilizing if we should ever reach the stage where we have a clearcut first strike capability, and that is not our policy. The President has said so, and his senior executive officers have said so.

I think this is a perfectly fair and recognized policy. Dr. Ikle's statement particularly traced the evolution of it. At the same time, there is another world here in Washington, if you want, technicians, whose job is to think up all of the nasty and thinkable possibilities, to look at what is happening in other portions of the world, and to consider what we need to do in countering the evolutionary problems in the world, and we have to recall that all programs operate over a long leadtime. If you are going to talk evolution now, it is in anticipation of a problem we are going to have 10 years hence.

RESOLUTION UNNEEDED: POLICY CLEAR ENOUGH

So I understand the dilemma we seem to create. We talk about this weapon system, that weapon system. We talk about evolution and dealing with the future. Today we have to be able to gradually find the essential things to pursue in Government policy, but there is no question about our fundamental policy as stated by the President and his executive officers. Our view has been that it is clear enough and unmistakable enough that it does not need a resolution. The President and his officers have made it very clear, and our conduct, and what we have built over the years has been such as to create a force which provides the balance that we are talking about today.

If anything, we are attacked from time to time for not having a force that is keeping up and is adequate.

We have always, sir, to look for that balance, to look today for what we need to plan for 10 years hence, and not to prejudice our freedom of choice in weaponry, but also not to unbalance the strategy and policy which is clearly enunciated by the President and the Secretary of State.

Perhaps I have not answered the question but it is a try.

ARCANE DISTINCTIONS SEEN IN "FIRST STRIKE" AREA

MR. IKLE. I would like to make an observation which was in my full statement but not in the oral summary statement. We are reluctant to have to introduce one more distinction when there are all too many abstract and arcane distinctions in the area of "first strike." However, the suggestion of a capability that would disarm our principal adversary, the Soviet Union, of its retaliatory capability or threatened such a capability, might lead to an acceleration of the arms effort of the Soviet Union, hence, stimulating the arms competition. This is the concept we have referred to as a "disarming first strike capability." This involves, of course, a capability going against the strategic forces, in a sense, a counterforce. Strategic forces can legitimately serve to destroy military targets or assets. In that sense, the strategic forces would be counterforce. Indeed, in order to make deterrence more credible, and hence more effective, it seems important that strategic forces can threaten military assets without, however, going to the extent of threatening a disarming strike.

Now, your resolution as worded, fails to distinguish between disarming first strike capability and other kinds of capabilities against military forces. It might be read as condemning without distinguishing all strategic capability for attacking military targets. That is one more reason why we opposed the resolution in this form.

MR. BINGHAM. That would be a very easy change to make, Dr. Ikle. I said that would be a very easy change to make in the text of the resolution to meet your point and I would see no particular objection to it.

OPPOSITION TO RESOLUTION REMAINS DESPITE AMENDMENT

If that change were made would you still be opposed to the resolution?

Mr. IKLE. I think we would still have some difficulties with the word "renounce" because it implies that until now we have not had the policy of disarming first strike. As Mr. Vest just explained, we have not had such a policy. Renounce means giving up.

The last point, which is not a criticism, is that since the resolution mentions the idea of negotiating with the Soviet Union on this subject, I have the obligation to point out that in our strategic arms limitation talks, as well as in other contexts, it has been extremely difficult, if not impossible, to elicit a Soviet position on this matter. Our analysts, who combed through Soviet official or semiofficial writings on strategic issues—and many Soviet writings are probably semiofficial if not official—have found no evidence of Soviet strategic thinkers or analysts embracing the same attitude we have expressed against a disarming first-strike capability. Indeed, to the extent that these writings, which are often obscure and loaded with a lot of ideological expressions, convey any thrust, it is rather in the opposite direction, indicating that Soviet military analysts and writers favor a war fighting capability, including aspirations toward a capability so that their adversary, that is our side, could be disarmed.

NO CLEAR EXPRESSIONS FOUND THAT SOVIETS SHARE UNITED STATES -
STRATEGIC VIEWS

Mr. BINGHAM. I realize that unfortunately, you are not one of our representatives at the SALT talks, but in the discussions that have been held in the SALT talks, and also in other semiofficial conversations, such as the so-called Pugwash conversations, has there been any indication of a Soviet policy in that direction?

Mr. IKLE. There have been indications, particularly in meetings among scientists such as the Pugwash conference, that Soviet experts, particularly experts who focus on events in this country, fairly well understand our thinking. To that extent it is probably all to the good and they do not fear unnecessarily that we are driving toward a first strike disarmament capability.

To repeat myself, there have been no clear expressions in their published writings or in these meetings among scientists that they share our strategic views to the effect that it is to maintain stability by avoiding a disarming capability.

Mr. OTTINGER. Would you yield on that point?

Mr. BINGHAM. Yes.

MOBILE LAND-BASED MISSILE OFFER WITHDRAWN?

Mr. OTTINGER. We read in the newspapers, and I wonder whether it is true, at one point we offered the Russians in the SALT negotiations to eliminate mobile land-based missiles which have a destabilizing potential. They accepted this and then we withdrew the offer. How is that consistent with what you've said?

Mr. IKLE. In the first SALT I negotiations, we took the position there should not be land-based mobile missiles. We did not reach an agreement with the Soviet Union on this position, and therefore, we left our position as a unilateral statement, saying, in essence, that we

would consider the deployment of land-based missiles inconsistent with the SALT I agreement.

I do not have the exact quote here.

That, of course, was in the context of the period extending from 1972 to 1977, a period when the vulnerability of our land-based missile force was envisioned as being within tolerable limits. During this period the Minuteman force is an important element in our stable deterrence force.

Now, in SALT II we have to look ahead to at least 1985. We, therefore, have to consider future threats, and it stands to reason that we have to evaluate the desirability of banning mobile land-based intercontinental missiles against an alternative way of handling them in the SALT II agreement, namely, limiting them under the Vladivostok aggregates.

It is not correct to say that in the SALT II negotiations we have made the proposal in one direction and then have withdrawn it. We are examining this question. The so-called MX program to which Dr. Wade referred, has the possibility for mobile missiles.

ADDITIONAL INSIGHT INTO LAUNCH ON WARNING CONCEPT

Mr. ZABLOCKI. Mr. Lagomarsino.

Mr. LAGOMARSINO. Dr. Ikle, when you were discussing "launch on warning" provision, in response to the question by Congressman Findley, did I understand you to say that what we were talking about was a situation where there would be a launch on warning only if there were a recall of the missile possibility?

Mr. IKLE. Well, I quoted from the Defense Department posture statement which reflects the official position of the Defense Department. The posture statement makes it clear that strategic offensive systems ought to be designed in such a way that they can either ride out an attack before being launched, or if launched on warning, bombers with appropriate provisions can be reliably recalled. This explains a thrust that the Defense Department has been following all along, a thrust and design of the strategic offensive forces, which, incidentally, ties in with the question of mobile missiles.

Mr. LAGOMARSINO. And that has been, as I understand it, our policy all along with regard to bombers, at any rate, has it not?

FAIL-SAFE SYSTEM

Mr. IKLE. Bombers have the advantage that with proper provisions they can be recalled.

Mr. LAGOMARSINO. Has it not been our policy that when there is that kind of an alert that bombers are launched, but not sent to their target. Is that not correct?

Mr. IKLE. That relates to the so-called fail-safe system.

Mr. LAGOMARSINO. Dr. Wade or Dr. Ikle, Lawrence Martin recently wrote "Weapons are outstripping the capacity of men to use them to their full potential effect" and that "commanders may well have more information than they can digest." And he went on to add that in a future European conflict, for example, the fighting may be so intense that we would not have time to sort out effective operating techniques by trial and error, as has been done in past wars.

THRESHOLD RAISED WHEN IMPROVING CONVENTIONAL CAPABILITY

Would you comment on that—either or both of you?

Mr. WADE. That is a personal judgment by Mr. Martin. The key point is that if our policy is one of improving the conventional capability of the forces we have in Europe, then the threshold point is continually being raised as to when the decision would have to be made. This is policy; we are continually striving to improve our conventional capability. Also, in addition, through our command and control capability, such that the decision, if it ever has to be made, can be the correct one. It is a tough job, and we are continually working at it.

Mr. LAGOMARSINO. Dr. Wade—and this has been referred to somewhat—the importance of precision-guided weaponry is becoming increasingly more apparent. I think we would all agree to that.

How successful have we been in integrating these weapons into our existing posture?

Mr. WADE. We have been very successful. As you are quite aware, our deployed technology is improving all the time. We have currently large precision guidance programs underway, both under R. & D., and in deployment.

It is my judgment that the resulting effectiveness of these new weapons systems can have a dramatic impact on the battlefield in Europe and can if done right, raise the nuclear threshold. This will make our conventional defense all the more effective.

FURTHER CLARIFICATION OF LOW-YIELD WEAPONS

Mr. LAGOMARSINO. One thing that we have been talking about here is “low-yield” nuclear weapons. Could anybody describe for me what a low-yield nuclear weapon is?

Mr. WADE. Well, in part that is in the eye of the beholder.

Mr. IKLE. In my prepared statement, I made reference to the fact that these low-yield weapons erase the boundary line with conventional and nuclear weapons.

There have been writings on using the word “mini-nukes” and the idea there referred to nuclear weapons of such a low yield that they would in their effects not be immediately distinguishable from conventional weapons. That is to say, the explosive power would be about the same as the explosive power of a conventional weapon. Of course, being a nuclear weapon, presumably it would be much lighter and smaller. One of the consequences of such weapon could be that they would indeed blur the firebreak between conventional and nuclear weapons, and therefore, we have an official U.S. policy statement which is not aimed in the direction in which we want to move.

Mr. LAGOMARSINO. On the other hand, Dr. Ikle, or Dr. Wade, might not precision weapons with low collateral damage possibilities, whether you call them mini-nukes or low-yield weapons, or what have you, might not that help to alleviate what I think is a justifiable German concern about a conventional conflict in Europe and will this not be an important consideration inasmuch as fear has in the past led to excessive reliance on tripwires and the American deterrent rather than adequate conventional preparation?

CONVENTIONAL NUCLEAR ARMS AS SUBSTITUTE

Mr. IKLE. Highly accurate conventional arms can destroy targets. Before such accuracy was available they could only be destroyed with either very massive conventional bombardment or a nuclear weapon. Thus, for the purpose of destroying these targets, it becomes possible to substitute conventional nuclear arms, hence, reducing the military requirement for nuclear arms for these particular targets.

Mr. LAGOMARSINO. Now, this, I guess, could be answered by all of you. In fact, I would ask that all of you do answer it.

Do any of you believe that a tactical cruise missile could help shore up our European defense posture and perhaps eventually replace large parts of what at least some people would argue would be our more vulnerable existing tactical nuclear systems?

ROLE OF CRUISE MISSILE IN CONVENTIONAL CAPABILITY

Dr. IKLE. Tactical, I suppose, could be used to substitute for other delivery systems. Whether it would be less vulnerable would very much depend on design and on the way it is based. Ballistic missiles, such as a Pershing, have more definite penetration capability perhaps than future cruise missiles might, but there is a considerable uncertainty as to the extent to which our defenses would be effective against modern cruise missiles.

An important thought about nonstrategic cruise missiles is that they may be accurate enough to deliver conventional warheads against military targets with great effect, and thus, can play a role in improving the conventional capability.

Mr. WADE. I think one point also, adding to what Dr. Ikle stated, that is the possibility of using tactical cruise missiles and replacing manned aircraft on a specific mission with the air defense can be very, very heavy and the payoff here would be very high, that is, the application of cruise missiles which are very, very accurate with a conventional warhead in the front end, and here the payoff can be very high. So I think we have a lot in front of us as far as the importance of the application of cruise missiles in the field of battle.

Mr. VEST. I do not think I need to add anything to it except we are dealing with the beginning of a new weapon system, and there are a lot of questions. One of the tragedies of life is just when we think we have something we find they have something within 2 or 3 years.

Mr. LAGOMARSINO. I imagine the people who invented the spear felt the same way, about the bow and arrow.

Dr. Wade, have we done enough to make our theater nuclear forces to other targets in Europe less vulnerable to preemptive attack by the Soviets?

Mr. WADE. We can certainly improve upon what we have done in the past. That is underway now, and is a continuing process.

EFFECT OF NUCLEAR RENUNCIATION ON SOVIETS

Mr. LAGOMARSINO. If we were to adopt a resolution renouncing first use is there any reason to believe that the Russians would believe us?

In other words, if we were to say we will not be the first ones to use nuclear weapons, would there be any reason at all for the Russians to believe that we would not?

Mr. IKLE. That is a question that is very much at the heart of what we have been discussing here—that, such resolution or announcement, can be inhibiting or restraining only to a very limited extent. If you think of an actual large-scale warfare, historic experience indicates many agreements break down and international commitments do not survive the conflict in many cases.

Now, a general trend of reducing reliance on first use has taken place over the last 20 years. This is, of course, a reflection of what we try to do with conventional forces, emphasizing the second strike capability-survivability—which Dr. Wade addressed of our nuclear forces, that is, the doctrine of flexible response. There can be some realities, particularly in the gradual shift and in the monetary shift toward increasing reliance on conventional defenses.

NEED FOR HIGHER PRIORITY ON CAPABILITIES OF FORCES

Mr. LAGOMARSINO. In other words, one of two things would be true, either they would believe us or they would not, and either one of those could have bad effects, correct?

Mr. WADE. That is right. I think the important point is that we cannot put ourselves inside the Russian mind. Yet both sides put higher priority on what the capabilities of the forces are rather than what they are intended for.

Mr. SOLARZ. Dr. Ikle, perhaps you or one of the other witnesses can tell us what is the closest we ever come to actually launching a nuclear strike after the last bomb was dropped on Nagasaki? Or if you would prefer to save that until an executive session.

Mr. IKLE. Well, I am not sure I would be able to give you a good answer in either executive or open session. It is a question that would require very careful and historical research and understanding as what the most senior officials were contemplating. One episode that comes to mind, which is now almost forgotten, except by specialists in periods of history, occurred in 1950 when the question of whether nuclear weapons might be used, came up during first few weeks or months of the Korean War. There was a short episode when British Prime Minister Attlee came to Washington, allegedly believing that President Truman was about to make the decision to use nuclear weapons. The statements were made. Now, what actually was the case may not even be ascertainable in the archives. Precisely how close our thinking was or what President Truman expressed in a press conference at that time is not known. We can insert that for the record if you want to.

Mr. SOLARZ. Would it be possible for you subsequently to submit for the record a response to that question?

Mr. IKLE. We would be pleased to do that. It is an interesting episode.

Mr. SOLARZ. I think it would be helpful. And if you could possibly do it in the relatively near future that would be appreciated as well.

[Dr. Ikle submitted the following excerpts from the public record which more fully describe the 1950 incident to which he referred:]

EXCERPTS FROM THE PUBLIC RECORD DESCRIBING 1950 OCCURRENCE REGARDING
POSSIBLE USE OF NUCLEAR WEAPONS

NEWS CONFERENCE REMARKS BY PRESIDENT TRUMAN (EXCERPTS),
NOVEMBER 30, 1950¹

The PRESIDENT. We will take whatever steps are necessary to meet the military situation, just as we always have.

(12.) *Question.* Will that include the atomic bomb?

The PRESIDENT. That includes every weapon that we have.

Question. Mr. President, you said "every weapon that we have." Does that mean that there is active consideration of the use of the atomic bomb?

The PRESIDENT. There has always been active consideration of its use. I don't want to see it used. It is a terrible weapon, and it should not be used on innocent men, women, and children who have nothing whatever to do with this military aggression. That happens when it is used.

* * * * *
(14.) *Question.* Mr. President, I wonder if we could retrace that reference to the atom bomb? Did we understand you clearly that the use of the atomic bomb is under active consideration?

The PRESIDENT. Always has been. It is one of our weapons.

Question. Does that mean, Mr. President, use against military objectives, or civilian . . .

The PRESIDENT. It's a matter that the military people will have to decide, I'm not a military authority that passes on those things.

Question. Mr. President, perhaps it would be better if we are allowed to quote your remarks on that directly?

The PRESIDENT. I don't think . . . I don't think that is necessary.

Question. Mr. President, you said this depends on United Nations action. Does that mean that we wouldn't use the atomic bomb except on a United Nations authorization?

The PRESIDENT. No, it doesn't mean that at all. The action against Communist China depends on the action of the United Nations. The military commander in the field will have charge of the use of the weapons, as he always has.

WHITE HOUSE STATEMENT, NOVEMBER 30, 1950²

Later the same day the White House issued the following press release:

The President wants to make it certain that there is no misinterpretation of his answers to questions at his press conference today about the use of the atom bomb. Naturally, there has been consideration of this subject since the outbreak of the hostilities in Korea, just as there is consideration of the use of all military weapons whenever our forces are in combat.

Consideration of the use of any weapon is always implicit in the very possession of that weapon.

However, it should be emphasized, that, by law, only the President can authorize the use of the atom bomb, and no such authorization has been given. If and when such authorization should be given, the military commander in the field would have charge of the tactical delivery of the weapon.

In brief, the replies to the question at today's press conference do not represent any change in this situation.

ANGLO-AMERICAN COMMUNIQUE ON TRUMAN-ATTLEE TALKS (EXCERPT),
DECEMBER 8, 1950³

The President stated that it was his hope that world conditions would never call for the use of the atomic bomb. The President told the Prime Minister that

¹ Public Papers of the Presidents: Harry S. Truman, 1950, p. 727.

² Public Papers of the Presidents: Harry S. Truman, 1950, p. 727, n. 3.

³ Public Papers of the Presidents: Harry S. Truman, 1950, p. 740.

It was also his desire to keep the Prime Minister at all times informed of developments which might bring about a change in the situation.

Mr. SOLARZ. Could you possibly estimate for us, say, on a scale of 1 to 100, if it is possible to do so, what the probability is that we might accidentally launch a nuclear attack? By accidentally, I mean one that had not been authorized by the President or in his absence his constitutional successor.

Mr. IKLE. The answer to that question, I think, very definitely has to be, no.

Mr. SOLARZ. Zero?

ACCIDENTAL NUCLEAR ATTACK CONSIDERED EXTREMELY UNLIKELY

Mr. IKLE. No. I cannot answer it. Nobody can.

I do not want to digress too much here on questions of statistics and philosophy, but it is, of course, an extremely unlikely event, and all our efforts have to be bent in the direction of making it even more unlikely. It is impossible, however, to give a statistical estimate because you are talking about an event that has never happened, hence, there are no past observations which would give us some statistics. Second—and this is very important—you are talking about a possible chain of events that you cannot properly anticipate because if you could anticipate them somebody would immediately rush to change the situation and fix the shortcoming. You have a lingering concern about shortcomings that you have not thought about but you cannot guess the probability.

Mr. SOLARZ. Fair enough.

Could you possibly tell us what the reaction of Pakistan has been to the development of nuclear capacity on the part of India?

Mr. IKLE. I think it well illustrates the interaction of the development of an indigenous nuclear explosive capability in one country with the steps that will be taken by its neighbors.

PAKISTANI MOVE TOWARD NUCLEAR CAPABILITY

Mr. SOLARZ. What have the Pakistanis done?

Mr. IKLE. There is no public statement by the Government of Pakistan as to what they precisely have done but the Government of Pakistan has expressed great concern, of course, about the explosions in India to the U.N. and in the Conference of the Committee on Disarmament. The question that troubles us as well and any other countries, is our concern about nuclear proliferation as to what extent a move toward a nuclear explosive capability or nuclear weapons capability in one country will stimulate another country to acquire technology that could be used for manufacturing.

Mr. SOLARZ. Does Pakistan have the capacity at this point to manufacture its own nuclear weapons—the technological capacity and scientific capacity to do that?

Mr. IKLE. It is difficult to give a flat assessment of the technology and scientific capability in Pakistan. They have, of course, very competent scientists. There is a small Canadian reactor. There is spent fuel from the reactor. The spent fuel does contain plutonium, but it is not separated. More recently, however, there has been great interest

on the part of Pakistan in acquiring a separation capability, which from our analysis, is not justified on economic grounds and Pakistan does not have the reactor to produce plutonium.

Mr. SOLARZ. We are not sure whether they have the capacity at the moment?

Mr. IKLE. Now, if Pakistan does have an operating capability, a processing plant to reprocess the fuel from, say, the reactor they have or other reactors, then they could have plutonium in a form that could be more easily manufactured into nuclear weapons.

U.S. ATTEMPTS TO DISCOURAGE NUCLEAR EVOLUTION

Mr. SOLARZ. Well—

Mr. IKLE. Therefore, this is a very, very critical step and we have made major efforts to discourage such acquisition. Mr. Vest can reply on this.

Mr. SOLARZ. I must say I am at a loss to understand what the answer to the question was. Perhaps Mr. Vest, who was nodding in both directions during your reply, can enlighten me further.

Do we have any indication that they have the capacity?

Mr. VEST. Maybe the worst illustration you can give is that I nodded in both ways, as you said.

I think the answer lies, first—your question was do they have the capacity now, and I am by no means the technician or expert in this field that Dr. Ikle is. I think if you limited it to this time the answer would be, no.

What is implicit, however, in the nod that I gave is the concern as to where they might go, as opposed to where they are today.

Mr. SOLARZ. Is it our judgment that they are attempting to move in the direction of acquiring the capacity so in point of fact they can manufacture nuclear weapons?

Mr. VEST. They have expressed an interest in making purchases that would put them in a position to do so if they chose to, and it is in that context, as Dr. Ikle said, that we have attempted to the best of our ability, to discourage such an evolution.

QUESTIONS POSED REGARDING SECOND STRIKE DAMAGE

Mr. SOLARZ. I would like to ask a question about the second strike probability.

It has been your collective judgments that both the Soviets and ourselves have a sufficiently effective second strike capacity to serve as deterrent against aggression. Could you tell us how much damage our second strike would have to be able to inflict on the Soviet Union in order, in our judgment, to constitute an effective deterrent with respect to the Soviets?

Second, in that regard, could you tell us how much of a second strike damage we think we are in position to inflict on the Russians? And then, could you reverse that and apply that to us? Do you know how much second strike damage they could do to the United States and how much they feel they have to have in order to have a credible deterrent vis-a-vis the United States?

Mr. ZABLOCKI. I hope you can do it in a minute and a half because we would like to reserve the 5 minutes for our guests.

Mr. IKLE. We have to consider how much the expected damage would deter. You have to make the observation that in World War II there were very large casualties. On the other hand, this was obviously not an attack by the Soviet Union but rather by Nazi Germany, so this is not too relevant. Clearly, however, the Soviet Union survived and is now stronger despite that damage.

Briefly, in part it depends on the threat, the need felt, or the alternative consequences that the leaders have to contemplate.

If they were faced with the horrible decision as to whether or not to attack first, it is very much dependent on the alternatives.

Mr. SOLARZ. How much second strike damage could we inflict on them, assuming that they launched a successful first strike?

Mr. IKLE. This varies greatly on the extent to which a first strike was successful in reducing our nuclear arsenal and the coordination of command and control.

Mr. SOLARZ. Under the worst circumstances, the most effective first strike, I am sure we move—

Mr. IKLE. There are a good many calculations with definitions. Dr. Wade may want to elaborate further.

Now we do have a clear second strike capability, that is to say, the damage that could be inflicted against military and industrial targets would be enormous.

Mr. SOLARZ. I would like to know.

Mr. WADE. We could provide it for the record. The scenario depends on the weapon system you are talking about.

Mr. SOLARZ. Could you with respect to different scenarios, respond in terms of the most effective first strike that they conceivably could launch and then move it on from there. But particularly I would like to know that one.

Mr. WADE. I would like to provide a detailed answer for the record. [The answer was subsequently submitted in classified form.]

Mr. IKLE. Any answer to this still depends on a great many uncertainties and an uncertainty is, of course, a deterrent.

Mr. OTTINGER. My concern is the ability to ever make these systems controllable, to foresee a situation in which limited nuclear war would be engaged in that would not go to full destruction.

I am disturbed about your statement, Dr. Ikle. I think we concede nuclear weapons can be a deterrent but if deterrent does not work we are assuring the destruction.

QUESTION REGARDING IRRATIONAL PRESIDENT DEFERRED

Just to explore a little bit the ways I think you cannot control these forces—I did not know how much you can put on the record or not. Have we protected ourselves against the situation which my friend Mr. Solarz, postulated, where if indeed, only the President has the authority there would be a surgical strike against the President, where the President became incompetent, sick, or as in the case of President Nixon, he might speculate that he could with the touch of his finger destroy the world, deciding things were so rough for him the only way he could survive in office would be to start a war.

Do we have any protection against an irrational President or against an attack on the President and his successors?

Mr. WADE. I would rather defer that question.

Mr. OTTINGER. How many situations have there been in which there have been serious communication failures, can you describe them for us, Dr. Ikle, with respect to the communication systems which protect the use of weapons?

Mr. WADE. Mr. Ottinger, we have many redundant sensors. I would like to provide an answer for the record. That is the kind of question that takes some time to properly answer.

[The following was subsequently submitted for the record:]

SITUATIONS INVOLVING FAILURES IN COMMUNICATIONS SYSTEMS

Redundant communications systems are used to maintain positive command and control of forces that either are equipped with or which store nuclear weapons. The focal point of control is the National Military Command System (NMCS) which consists of the National Military Command Center in the Pentagon; the Alternate National Military Command Center near Fort Ritchie, Maryland; and the National Emergency Airborne Command Post based at Andrews Air Force Base, Maryland. The National Military Command Center and the Alternate National Military Command Center are equipped with direct secure and nonsecure telephone systems and direct secure teletype circuits to the command centers of the unified and specified commands and the military services. The National Military Command Center and the Alternate National Military Command Center also have multiple communications which link them with other governmental agencies including the White House. Additionally, the Defense Communications System including AUTOVON (DOD telephone) and AUTODIN (DOD teletype) provide communications to all U.S. Forces. When airborne the National Emergency Airborne Command Post is provided secure and nonsecure telephone communications with the command centers of the unified and specified commands and the military services through ground entry points into landline systems. The airborne command post is also equipped with low frequency/very low frequency, high frequency, and ultra-high frequency radio systems for communications connectivity with command centers and forces of the unified and specified commands.

A catastrophic failure of all systems described above has not occurred and is not expected to occur barring a nuclear attack. Temporary failures of single systems have been experienced at individual command centers; however, alternate communications have always been available. If land based communications are denied in a nuclear war, the worldwide airborne command post radio net would provide serviceable communications with strategic nuclear forces.

Mr. OTTINGER. I do not know whether it was Admiral Miller or Dr. York that told us about a situation where our present warning system was activated when a cloud system passed over it.

Can you conceive of a situation where the deterrent fails in Europe, and there is a large conventional attack by the Russians. Would we make a determination, knowing the military as you do, to fire a tactical nuclear weapon at them, knowing that they have the ability to respond with either tactical or strategic weapons?

EMPLOYING A TACTICAL NUCLEAR WEAPON

Mr. WADE. What is your question?

Mr. OTTINGER. Can you conceive of our military taking that risk of firing a tactical nuclear weapon at the Russians?

Mr. WADE. The first fact is the military would not be taking the risk, the decision would be made for the American people by the President, the President would be given the necessary information as to what the situation is, and the advice of the military. The Soviets in taking on

that attack would have to know that they would be facing the possible use of nuclear weapons in a limited or general sense by the United States and its allies. That is part of the deterrent equation.

Mr. OTTINGER. Have there been any situations where the Joint Chiefs of Staff have requested nuclear weapons?

Mr. WADE. Not to my knowledge.

Mr. OTTINGER. Have any of the commanders of our major forces made this request?

Mr. WADE. Again, not to my knowledge.

Mr. OTTINGER. Would you be likely to have knowledge?

Mr. WADE. I would believe so.

CHANGE IN DEPLOYMENT OF NUCLEAR WEAPONS IN EUROPE INVOLVES CONSULTATION WITH ALLIES

Mr. OTTINGER. We have, what I gather from published figures, some 7,000 tactical nuclear weapons in Europe, including weapons in some very unstable countries. Do you think that that presents an undue risk? Would you consider it advisable to at least withdraw some or all of those from that region?

Mr. WADE. As far as the risk associated with the numbers of weapons that we have deployed overseas, any change in the deployment of our weapons would be done in consultation with our allies. As of now, I believe we all would agree that there is a satisfactory agreement between our allies as far as the deployment number is concerned. If there is a change it will be done in consultation with our allies.

As far as whether the number deployed is too much or too few, my impression is that the situation in Europe has been stable to date, and, therefore, the result of your assesment should follow from that point of view.

INITIATIVES SEEM TO BE LACKING

Mr. OTTINGER. Something is missing—I guess I will have to go to vote—from what I hear from all of you. There is a substantial risk in having major countries of the world pointing weapons, capable of inflicting total destruction, at each other. An increasing number of countries are acquiring that capability. And yet talk about initiatives to reduce that balance of terror seems to be totally lacking. We continue to rely on better delivery systems or more terrible weapons rather than on arms control and a reversal of that escalatory process; except you say we are attempting to increase our conventional forces, with which I agree.

Mr. WADE. You are familiar, for example, with the scope and direction of the SALT talks. One of the objectives of SALT is a balanced and equitable reduction in the number of strategic nuclear weapon systems both sides have.

Mr. OTTINGER. I have to go vote.

Mr. LAGOMARSINO. Would the gentleman yield? One comment with regard to the MBFR. As I recall, it was our initiative to put the question of tactical nuclear weapons into the equation. It was not from the Russians. We were the ones who offered to withdraw a part of our nuclear forces.

Mr. WADE. We made the first formal proposal which included details on nuclear weapon withdrawals.

FINAL APPEAL FOR EXECUTIVE BRANCH REPORT

Mr. ZABLOCKI. The committee will go into executive session. Before we do so, may I say it is my understanding that Chairman Morgan on November 5 of last year, and again on December 10, made a request of the Department of State for comments on the resolutions pending before us. Why are not these reports available, and if they are not at this time, how soon can we expect them?

Mr. VEST. I did not have any in my briefcase but I took notice from you and I will go back and light the fires.

Mr. ZABLOCKI. November, December, January, February, March.

Mr. VEST. Yes, sir.

Mr. ZABLOCKI. Will we get it before April 15?

Mr. VEST. I will do everything. I will report your statement that we have had them all those months and I will try to get the bureaucracy moving.

Mr. ZABLOCKI. The subcommittee will be in executive session. All guests of the committee will please vacate.

[Whereupon, at 3:15 p.m., the subcommittee proceeded into executive session.]

[The following questions were later submitted to Dr. Wade. Those questions, together with Dr. Wade's responses, follow:]

RESPONSES BY DR. WADE TO QUESTIONS SUBMITTED BY CHAIRMAN ZABLOCKI

*Question.*¹ Dr. Wade, in his testimony here last Thursday, Adm. Miller revealed the delegation of authority to use nuclear weapons to the commander of NORAD.

(a) Can you tell us why DOD decided to reveal that information?

(b) Is it correct that the authority is being revoked? If so, why and when?

(c) Can you also tell us in precise detail the circumstances and exact understandings under which the NORAD commander would ultimately exercise that delegated authority?

(d) Under what circumstances might that or a similar delegation be reinstated?

(e) Are there any other current similar delegations still in effect?

Answer. Admiral Miller was not a witness in behalf of DOD, nor was his testimony cleared by DOD.

Only the President has the authority to order the release of nuclear weapons for their use in defense of our nation. This authority derives from the Constitution and the Atomic Energy Act. There are highly sensitive operational plans and procedures for executing this release on the President's command under various emergency situations that would threaten the survival of the United States as a viable society. There are safeguards incorporated in these plans that prevent any one person in the chain-of-command from unauthorized release of nuclear weapons. Obviously, these plans and procedures as well as the safeguards that protect against unauthorized or accidental release of nuclear weapons are extremely sensitive and must be closely held by only a very few senior civilian and military officials. For that reason I am unable to be more responsive to this question in either classified or unclassified form.

Question. In reference to the effectiveness and adequacy of the Command-Control System, we have been repeatedly assured that release authority is firmly in the hands of civilian hierarchy. Yet, we learn that there has been an exception—the NORAD delegation. That suggests two questions:

¹ Reply is not only inadequate on an unclassified basis but does not respond to the question which could have been supplied on a classified basis.

(a) Relative to the execution procedures, can you tell us how often a President (and his Constitutional successors) review those procedures?

(b) Relative to the civilian hierarchy in the Department of Defense, who are those persons and what is their relationship of authority to the military hierarchy?

Answer. 3 U.S.C. 19 provides for the order of succession if there is neither a President nor Vice President to discharge the powers of and duties of the Office of President.

The President, the Vice President, and the Secretary of Defense are briefed on execution procedures by representatives of the Joint Chiefs of Staff soon after they take office. Procedures may also be reviewed upon the entry of new capabilities into our forces, or upon changes in planning procedures (as for the recently revised U.S. nuclear employment planning).

As for civilian authority in the Department of Defense, the Reorganization Act of 1958 (10 U.S.C. 124), provides that the chain of command flows directly from the President to the Secretary of Defense, and thence through the Joint Chiefs of Staff to the unified and specified combatant commanders. Thus only the Secretary of Defense is involved in the chain of command; however, in the event of death, disability or absence of the Secretary of Defense, the following designated officers in the Department of Defense shall succeed to the position and act as Secretary of Defense in the order listed:

(a) Deputy Secretary of Defense (Mr. Clements).

(b) Deputy Secretary of Defense (Mr. Ellsworth).

(c) Secretary of the Army.

(d) Secretary of the Navy.

(e) Secretary of the Air Force.

(f) Director of Defense Research and Engineering.

(g) Assistant Secretaries of Defense and the General Counsel of the Department of Defense, in the order fixed by their length of service as such.

(h) Under Secretaries of the Army, Navy, and Air Force, in the order fixed by their length of service as such.

(i) Assistant Secretaries of the Army, Navy, and Air Force, in the order fixed by their length of service as such.

Should succession occur, the chain of command would remain unaltered; the civilian successor's authority in relationship to the military hierarchy would be as that of the Secretary of Defense.

Question. Can you describe a scenario under which first-use would be appropriate?

Answer. In the event of an attack against U.S. forces and its Allies, in which the aggressor used only conventional forces, but which the U.S. and its Allies were unable to successfully defend against using only conventional forces, the first use of nuclear weapons to assist the defense and to make clear the risks to the aggressor of continuing might be appropriate. While an initial conventional defense is the primary defense against conventional attack, we retain the option for the use of nuclear weapons in case the conventional defense proves insufficient.

Question. Dr. Wade, on p. 1 of your statement you talk about how our adversaries perceive our capability and our intentions. How do we assure that their perception is in fact accurate?

Answer. We attempt to assure that their perception is in fact accurate by laying out in public the facts about our capabilities, and to discuss these capabilities fully as to their benefits for deterring war, or bringing war to a successful halt if it ever started. This public presentation is necessary in any event in order to gain support from the Congress and the citizenry for defense programs and for any necessary employment of forces. The Defense Department is well aware that possible adversaries follow these presentations carefully, and we attempt to make unmistakable to them what the import of our programs and pronouncements are. The openness of our society, and the interests of the Congress and the press in having full facts and open debate is extra insurance that what is presented is accurate and comprehensive. In addition to public presentations, we attempt during negotiations and other occasions of direct communications to make clear our capabilities and intentions with regard to defense, and to impress upon the other side a similar necessity to be as open as possible.

2

2

2

STATEMENT SUBMITTED FOR THE RECORD

STATEMENT OF HON. PARREN J. MITCHELL, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF MARYLAND

Mr. Chairman and members of the subcommittee, although I do not profess to be an expert in defense policy, nor, more specifically, a student of U.S. strategic weapons policy, I do welcome the opportunity to offer my comments for this discussion on the first use of nuclear weapons.

Let me begin by stating that I am emphatically against nuclear warfare as well as conventional armed conflicts between nations. As my record will show, I have been a consistent advocate of peace. However, being of sound and rational mind, I suppose that one must face up to the cold reality that war somewhere in the world seems to be the inevitable. One must admit the horrifying reality that nuclear armaments do exist today—ready and able to complete their mission of catastrophic destruction.

In the aftermath of the U.S. defeat in the Vietnam War, we are all aware of the increased emphasis which has been placed on this country's policy to resort to the initial deployment of nuclear weapons in certain combat situations. Former Secretary of Defense Schlesinger repeatedly stated that the thrust of U.S. policy has been and will continue to be to raise the nuclear threshold, but that "we, however, will make use of nuclear weapons should we be faced with serious aggression likely to result in defeat in an area of very great importance to the United States in terms of foreign policy." I find myself wondering what is the purpose of these threats? It almost appears that we are attempting to boost our national ego and dispell any possible notions that the United States is on the road to becoming a second-rate world power.

Furthermore, during his tenure in office, the former Secretary embarked on a campaign, and his successor Donald Rumsfeld is following it through, to implement the new strategy of a more "selective and flexible" nuclear defense by way of an improved counterforce capability. The United States need for improved counterforce capability is based on the fact that the Soviets are continuing to improve their counterforce capabilities. Schlesinger supported the new strategy by rationalizing that if deterrence should fail, we want to have the ability to have a flexible response to the attack by hitting "meaningful targets with a sufficient accuracy-yield combination to destroy only the intended target" so as to limit the chances of uncontrolled escalation and avoid widespread collateral damage. Secretary Rumsfeld further noted that:

NATO must be capable of executing effective nuclear attacks against Warsaw Pact military forces with discrimination and limited collateral damage, in response to measured conventional or limited nuclear attack.

To be perfectly honest, all of this talk is terrifying to me because we are not talking about guns and tanks—we are talking about weapons that have the ability to end our civilization. For a number of reasons, I think the strategy of first use of nuclear weapons and emphasis of this policy is not in the best interests of American citizens.

First, I find the ability to conduct a limited nuclear war inconceivable. Once nuclear warfare is initiated it is almost certain to lead to total destruction. In the crisis oriented, fast-paced situation of nuclear exchange, logical decisionmaking is very likely to give way to irrational decisionmaking. At this point, the theory of action-reaction would be upheld at the cost of countless human lives. Even if, by some small chance, we were successful in conducting a limited nuclear war, both those in favor of and those against improving counterforce capability admit that many military targets are in or near population centers and that no matter how small a nuclear attack was, many people would be killed.

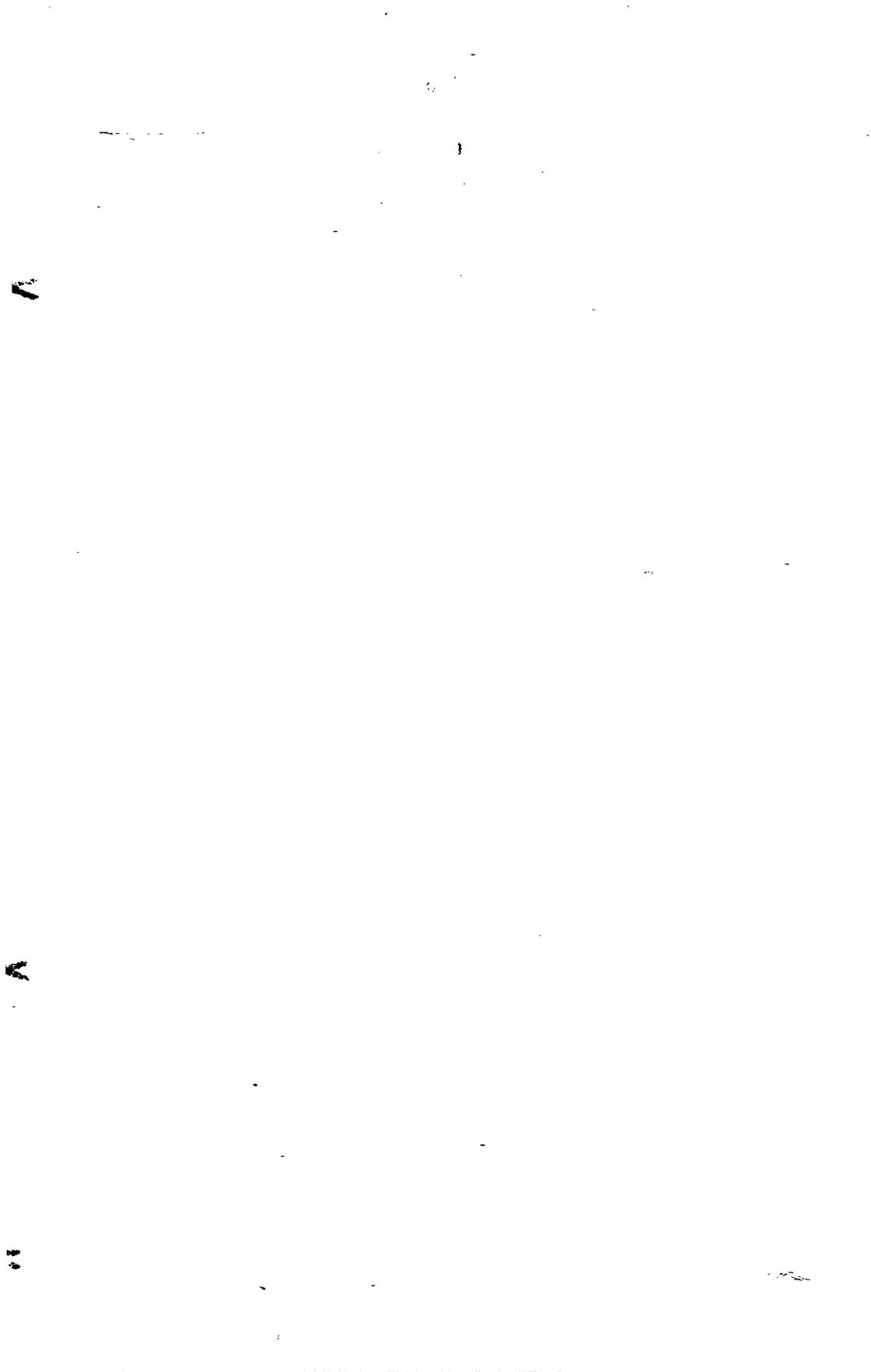
Another consequence of U.S. emphasis on first-use policy is the increased probability of preemptive war or accidental war. The Soviets will be on the alert, ready to launch on warning as their nuclear weapons are seriously threatened by improved U.S. counterforce capability. Soviet military planners will unavoidably come to the conclusion that the United States is prepared to initiate a nuclear strike on their land-based nuclear missiles. In the face of a threat of nuclear attack, the Soviets may be tempted to fire their missiles before they were destroyed. Along these same lines, we must also keep in mind that improved counterforce capability through greater target accuracy and higher yield nuclear warheads makes nuclear war somewhat more manageable and therefore more likely. As Herbert Scoville, Jr., secretary of the Arms Control Association, very simply phrased it, "A flexible strategic capability only makes it easier to pull the nuclear trigger." The end effect, contrary to the affirmations of the proponents of the first-use policy, would be to lower the nuclear threshold.

A third serious consequence of the new strategy and the recent nuclear threats is the likely escalation of the nuclear arms race. All of this belligerent talk, coupled with the increased production of U.S. nuclear weapons, will make it awfully difficult to reach further SALT agreements with the Soviets. On the other hand, if we are successful in eventually reaching a satisfactory arms control agreement with the Soviets, it will be next to impossible to cancel arms productions.

A final reason we should view the first-use policy with alarm is the heightened threat of nuclear proliferation. Many critics, including Scoville, have suggested that "the more nuclear weapons appear to have political or military usefulness, the more non-nuclear-weapons countries will become convinced that they too must have these weapons." United States and world security would then be gravely endangered as small nations acquire nuclear weapons systems. Experts warn that unless we put an end to the spread of nuclear weapons, they will soon be considered as another conventional weapon. At this point, our days would be numbered.

We cannot afford to continue these ostentatious threats of nuclear warfare, nor can we afford to waste our valuable resources for the

counterproductive purpose of adding to our stock of nuclear arms. It is pure madness to discuss even the most remote possibility of using strategic arms while ignoring the human devastation that will surely result. Our immediate efforts should be geared toward raising the nuclear threshold through mutual restraint from the production and use of these weapons through international agreement and control. Any sane person should be able to arrive at the conclusion that nuclear warfare is suicidal. For the sake of civilization, I pray that this is the conclusion that we as policymakers will decide upon.



APPENDIX

COSPONSORS TO ADDITIONAL RESOLUTIONS RENOUNCING FIRST USE/ FIRST STRIKE OF NUCLEAR WEAPONS

COSPONSORS OF HOUSE JOINT RESOLUTION 533 AND IDENTICAL RESOLUTIONS

House Joint Resolution 533—Mr. Ottinger (for himself, Mr. Bergland, Mr. Brown of California, Mrs. Burke of California, Mr. Phillip Burton, Mrs. Chisholm, Mr. Clay, Mr. Eckhardt, Mr. Edgar, Mr. Ellberg, Mr. Ford of Tennessee, Mr. Hannaford, Mr. Harrington, Mr. Harris, Mr. Howe, Mr. Jenrette, Mr. Lehman, Mrs. Meyner, Mr. Mikva, Mr. Mineta, Mrs. Mink, Mr. Mitchell of Maryland, Mr. Moffett, Mr. Nix, and Mr. Nolan)—June 26, 1975.

House Joint Resolution 534—Mr. Ottinger (for himself, Mr. Ashley, Mr. Baucus, Mr. Bedell, Mr. Beard of Rhode Island, Mr. Brademas, Mr. Fascell, Mr. Hayes of Indiana, Mr. Hawkins, Mr. Kastenmeier, Mr. Leggett, Mr. McHugh, Mr. Miller of California, Mr. Moakley, Mr. Obey, Mr. Patten, Mr. Rangel, Mr. Rosenthal, Mr. Roybal, Mr. Simon, Mrs. Spellman, Mr. Tsongas, Mr. Van Deerlin, Mr. Vanik, and Mr. Waxman)—June 26, 1975.

House Joint Resolution 535—Mr. Ottinger (for himself, Ms. Abzug, Mr. John L. Burton, Mr. Conyers, Mr. Dellums, Mr. Drinan, Mr. Edwards of California, Ms. Holtzman, Mr. Howard, Mr. Jacobs, Mrs. Jordan, Mrs. Keys, Mr. Maguire, Mr. Metcalfe, Mr. Mezvinsky, Mr. Pattison of New York, Mr. Rees, Mr. Richmond, Mrs. Schroeder, Mr. Seiberling, Mr. Stark, Mr. Studds, Mr. Won Pat, Mr. AuCoin, and Mr. Downey of New York)—June 26, 1975.

House Joint Resolution 536—Mr. Ottinger (for himself, Mr. Corman, Mr. Riegle, Mr. Wirth, Mr. Young of Georgia, Mr. Matsunaga, Mr. Melcher, Mr. Harkin, Mr. Biaggi, Mr. Evans of Colorado, Mr. Oberstar, Mr. Cornell, Mr. Mitchell of Maryland, Mr. Macdonald of Massachusetts, Mr. Reuss, Mr. Badillo, Mr. Helstoski, Mr. Rees, and Mr. Weaver)—June 26, 1975.

House Joint Resolution 575—Mr. Patten—July 18, 1975.

House Joint Resolution 620—Mr. Ottinger (for himself, Mr. Fauntroy, Mr. Roe, Mr. Vander Veen, and Mr. Carr)—August 1, 1975.

COSPONSORS OF HOUSE JOINT RESOLUTION 618 AND IDENTICAL RESOLUTIONS

House Joint Resolution 618—Mr. Bingham (for himself, Mr. Nedzi, Mr. Addabbo, Mr. Downey of New York, Mr. Drinan, Mr. Mitchell of Maryland, Mrs. Meyner, Mr. Stark, Mr. Ottinger, Mr. Ellberg, Mr. Helstoski, Mr. Waxman, Mr. Koch, Mr. Leggett, Mr. John L. Burton, Mr. Moakley, Ms. Holtzman, Mr. Richmond, Mr. Seiberling, Mr. Brown of California, Mr. Oberstar, Mr. Won Pat, Mr. Kastenmeier, Mr. Macdonald of Massachusetts, and Mr. Harrington)—August 1, 1975.

House Joint Resolution 626—Mr. Bingham (for himself, Mrs. Spellman, Mr. Studds, Mr. Howe, Mr. Corman, Mr. Mineta, Mr. Bedell, Mr. Solarz, and Mr. Dodd)—September 3, 1975.

House Joint Resolution 714—Mr. Bingham (for himself and Mr. Mikva)—November 4, 1975.

**RESOLUTION ADOPTED BY COUNCIL OF THE AMERICAN ASSOCIATION FOR
THE ADVANCEMENT OF SCIENCE**

NUCLEAR WEAPON LEVEL

(February 21, 1976)

Whereas it is generally agreed that the nuclear weapons stockpiled by the United States, the Soviet Union, and other nations represent a potential threat to the survival of civilization should they be used in a major nuclear exchange, and

Whereas although at present a strategic balance of mutual deterrence based on a "second-strike" capacity exists between the two major nuclear powers, and

Whereas the increased weapons level proposed by the Vladivostok Agreements, the trend toward increased missile accuracy and multiple warhead deployment, as well as the development of anti-submarine warfare may lead to the attainment of a destabilizing counterforce or "first-strike" capability by the major nuclear powers, therefore be it

Resolved, That the AAAS urges the United States government in its negotiations to reach an agreement with the Soviet Union to:

(1) Decrease, rather than increase, the force levels presently envisaged by the Vladivostok Agreements.

(2) Halt efforts to increase missile accuracy and multiple warhead deployment.

(3) Stop work on methods aimed at destruction of missile-carrying submarines.

(4) Move toward a phased and mutual reduction of nuclear weapons levels that will ultimately lead to a renunciation of their use in warfare.

[From the Washington Post, July 20, 1975]

"FIRST USE" OF NUCLEAR WEAPONS

(By Hon. Les Aspin¹)

The first question at President Ford's June 25th Press Conference was: "Mr. President, the United States, as a matter of policy, has consistently disavowed the first use of nuclear weapons. Is that still our policy in view of recent developments?"

The Chief Executive's reply was vague and confusing. Mr. Ford compounded his own troubles when, in response to a follow-up question, he declined "to discuss at a press conference what our utilization will be of our tactical or strategic weapons."

Unfortunately, the question posed to the President was based on a false assumption. With the exception of a 1968 agreement of "no first use" in Latin America, the United States has never foreclosed the first use of either tactical or strategic nuclear weapons. President Eisenhower, President Kennedy, former Secretary of Defense McNamara and President Nixon have all declined to foreclose the potential first use of nuclear weapons and, in some instances, explicitly expressed the willingness to use strategic or tactical nuclear weapons in the face of a major conventional defeat. Secretary McNamara told the Senate Armed Services Committee on February 22, 1963, "We would propose to use nuclear weapons or any other weapons whenever we felt our vital interests required their use."

The reporter's questions with the false assumption and the presidential answer sparked a flurry of newspaper articles and critical comments on an alleged change in U.S. policy.

On July 1, Secretary of Defense James Schlesinger in a breakfast meeting with reporters tried to set the record straight. Dr. Schlesinger said: "First use could conceivably, let me underscore conceivably, involve what we define as strategic forces and possibly, underscore possibly, involve selective strike at the Soviet Union. We do not necessarily exclude that but it is indeed a very, very low probability." As Secretary Schlesinger should know, it is hard to clarify anything without a prepared text and this breakfast meeting was no exception. The misunderstanding continued.

Creating most of the confusion was a misunderstanding of the difference between "first use" and "first strike." First strike is an attack designed to totally cripple a nuclear armed opponent preventing him from retaliating. Needless to say, in today's world with growing Russian and American arsenals and the continued invulnerability of a sea-based deterrent a successful first strike is virtually impossible. First use, on the other hand, is the willingness of a nuclear power to use nuclear weapons before the other side does. For example, a nuclear power which faces defeat in a conventional conflict may attempt either to redress the balance on the battlefield by using tactical nuclear weapons or signal the other side of its unwillingness to face defeat by making a limited nuclear attack.

Is there really anything new in the administration's "first use?"

If there has been any change in U.S. policy it is that Dr. Schlesinger has elaborated the impact of counterforce doctrine upon first use strategy. A counterforce strategy, targeting highly accurate missiles to attack specific military installations is what the Secretary has been advocating. It does not, as Secretary Schlesinger has pointed out again and again, mean the United States is preparing for a first strike. But it does mean that strategic weapons could be made part of a first use strategy.

¹ Mr. Aspin is a Democratic congressman from Wisconsin.

To be sure all first use discussions by Pentagon briefers still refer to tactical weapons used as a result of a deteriorating conventional war. All strategic scenarios, including scenarios which Secretary Schlesinger uses to try to justify counterforce weapons, involve the Russians using nuclear weapons first. But once a counterforce strategy is adopted the use of strategic nuclear forces as part of a first use policy during a conventional conflict or a time of international tension is more logical and plausible.

In short, the administrations statements reveal a doctrine that is neither a break with the past nor inconsistent with the newly adopted counterforce strategy. But the whole episode still has a lot of people very concerned. And the marriage of the old "first use" doctrine with new counterforce strategy means they have more reason for concern than they had before.

A TWENTY-YEAR REVIEW OF MEDICAL FINDINGS IN A MARSHALLESE POPULATION ACCIDENTALLY EXPOSED TO RADIOACTIVE FALLOUT ¹

(By Robert A. Conard, M.D., et. al.)

* * * * *

VII. COMMENTS AND CONCLUSIONS

A. THE EXAMINATIONS

The primary responsibility assigned the medical team by the AEC (now ERDA) was the diagnosis and treatment of possible effects of radiation exposure in the Marshallese, but inevitably the examining groups have been concerned also with general health care at the time of their visits. The responsibilities have been filled by carrying out extensive annual examinations, supplemented in recent years by semiannual hematology checks and quarterly visits by a resident physician. The examinations, which have been carried out with the assistance of the Trust Territory Health Services, have resulted in extensive medical histories and records for each individual and have made it possible to diagnose and treat many diseases and illnesses at an early stage.

An important aspect of the medical surveys is to maintain rapport with the people, to keep them informed of the medical findings, to explain the need for examinations, and at times to correct unfounded rumors about fallout effects. Unfortunately this has not always been successfully kept up because of differences in language and culture.

Some studies have been of benefit to the Marshall Islands as a whole, such as the surveys of the incidence of diabetes and of parasitic infestation. In addition a great deal of data has accumulated from studies of genetically inherited characteristics which may prove valuable not only in determining possible genetic effects of radiation but also in anthropology.

B. COMPARISON WITH OTHER HUMAN EXPOSURES

In contrast to other groups exposed to radiation, the Marshallese are unique in that they comprise the only human population ever exposed to acute radiation from fallout. The accident focused attention for the first time on the hazards of fallout from nuclear detonations. The atomic blasts above Hiroshima and Nagasaki resulted in casualties due to penetrating gamma and neutron radiation directly from the bombs with little or no fallout involved and therefore caused no effects due to internal absorption of radioactive materials. In contrast, the Marshallese were not exposed to direct effects of the detonation but only to radioactive fallout resulting in whole-body, skin, and internal exposure. Trauma and extreme psychological disturbances did not contribute to the effects in the Marshallese as they did in the Japanese. The importance of the hazard from internal absorption of radioactive iodine has been clearly demonstrated by the Marshallese experience. The 23 Japanese fishermen on the *Lucky Dragon* received an exposure similar to that of the Rongelap group but probably with less internal absorption of radionuclides, since their stored water and food were covered, and they have had no thyroid effects.

Evaluation of the effects of radiation exposure in human beings (patients, physicians using radiation, accident cases, etc.) is always difficult because of uncertainties regarding exact dosage, fractionation and dose-rate effects, partial-body exposure, complicating diseases, etc. The doses received by the Marshallese,

¹ Brookhaven National Laboratory, Associated Universities Inc., under Contract No. AT(30-1)-16 with the U.S. Energy Research and Development Association.

like most human exposures, could be only roughly estimated, although the hematological data were compatible with the calculated whole-body doses. Even greater uncertainties were encountered in estimating the doses due to internal absorption of radionuclides.

The data on the effects of fallout radiation in the Marshallese have provided important information that will apply in a general way to any population exposed acutely to fallout. However, the effects may be modified in other situations if nuclear explosions occur in regions with different terrain, soil types, climate, and availability of protective measures.

C. ACUTE EFFECTS

The most serious acute effects of the exposure in the Marshallese were due to penetrating gamma radiation. These included transient anorexia, nausea, and vomiting and significant depression of the peripheral blood elements in many members of the higher exposure Rongelap group. The hematological depression was not sufficient to produce definite clinical signs and required no specific therapy.

Contamination of the skin in the Rongelap group resulted in wide-spread beta burns on parts of the body not covered by clothing and in spotty epilation of the scalp. These effects were probably aggravated by delay in decontamination and by perspiration due to the warm climate causing the fallout to stick to the skin. The superficial nature of the lesions, rapid healing with minimal residual skin changes, and regrowth of hair were no doubt due to the low average energy of the beta radiation in the fallout.

The lack of recognizable acute effects from the internal absorption of radionuclides is noteworthy in view of the serious thyroid abnormalities that later developed.

Because of residual contamination on the islands, radiological monitoring of personnel and environment has been an important part of the surveys in evaluating body burdens of radionuclides in the Rongelap and Utirik people. Recently the areas undergoing such monitoring have included Bikini Atoll and the people who have returned to live there, and they will also include Eniwetok when its people return home.

D. LATE EFFECTS

The possible emergence of late effects of exposure in the Marshallese has received considerable attention in follow-up examinations. Except for the thyroid lesions and the one case of leukemia, only a few findings possibly related to radiation exposure have been seen; otherwise the general incidence of illnesses and the overall physical condition have been similar in the exposed and in the unexposed comparison groups. The increase in miscarriages and stillbirths among the exposed Rongelap women during the first 5 years after exposure may or may not have been related to radiation effects. No genetic effects have been noted in the children born of exposed parents; this is not surprising in view of the generally negative findings in the much larger Japanese study. The findings of persistent chromosome aberrations in cultured peripheral blood lymphocytes at 10 years exposure and a possible somatic mutation in hemoglobin in several of the exposed group suggest that genetic mutations may also be present. The possibility of genetic effects in the offspring is of serious concern to the exposed people and deserves further study.

Effects of radiation on life shortening or mortality are difficult to evaluate because of the small number of people and the differences in age distribution between the exposed and comparison groups. The only death that may be related to exposure is that from leukemia. The occurrence of a few additional cases of cancer (other than thyroid) cannot be ascribed definitely to radiation exposure. The lack of skin cancer from beta burns may be related to the minimal nature of the residual skin changes, probably due to insufficient radiation injury to the dermis, but the possibility of skin cancer developing must be kept in mind because the latent period may be very long.

The development of a case of acute leukemia in the Rongelap boy may or may not be related to radiation exposure. However, this disease appears to be even rarer in the Marshall Islands than in the U.S. It is noteworthy that his disease was the myelogenous form, since his past hemograms showed a fairly consistent depression of neutrophil counts compared with those of other exposed boys of the same age.

The inability to demonstrate clear-cut aging effects in the exposed group in spite of repeated attempts with a variety of tests is in accord with the generally negative results of similar attempts in the much larger exposed Japanese populations.

The absence of radiation-induced cataracts is not unexpected since the dose to the lens was probably below threshold and neutrons (known to have a higher RBE for cataract induction than gamma radiation) were not involved in the Marshallese exposure.

E. THYROID EFFECTS

The high incidence of thyroid neoplasms (in 27 of 86 exposed Rongelap people, including 3 with carcinomas) and the development in some children of hypothyroidism and growth retardation provide clear evidence for the seriousness of thyroid injury due to radiiodine absorbed from fallout associated with atomic detonations. Had not careful medical studies in the population been instituted soon after the exposure and continued to the present date, the extent of thyroid effects might not have been discovered.

Thyroid exposure is likely to be greater when individuals are exposed within 100 to 150 miles of the bomb if detonated near the ground. In such situations, if lethal exposure to penetrating radiation does not occur, the principal hazard appears to be the late development of thyroid tumors and leukemia. Since the latter is ultimately fatal, it is more serious than thyroid malignancies, most of which are well differentiated and have an excellent prognosis. The relative incidence of thyroid malignancies from radiation appears to be about the same as that of leukemia on a "per rad" basis. The incidence of thyroid cancer is considerably higher than the mortality from it. Of 40 cases among the exposed Japanese, 34 were living in 1973, and only one death had been attributed to this cause. No evidence of thyroid dysfunction had been noted at the time of diagnosis. In the Marshallese reduced function was not found in two of the cancer cases exposed as adults, but was in the case exposed as a child.

The high incidence of thyroid effects in children exposed at <10 years of age was no doubt related to the higher dose to the child's thyroid because of its smaller size. The rapid growth of the glands during childhood probably increased the chances for neoplastic changes. The growth retardation in some of these children was thought to be related to reduced thyroid function resulting in lower hormone levels. This deficiency was not recognized during the early years because of falsely high PBI levels resulting from unusually high iodoprotein levels, which turned out to occur generally in the Marshallese and are now being further studied.

Most of the thyroid glands of the exposed people undergoing surgery contained multiple nodules or areas of adenomatous change. Many microscopic areas, although considered benign, were composed of discrete areas of atypical cells, suggestive in some cases of malignant potential.

The risk of developing benign and malignant neoplasms in the Rongelap people appeared to be about the same as that noted in people exposed to x-radiation. Clinical experience with ^{131}I suggested that the risk would have been less, but the higher energy of the short-lived isotopes of iodine (particularly ^{130}I , ^{132}I , and ^{134}I), resulting in higher dose rate and more uniform exposure of the thyroid, is thought to have been the important factor in increasing the number of thyroid abnormalities above that expected from similar doses from ^{131}I alone. It is not unreasonable to speculate that tumor incidence in the Marshallese would have been considerably smaller if only ^{131}I had been involved in the exposure. The lesser amount of short-lived iodine isotopes in the Utirik exposures (because of the later arrival of the fallout) may have been an important factor in reducing the dose effect to their thyroids, but the number of people involved is too small for any firm conclusion to be drawn.

Treatment of the exposed Rongelap people with thyroid hormone has been of benefit in enhancing growth and development in the growth-retarded children and in maintaining a normal metabolic state in the operated cases. It is not certain whether it has prevented the development of thyroid nodules.

The documentation of these thyroid effects has importance not only for the people involved but also for the advancement of medical knowledge and for planning with regard to Civil Defense and remotely possible future accidents involving release of radiiodines (e.g., from a nuclear power plant). The Marshallese accident represents exposure under extreme conditions, with no corrective measures taken to reduce internal absorption of radioisotopes prior to

evacuation of the exposed people from the fallout area. It did not involve the contaminated pasture-cattle-milk cycle, which might be an important pathway of radiiodine to man in other types of accidents (such as the Windscale accident).

Civil Defense planning can provide for several measures that will reduce the hazard of thyroid exposure due to radiiodine absorption and thus largely preclude the degrees of thyroid injury sustained by the Marshallese. Since the hazard from radiiodine is acute for a period only of days, early protective measures are extremely important. These include avoiding inhalation of radiiodines by shelter protection; consuming food and water only from closed containers; feeding cows in contaminated areas protected fodder; and temporarily withholding contaminated milk supplies and diverting them into processed products with a shelf life longer than the life of the isotope. The addition of stable iodine to food or water during the first week would provide a relatively inexpensive method of reducing thyroid uptake of radiiodines by isotope dilution and saturation with non-radioactive iodine; this should rarely produce any serious side effects and would be of particular value in children and pregnant women. When exposure of the thyroid has already occurred, prophylactic treatment with thyroid hormone, now being used in the Marshallese, may help prevent development of thyroid tumors, and even after tumor development, surgical excision may reduce mortality due to malignancy.

The thyroid effects in the Marshallese were not anticipated at the time of the accident or during the early years afterwards. In retrospect this is not surprising, for several reasons. At that time the thyroid was thought to be relatively radio-resistant, particularly with regard to radiiodine exposure (on the basis of animal studies and diagnostic and therapeutic use of ^{131}I in people), and the calculated thyroid doses in the Marshallese were considered to be below the levels likely to produce tumors. In addition, neither the importance of the exposure to short-lived iodine isotopes in fallout nor the thyroid dose differential in children due to the smaller size of their gland was fully appreciated.

It is quite likely that the final results of thyroid lesions in the Marshallese are incomplete at this time since new lesions are still occurring. The mean latent period for radiation-induced thyroid tumors may be as long as 30 years. Cases have been seen as late as 40 years after exposure. Furthermore, on the basis of the present data the risk of developing radiation-induced thyroid neoplasia is probably underestimated, since surgical removal of potentially malignant tissues may have occurred and the hormone treatment may have inhibited the development of some tumors, although the latter is questionable. As has been pointed out, also, the true carcinogenic potential of the exposure, particularly in the children receiving the higher dose, may have been masked by excessive cellular destruction. The recent finding that subclinical thyroid deficiency is present in some of the exposed people who have not shown any thyroid abnormalities indicates that the thyroid effects in the Marshallese may not yet be completely manifest, and continued careful surveillance of this population is necessary.

* * * * *

SYSTEMS RELIABILITY AND NATIONAL INSECURITY

(By Lloyd J. Dumas, Department of Industrial and Management Engineering,
Columbia University)

1. INTRODUCTION

One of the key criteria for the evaluation of the performance of any system is the reliability with which that system operates. Though the reliability of sub-components of the system in the performance of intermediate functions is of considerable importance, the final criterion must be the reliability of the system as a whole in the performance of the essential function for which that system was designed and is operated. To be sure the analysis of the overall system requires consideration of subsystem reliability, but it also requires an analysis of the ways in which components and subsystems interact and how this interaction affects the achievement of the overall systems goal. Ultimately, the reliability analysis must be focused on the system objective.

The design, construction and expansion of military systems is legitimized by the contribution of such efforts to the basic function of the maintenance and improvement of national security. It is the purpose of this paper to point out a number of grounds, rooted in the joint concerns of systems reliability and effectiveness, for believing not only that the level of military forces is not directly related to national security, but that the relation between the two is inverse.

In order to avoid ambiguity national security, in the military sense, will be defined as the prevention of property damage, injury and loss of life caused by military means, as well as the limitation of such damage, casualty and death in the event of war.¹

Additionally, the analysis will deal only with military systems directly or indirectly linked to weapons of mass destruction, not because it is inapplicable to conventional systems, but rather because the mass weapons case is much stronger as well as several orders of magnitude more urgent.

There are essentially four reasons why there is an inverse relationship between the level of mass armaments and national security. These are: the possibility of accidents; the possibility of accidental war; limitations on the ability to control and safeguard inventories; and the large and widening gap between offensive and defensive military capabilities.

2. ACCIDENTS

The destructive potential of nuclear, biological and chemical weapons is so enormous and so concentrated as to be nearly incomprehensible. Those Polaris and Minuteman missiles armed with a single warhead carry a standard one megaton weapon capable of exploding with a force greater than fifty simultaneously detonated Hiroshima-type bombs. Yet, along with the massive increases in the yield of nuclear weapons have gone reductions in size and weight great enough to make possible their installation on a variety of delivery systems ranging from huge liquid-fueled missiles to jeep-mounted rocket launchers, and these possibilities have been rather fully exploited. With many thousands of nuclear weapons deployed by five nations in the air, on the land, on the sea and beneath, the question of the danger of accidents is a serious one indeed.

Potential Consequences

The consequences of the accidental nuclear detonation of a nuclear device are potentially disastrous, but it is important to note that this is not the only route

¹ The preservation of national political sovereignty against involuntary elimination is implied by both aspects of this definition.

by which a nuclear weapons accident can generate large scale injury and death. Nuclear weapons contain a core of highly dangerous radioactive material which could be widely dispersed by the explosion of the conventional explosive surrounding the core, by burning, or by other accident-related means. So far as is generally known either uranium or plutonium is used as the nuclear explosive, and both emit deadly radiation. But, even though uranium's radiation is far more penetrating, plutonium is so long-lived (half-life=24,400 years) and is so incredibly toxic that its dispersal is perhaps the more dangerous.

The lethal human dose of plutonium is provided by the ingestion or inhalation of as little as 0.0002 of an ounce. Exposure in doses well below the lethal limit have been conclusively demonstrated in animal experiments to have severe long term effects including the generation of bone cancer and other serious bone pathology (Langham 1959, 179). Since the minimum critical mass of plutonium explosive in a nuclear weapon is about 11 pounds, a single weapon provides a theoretical maximum of at least 880,000 lethal doses. Allowing for highly inefficient dispersal, achievement of only 1% of the toxic potential implies nearly 9,000 deaths in the short term. If distributed in smaller doses a much higher number of deaths might be caused in the longer term, after much suffering and debilitation.

Likelihood

The attempt to assess the likelihood of nuclear accidents by thorough analysis of the detailed historical record is severely impeded by the veil of secrecy which tends to surround such incidents. Reports are often incomplete and sometimes conflicting even where the U.S., Britain and France are concerned. The wall of secrecy surrounding Russian and Chinese accidents is even more difficult to penetrate. Yet, the number of major nuclear accidents about which there is some public knowledge is considerable.

Leitenberg (1969) lists 33 major U.S. accidents involving the complete destruction of a nuclear weapons delivery system and the destruction, loss or other involvement of the nuclear weapons known to be aboard. The incidents included the following.

Goldsboro.—On January 23, 1961, a B52 bomber carrying two 24 megaton weapons crashed near Goldsboro, North Carolina. One bomb was removed from the wreckage, the other from a field into which it fell without exploding. According to Ralph Lapp, former head of the Nuclear Physics Branch of the Office of Naval Research, five of the six interlocking safety mechanisms on the latter bomb had been triggered by the fall. Thus, a single switch prevented the explosion (Lapp 1962, 127; Larus 1967, 93-99). A 24 megaton weapon detonated at say 11,000 feet has a fireball radius of about two miles, would destroy all standard housing within 12.5 miles and ignite all flammable materials within a 34.5 mile radius.

Palomares.—On January 17, 1966 a B52 bomber crashed near Palomares, Spain. Four hydrogen bombs of 20-25 megatons each fell out of the plane. One landed undamaged; the conventional explosives in two others detonated scattering plutonium over a wide area of fields requiring eventual removal of 1,750 tons of radioactive soil and vegetation; the fourth fell into the Mediterranean and was recovered intact after an intensive nearly three month long underwater search (Larus 1967, 94-99).

Thule.—On January 21, 1968 a B52 bomber with four megaton-class hydrogen bombs aboard crashed into Thule Bay, Greenland. Some bomb fragments were found, along with indications of low grade radioactivity, but the mass of the plane and bomb wreckage apparently melted through the seven foot thick ice and sank in the waters of the bay. Tons of contaminated snow were removed (New York Times 1968).

On the basis of a partial search through public sources (chiefly newspapers), three subsequent major accidents, occurring between 1970 and 1973, were discovered. These involved major damage to the weapons carrier, endangering the nuclear weapons aboard. In addition, twenty accidents involving total destruction and six more involving serious damage of nuclear capable delivery systems assigned a major nuclear weapons carrier role were found.³ In these 26 cases the

³ Only accidents involving major nuclear weapons carriers, such as the French Mirage IV or the British Vulcan strategic bombers were included. More than 150 accidents involving total destruction of lesser nuclear capable delivery vehicles were excluded to introduce a conservative bias into the total.

presence of nuclear weapons at the time of accident was either unspecified or denied. One major accident involving non-nuclear weapons of mass destruction was also discovered, along with twelve minor accidents involving weapons systems with weapons of mass destruction known to be aboard.³ Whereas the Leitenberg (1969) compilation includes only U.S. accidents, twelve of these additional accidents are attributed to British, French or Russian forces.

The justification for including accidents in which the presence of nuclear weapons was denied or unspecified is threefold. Firstly, wherever it is possible to deny or gloss over the involvement of weapons of mass destruction in an accident, it is a virtual certainty that this will be done regardless of the actual facts, because of the desire to avert fear and adverse public reaction. Secondly, there is some specific evidence that the distinction between "nuclear capable" delivery systems and systems which actually carry nuclear weapons is more apparent than real. As retired Admiral Gene La Rocque has testified relative to the U.S. Navy:

"My experience, however, has been that any ship that is *capable* of carrying nuclear weapons, *carries* nuclear weapons. They do not off-load them when they go into foreign ports such as Japan or other countries. If they are capable of carrying them, they normally keep them aboard ship at all times except when the ship is in overhaul or in for major repair." (U.S. Congress 1974a).

Finally, even if we unquestioningly accept that nuclear weapons were not present except where their presence was specifically confirmed by authorities, we must still consider accidents of this type to be serious and relevant to the nuclear accidents problem. The absence of these weapons at the time of accidents can be considered good fortune, but we must realize that the presence of nuclear weapons would not have prevented the accidents.

Thus, over the period 1950-1973 there have been at least 63 serious accidents publicly reported involving major mass destruction weapons carrier systems, or an average of more than 2.5 severe accidents per year. That only four of these are attributed to the Russians and none to the Chinese is more likely to be an indication of the relative openness of U.S., British and French operations than an indication that the latter are more accident prone. If we assume that the Soviets have had even half as many severe nuclear accidents as have been publicly reported for the U.S.⁴ and that the Chinese accident experience has been comparable to the British or the French, then the number of major nuclear-related accidents would be about ninety, or an average of more than one every three months for twenty-four years!

Whatever the precise number of mass weapons related accidents, the essential point is that there have been a great many. It is indeed fortunate that no known accident has ever resulted in an accidental nuclear explosion, and this is clearly due in part to a serious concern for weapons safety by weapons designers and the military. But it is also due in part to good luck—witness the Goldsboro incident. However, even mass weapons accidents which do not involve nuclear detonations can imperil thousands of lives.

The actual occurrence of so many accidents provides compelling support for the conclusions that future accidents involving weapons of mass destruction are not only possible, but likely, as long as so many weapons continue to exist. Given the nature of weapons of mass destruction, such accidents are always dangerous. Thus, it must be concluded that the inherent problem of accidents, when related to military mass destruction systems, is a real source of national insecurity.

3. ACCIDENTAL WAR

Accidental war is here defined as an exchange of weapons of mass destruction not initiated with the purposeful calculation of the governmental decision makers in authority. In theory, the war could be restricted to a limited retaliatory strike, but the most extraordinary assumptions of complete control, perfect communication and cold-blooded rationality are required before it is even theoretically possible to prevent escalation into general nuclear war.

³ The figures exclude the estimate of 50 minor U.S. nuclear weapons accidents up to 1960 cited as an "informed estimate" in Phelps (1960, 8), because of the lack of details.

⁴ The Russians have fewer weapons confined to fewer locations than the U.S., and at least until the late 1960's probably did not have the same sort of alert status, all of which would imply a much lower Soviet accident rate. However, their apparently less developed safety procedures would indicate an opposite tendency.

There are two critical focal points for the analysis: (1) the nature and likelihood of triggering events and (2) the conditions under which these events are likely to lead to accidental war. Probably the most plausible triggers are serious accidents involving weapons of mass destruction and faulty communications, particularly false warnings of attack. On the other hand, the most important background conditions are undoubtedly the degree of international tension and the degree to which military forces are operated on a "hair trigger" basis. These conditions are of course interrelated, for the greater the level of tension, the more likely it is that emphasis will be placed on quick response rather than on redundant verifications and authorizations. In addition, both types of triggering events are more likely to occur during peak tension when alert status is raised, increasing the strain on human operatives and equipment. This is more and more true as the crisis period is prolonged. Since warheads are more likely to be armed under these conditions, the probability that an accident will result in a devastating nuclear explosion is also raised. Thus, there are major synergistic effects.

Accidents and Accidental War

Although the accidental nuclear explosion of enemy weapons on the territory of a nuclear power or its allies is clearly the most provocative, accidents involving major nuclear capable delivery vehicles may be sufficient triggers whether or not nuclear weapons are actually involved. It is not reasonable to suppose that a nation against which, for example, a number of nuclear capable enemy missiles had been accidentally launched, would wait until the missiles reached their targets to verify whether or not they were nuclear armed. This is probably true even during periods of relative international calm, and is certainly true during times of crisis and confrontation.

There have been at least five reported instances of U.S. nuclear capable missiles accidentally overflying or crashing into or near the territory of another nation. Among these were the overflight of Cuba by a Mace missile in 1967 (Miami Herald 1967) and the 1960 crash into the Straits of Taiwan of a Matador missile after an aberrant flight toward Mainland-China from the direction of Taiwan. (New York World Telegram 1960.) In addition, Nikita Khrushchev is reported to have once told Richard Nixon about an erratic Soviet missile that was destroyed as it headed toward Alaska (Phelps 1960, 6).

The triggering function could also be performed by accidents in which no enemy forces were involved, because of the period of confusion surrounding major accidents. For example, the explosion of a U.S. missile submarine because of an internal problem could be interpreted as being due to a deliberate Russian attack, given the proper background circumstances. Two actual incidents are illustrative: nearly six months were required to determine that the sinking of the U.S. nuclear attack submarine "Scorpion" in the Atlantic during May 1968 was not the result of foul play (New York Times 1969); during the Middle East War of 1967, the U.S. ship "Liberty" was attacked—the U.S. Joint Chiefs required half an hour to decide the Soviets were probably not responsible and an hour more to discover that the attackers were Israeli and not Egyptian (Goulding 1970, 97).

Communications Problems

Because of the very high speeds attainable by mass weapons delivery systems, electronic means of detection have been made increasingly sensitive in an attempt to provide the earliest possible warning of enemy attack. Even so, the maximum achievable warning time is now a matter of fifteen to thirty minutes. With so little time available for decision making, the only real choice may be whether to verify or respond. Doing one may preclude the other. In such a situation, it is not difficult to understand how a major false warning made credible by high international tension could result in the catastrophe of accidental nuclear war.

Despite the secrecy surrounding false warnings there have been at least four major incidents involving U.S. systems which have been publicly reported.

BMEWS. On 5 October 1960 the central defense room of the North American Air Defense Command (NORAD) received a top priority warning from the Thule, Greenland Ballistic Missile Early Warning System station indicating that a missile attack had been launched against America. The Canadian Air Marshal in command undertook verification, which after some fifteen to twenty minutes showed the warning to be false. The radars, apparently, had echoed off the moon (Boston Traveler 1960).

NEWCO—On 20 February 1971 the National Emergency Warning Center at NORAD headquarters transmitted an emergency message, authorized by the proper code for that date, directing all U.S. radio and TV stations to cease normal broadcasting immediately by order of the President. The message, designed for use only in grave national emergencies such as enemy attack, was not cancelled until forty minutes after its nationwide transmission. (The Times 1971a; 1971b). The same NORAD headquarters complex is the point of transmission for messages to trigger nuclear retaliation in the event of enemy attack.

SECT.—On at least two occasions during 1971, Submarine Emergency Communications Transmitter buoys, accidentally released from U.S. Polaris nuclear missile submarines, signalled that the submarines involved had been sunk by enemy action (Malnak 1974).

The fact is that there are also a number of oblique references made by apparently reliable sources which indicate that many more false alarms of indeterminate seriousness have occurred in both the U.S. and Soviet warning systems.

It should be emphasized that the reliability and speed of defense communications in general are critical intervening factors between the occurrence of mass weapons accidents or false warnings and the triggering of accidental war. As of 1971, the U.S. Defense Communications system required an average of 69 minutes to transmit a "flash" (top priority) message and 100 minutes to send a message stamped "immediate" (U.S. Congress 1971). In the age of nuclear-tipped missiles these times are wholly inadequate and indicate, insofar as verification of the type considered here is concerned, a total failure of the system.

Another communications link alleged to be a powerful factor in avoiding accidental war is the Moscow/Washington "Hot-Line." Six separate accidental interruptions of the Hot Line have been publicly reported for the period 1964-1966 alone (Hudson 1973).

Likelihood of Accidental War

Would a single accidental explosion, a single aberrant missile, the sudden disappearance of a single missile submarine be sufficient to trigger an accidental war, or would a series or combination of such events be required? How massive an attack would a false warning have to indicate? How many failures of corroboration or false corroborations would be sufficient in the event of such a warning?

These critical questions cannot be precisely answered without a detailed investigation into the design and operation of the communications/response systems of all protagonists possessing weapons of mass destruction. However, it is clear that the primary determinant of sufficiency is the degree to which the systems are tuned to sensitivity and quick response. The greater the redundancy of warning systems, verification channels and procedure, etc. the more severe triggering events would have to be to be effective. But this same redundancy causes the "readiness" of the military system to suffer. The priority attached to military readiness should be a positive function of the estimated probability of intentional attack, and thus strongly dependent on the level of international tension.

The general level of international tensions should be taken into account in the design of military systems and operating procedures. But it is the period of peak crisis which is likely to heighten the emphasis on readiness and thus reduce the severity of an event required for the triggering of accidental war. The Cuban Missile Crisis of 1962, the tense periods in 1969 along the Sino-Soviet border, and the world-wide U.S. military alert during the October 1973 Middle East War all have involved strong potential for direct military engagement between nuclear powers. Though it is not easy to predict the frequency of such crises, it is even harder to believe that we have seen the last of them.

In summary, while it is difficult to estimate the probability of accidental nuclear war, it is clear that such war is a non-negligible possibility. It is also clear that this probability is increased by the existence of very high levels of mass destruction armaments and complex associated support systems. Given the catastrophic nature of accidental nuclear war, any contribution to its likelihood must be considered a real source of national insecurity.

4. INVENTORY CONTROL

The full control of an inventory requires the successful performance of two separate but strongly interrelated functions: "protection," the prevention of

loss, theft or damage; and "detection," the knowledge of location and status of inventoried items, including the discovery of failures of protection.

Detection

There is always some part of any inventory the precise position and status of which is not known with certainty at any given point in time. Perfect 100% control of any inventory of size over an extended period is simply not achievable, no matter what the nature of the inventory, who controls it or what control system is used. This is as true for nuclear weapons as it is for shoes in a shoe store.

The existence of such an "uncontrolled" fringe is typically recognized in inventory track-keeping systems, even where maximal control is vital. For example, the accounts of fissionable materials inventories under the supervision of the U.S. Atomic Energy Commission contain a category called "material unaccounted for" (MUF), defined as:

"The algebraic difference between a *physical* inventory and its concomittant book inventory after determining that all known removals (such as accidental losses, normal operational losses, and authorized write-offs) have been reflected in the inventory" (U.S. AEC 1971, 31).

Thus MUF includes only completely unidentified differences between what the books show should exist and what physical inventory audits show does exist.

Considering the extreme dangerousness and great monetary value of nuclear materials, one would expect the MUF levels achieved in their control to be near the minimum achievable. Yet over a long period of nuclear fuel cycle operation in the U.S. the MUF has not been zero, but rather has been on the order of 0.5% of throughput (Crowson 1970, 18). Furthermore, an AEC sponsored study of the capability, as opposed to actual performance, of track-keeping systems in a chemical processing plant concluded that there was only a 50% probability of detecting the diversion of up to 0.5% of plutonium throughput (Schneider and Granquist 1969, 83).

Of course there are important differences between inventory control in processing plants and control of mass destruction weapons inventories. However, given the extremely strong incentives for tight control of nuclear materials, it would seem that the MUF achieved there would reveal a degree of control which presses against theoretical limits. Nevertheless, even if a further reduction of the MUF by a factor of five were achieved for weapons inventories, this would still leave a minimum of fifteen U.S. nuclear warheads in the "uncontrolled fringe."

It should be emphasized that this is an extremely conservative estimate of the problem for at least three reasons. First, it assumes an incredibly high and perhaps unachievable 99.9% control. Second, it includes only the 8,000 U.S. strategic nuclear warheads along with the 7,000 U.S. tactical nuclear warheads officially acknowledged to be in Europe, while ignoring all of the U.S. nuclear warheads stored in other parts of the world and on surface ships. Finally none of the Soviet, British, French or Chinese nuclear weapons are included. A more complete and accurate estimate might well more than quadruple the size of the uncontrolled fringe, even if the assumption of 99.9% control were maintained.⁵

It should also be emphasized that being in the "uncontrolled fringe" does not imply that the warheads are reposing unguarded somewhere in a vacant lot, as it were. It does, however, mean that their location and status is not known with any degree of certainty. Since even one nuclear warhead can be used to destroy millions of lives, the size of the uncontrolled fringe indicates an extremely serious detection problem.

It might be argued that the imperfectability of inventory control systems is not in itself a source of danger, that the real concern is with protection, not detection. As long as there are plenty of guards, alarm systems, locks, etc., the problem of detection is not significant. However, this ignores two problems of great consequence to control of nuclear weapons and explosives inventories—embezzlement and blackmail.

Embezzlement, or internal theft, is theft by those who are authorized to have access or near-access to the inventoried materials. For the embezzler, the critical problem is generally avoiding detection rather than gaining access to or carry-

⁵The current number of U.S. nuclear warheads alone is estimated by Leitenberg (1974, 14) at about 50,000.

ing away materials. To the extent that there are flaws in detection then, internal theft becomes possible. Even small flaws in detection capability may allow diversion of large amounts of materials by consistent removal of small quantities over time. For example, the actual loss of 100 kilograms of weapons grade uranium (enough for ten to twenty Hiroshima bombs) by a Pennsylvania processing plant over six years (Gillet 1978), could have been achieved by the daily removal of only 1.6 ounces—about the weight of a medium-sized candy bar.⁶

As for blackmail, the mere existence of incomplete knowledge may be sufficient for success. If a blackmailer says that he has stolen a bomb, or stolen materials and built a bomb, and authorities cannot be sure he is lying, the threat must be taken seriously. Recent history has already provided a scenario.

Orlando.—On 27 October 1970 the city of Orlando, Florida received a note demanding one million dollars and safe escort out of the country as the price for not blowing up the city with a hydrogen bomb. Ransom instructions, a workable bomb diagram and a note saying the fissionable material had been stolen from AEC shipments arrived. The AEC could not give absolute assurance that the material had not been stolen. The ransom was assembled and would have been paid but the blackmailer was caught. He was a fourteen year old honors student, with no apparent access to nuclear explosives (Ingram 1973, 22).

Let the reader think that the bomb diagram information is difficult to obtain, it should be noted that a number of informed scientists, such as Theodore Taylor, former head of the Defense Department's atomic bomb design and testing program, have said that such information is publicly available (Wall Street Journal 1968).

Protection

There is an essential conflict between protecting inventories from theft or loss and using them for the purposes for which they are being held. Those controls which impede access to inventories will simultaneously increase protection and reduce usefulness, particularly where rapid access is an important consideration. Ideally one would like to create a control system which provides quick and ready access only for authorized uses and permits no access otherwise. But this requires not only discrimination between authorized and unauthorized personnel, but also between authorized and unauthorized uses by the former. It also requires protection against the forceful violation of controls. To achieve these goals quickly and without error is a virtual impossibility.

All of these problems are magnified in the case of mass weapons inventories. Considerations of military "readiness" push strongly in the direction of rapid access, while the enormous destructive power of these weapons emphasizes the need for maximal protection. Given that military use is the underlying reason behind the design and construction of these weapons in the first place, it is a certainty that the balance struck between protection and access will result in less than complete protection. This does *not* imply a lack of serious concern for protection of weapons inventories by the military. Rather, the role currently defined for the military and the very nature of the way in which these weapons are widely believed to interact with that role guarantees that weapons inventories will be less than perfectly protected.

It is only recently that any significant information concerning the actual operation of U.S. nuclear weapons inventory controls has become public. In 1970, Senator Stuart Symington stated that on the basis of his actual experience and personal investigation, U.S. tactical nuclear weapons were not guarded properly "at least in some places" and could be seized. (New York Times 1970).

The Cyprus crisis of July 1974 further opened the issue of U.S. tactical nuclear weapons security. Since hundreds of such weapons are stored in both Greece and Turkey, the possibility arose that one or both protagonists might try to seize them. Published reports citing unnamed "reliable" Pentagon and State Department sources stated that the continued safety of the nuclear warheads could not be guaranteed (New York Times 1974b). Other reports indicated that an order had been given to the U.S. Sixth Fleet during the crisis "to be prepared to send in a Marine detachment aboard helicopters to *recover the atomic warheads*" (New York Times 1974a)—emphasis added.

⁶ A similar effect might be achievable for multicomponent products by piece-by-piece removal.

This latter report is congruent with Congressional testing by Admiral La Rocque, suggesting that if the "host" country in which U.S. nuclear weapons were deployed became unfriendly to the U.S., "we couldn't get those weapons out and we might have to fight our way in to get control" (Middleton 1974). The Admiral has also emphasized the possibility of seizure of U.S. nuclear weapons by foreign governments for purposes of political blackmail. For example, U.S. nuclear weapons in South Korea seem particularly vulnerable, both because of the uncertainty of future U.S.-South Korean relations, and because some of them are stored within 35 to 50 miles of the Demilitarized Zone and thus are apparently vulnerable to being overrun by the North Koreans. Pincus (1974) has indicated that U.S. Quick Reaction Alert (QRA) aircraft loaded with nuclear weapons, sit poised for quick takeoff in Europe, the Far East and on nearly every Navy carrier, and that on an airbase, these planes are normally protected by "a handful of men with police dogs."⁷

The possibility of seizure of nuclear weapons by terrorists has provoked even more debate. Senator John Pastore, having found nuclear weapons security precautions in Europe wanting in 1973, pointed out that some sites were still vulnerable to terrorist attack as recently as June 1974 (Baltimore Sun 1974). On September 26, 1974 General Michael Davison, Commander of U.S. forces in Europe, told a West German audience that his troops would have difficulty protecting nuclear weapons against determined terrorist attack (UPI 1974). Admiral La Rocque had earlier testified that terrorists would find it relatively easy to seize a bomb and carry it away by helicopter (Middleton 1974).

Following a six month investigation of security at U.S. nuclear weapons sites worldwide, Congressman Clarence Long issued a sweeping five page statement which concluded that some U.S. nuclear weapons sites are in fact vulnerable to terrorist attack, and that they are sometimes located near areas harboring dissidents and sometimes are as far as hundreds of miles from the nearest American installation (Long 1974). A Defense Department consultant's report, on nuclear weapons (Shankle 1974), cited by Long, indicates problems such as: inspections which failed to report deficiencies; weapons stored in the open; equipment in restricted areas suitable for carrying away nuclear weapons; superficial security checks; and inadequately lighted and fenced alert aircraft areas.

Security Implications

It is clear that the degree of control of nuclear weapons inventories achieved in practice is wholly unacceptable, and therefore that these inventories are subject to diversion. The tendency is strong to conclude that what is required are better detection systems and more stringent protective measures. Certainly these would help to reduce the danger. But it is critical to understand that these measures cannot conceivably eliminate the problem, because both components of the control of mass weapons inventories are subject to limitations inherent in the nature of the inventory control problem. As has been shown, neither detection nor protection are perfectable, and yet perfection is the only acceptable degree of control when we are talking about preventing terrorists from destroying millions of lives or renegade governments from triggering a nuclear war.

When even the degree of control theoretically achievable falls short of what is required, it is a certainty that the degree of control achievable in practice will be totally inadequate. This is not the fault of the military and it is not correctable by them nor by others no matter how well intentioned or clever. There is only one way to drastically reduce or eliminate the problem, and that is to drastically reduce or eliminate the inventory. Until this is done, the inventory control problem must be considered a major source of the national insecurity generated by military mass weapons systems.

5. THE GAP BETWEEN OFFENSE AND DEFENSE

Conceptually, there are two kinds of defense: "defensive defense," the protection of the defended area by static barriers and/or the active destruction of incoming attacking forces; and "offensive defense," the destruction of enemy forces capable of attack before the attack occurs (more commonly called "pre-emption").

⁷ The weapons will explode only after activation of a complex arming device. (Pincus, 1970).

Defensive Defense

The essential problem with defensive defense is that it must be reactive. The choices of method, timing and the precise location of the attack, all critical aspects, are made by the offense. The defense must be maintained in a state of readiness capable of effectuating defense within the time allotted by existing warning systems. It also must be prepared to defend against whatever mode of attack the offense chooses to implement.

As late as World War II, and perhaps even today in the case of conventional warfare, static barrier defenses could be constructed which could only be destroyed by persistent offensive pounding. The same limited destructive potential of conventional weapons which made this true also made it possible for the defenders to defeat an attacking force by achieving a small but persistent attrition rate over an extended period. For example, an interception rate of no more than 10% of the incoming Luftwaffe bombers was sufficient for defensive victory during the Battle of Britain. That rate implied that each bomber and crew would only carry out ten strikes on the average and that was not enough to do intolerable damage (Weisner and York 1964, 32). Thus, the defense had major advantages.

The development of mass destruction weapons systems, chiefly nuclear, has completely unbalanced this situation by eliminating the defensive advantages while leaving the offensive advantages intact. There is no way to create a workable and effective static defense against nuclear weapons for any significant part of either the nation's people or its industrial base. It simply cannot be done. Nor is it possible to create a meaningful active defense. The enormous destructive power of nuclear weapons is such that a successful active defense of any population center or industrial target requires the destruction of *every* incoming warhead. No attrition rate of less than 100% can be considered successful. Again the requirement is for perfection, and again perfection is not achievable.

Many of the arguments on the ineffectiveness of active defensive defense came to light during the U.S. anti-ballistic missile (ABM) debates of the late 1960's. Perhaps the ultimate statement on the ABM came out of a January 1967 meeting at the White House, attended by President Johnson, Secretary of Defense McNamara, the Joint Chiefs of Staff, all past and current Special Assistants to the President for Science and Technology (Killian, Kistiakowsky, Weisner, and Hornig) and Directors of Defense Research and Engineering (York, Brown, and Foster). According to York (1969, 18), "we were asked . . . will it (the ABM system) work? The answer was no, and there was no dissent from that answer."

Serious defensive design requires knowledge of the offensive threat. Thus, given the time required for design, testing and deployment, defensive capability always lags behind offensive capability. For example according to Defense Department estimates both the early "Nike-Zeus" and the later "Nike-X" anti-missile missile systems would have been obsolete when, or perhaps before, they became operational (Stone 1968, 1). Building defenses against projected offensive capabilities cannot readily avoid the problem. Since no one design is best against all types of threats, if the enemy is not so kind as to follow your projections the defense will still be inferior. Beyond this, to the extent that the enemy can determine what threats you are preparing against, it will purposely develop in other directions. The result is still the same—ineffective defense.

Offensive Defense

The recently revived "counterforce doctrine" of offensive defense embodies the concept of damage limitation, which implies an ability to destroy preemptively enemy forces in sufficient numbers to significantly reduce the damage they can inflict. Since both the U.S. and U.S.S.R. possess a strategic nuclear force consisting of bombers, land-based missiles, and sea-based missiles, a large enough fraction of each type of enemy force must be destroyed simultaneously to allow only a retaliatory response feeble enough to conceivably be stoppable by an active defense.

The bombers are probably the most susceptible to pre-emption both because they require the longest launch time and because they must be stored more or less in the open at large and obvious locations. The U.S. alert system is such that a good portion of the bombers could be airborne within about fifteen minutes, about equal to the maximum possible warning time for depressed trajectory submarine launched ballistic missile (SLBM) attack. If the bombers

were caught on the ground, they could easily be destroyed by nuclear weapons, but since a sizeable fraction of force would undoubtedly be airborne in situations where attack was expected, that is an extremely large "if."

The most difficult problem in pre-emptive destruction of sea-based nuclear forces is the precise location of missile submarines. Those currently in the U.S. fleet are capable of delivering between 48 and 224 city-destroying warheads per submarine, while the Soviet fleet consists of a sizeable number of submarines which can deliver 16 city-destroying warheads each, along with some of lesser capabilities (Scoville 1972, 15). Since even 16 independently-targeted warheads can destroy a large amount of either nation's population and industrial base, the destruction of essentially *every* enemy submarine is required for effective pre-emption. Therefore, the location of every enemy submarine must be known *simultaneously*.

The range of SLBM's and the ability of carrier submarines to remain submerged for long periods requires enormous amounts of ocean to be searched by extremely sensitive sonar equipment. From all the noise sources and reflectors in the ocean, signals must be extracted and identified not only as submarines but as *nuclear* missile carrying submarines. Since this cannot be done quickly, the alternative of continuous peace-time tracking arises. Richard Garwin, former Advisor to the President for Science and Technology has concluded, "... the simultaneous tracking of 30 to 50 modern submarines is so difficult that its feasibility seems doubtful" (Garwin 1972, 19). Herbert Scoville, former Deputy Director of Research for the CIA has written, "Today it is difficult, if not impossible, to destroy even a single (nuclear missile) submarine that follows skilled evasion tactics" (Scoville 1972, 23). It would seem obvious then that it is not technically feasible to destroy the SLBM strategic force component.

Land-based ICBM's are emplaced in silos "hardened" against attack such that even a one megaton nuclear explosion would have to occur within less than a mile of the silo to assure its destruction. Warhead delivery accuracies are now such that, according to Barry Carter, formerly of the National Security Council staff, "... three Minuteman III warheads delivered, against three Russian missile silos with a 'hardness' about the same as (early) U.S. silos . . . would have approximately an 80% chance of destroying one silo, whereas seven Minutemen III warheads would have a similar 80% probability of knocking out one silo three times as hard." (Carter 1974, 23). However, since assured destruction of even 99% of the estimated current Soviet land-based ICBM's would leave more than 15 of them untouched, and since the eventual capability to fit these missiles with multiple warheads would allow the delivery of up to 150 city-destroying warheads by the remaining 1% alone, this silo destruction capability has no direct military significance. Of course, even this is academic since virtually total destruction not only of land-based ICBM's but also the bombers and SLBM's is required to avoid devastating retaliation, and this is simply not possible now nor is it likely to be even approximately possible in the foreseeable future.

The attempt to establish an effective "counterforce," i.e. pre-emption, capability is not only doomed to failure on technical grounds, it is also an extremely dangerous security reducing policy. Since the easiest way to render an enemy pre-emptive attack completely ineffective is to launch your own missiles before the enemy force arrives, pre-emptive capabilities create a pre-disposition to enemy "hair trigger" operations, with all the dangers that implies.

The net conclusion to be drawn from the analysis of this section can be stated quite simply; there is no such thing as an effective defense of any kind against nuclear attack. And, notwithstanding the ingenuity and creative abilities of humankind, there is unlikely to be any effective defense against nuclear attack for a long time into the future. If nuclear war ever breaks out, all of the weapons, all of the elaborate communications and warning systems, all of the far-flying military bases, all of the vast military systems—will not provide any military security to the nations which have so long and so carefully nurtured them.

It might be argued that these military systems provide real national security by preventing nuclear war through deterrence. But the same technical offensive dominance which has rendered defense impossible makes the existence of massive strategic nuclear forces totally unnecessary for deterrence. Whatever the precise size and composition of a minimum effective deterrent, it clearly would bear no relation to the maze of nuclear weapons and allied military systems cur-

rently in existence. Therefore everything in excess of that minimum deterrent provides no contribution either to preventing war or to limiting damage in the event of war.

6. MILITARY SYSTEMS AND NATIONAL INSECURITY

All of the problems upon which this paper has focused have been and continue to be severely aggravated by the growth in size, complexity, and geographic dispersion of military mass weapons systems. The sheer multiplication of numbers of weapons can quite easily overwhelm efforts to increase safety by reducing the probability of any given weapon being involved in an accident. The proportion of serious weapons accidents may fall, while the absolute numbers increase, but it is the latter which is most relevant to security. Awareness of huge weapons stockpiles standing at the ready may also increase the probability of accidental war by exacerbating international tension. Inventory control problems too become more difficult with the growth in size of the inventory.

Modern mass destruction weapons and communications systems are enormously complex. Given the nature of the functions they are required to perform this complexity may well be unavoidable, but it has the serious effect of reducing reliability. Even if each individual part is made more reliable, a multiplication in the number of parts which must function properly can easily increase the probability of failure of the system as a whole. By way of illustration, between 1960 and 1968 the Air Force carried out a series of readiness tests on Minuteman missiles emplaced in silos in North Dakota, all of which failed—one because of a substandard resistor in the launch power supply; a second because of the failure of single capacitor in the guidance and control system; and the third because of one faulty pin in one of the umbilical connectors (New York Times 1969b). Complexity induced reliability problems can readily lead to more accidents and false warnings. Increased ease of sabotage as well as increased "readiness" pressures, resulting from reduced confidence in warning systems, also aggravate inventory control difficulties.

Greater geographic dispersion produces obvious heightened communications and transportation requirements, with their attendant opportunities for accident and loss of control. But perhaps it is the implied necessity for having more people with access to weapons and related systems which is the most serious problem. Although the question of human reliability is far too complex to be analyzed here, two points should be emphasized. First, there are real mental, physical and emotional limits on the capability of human beings—even "normal" human beings; and second, serious mental, physical and emotional "abnormalities" are so common among the human population that it is not possible despite screening programs, to avoid them when dealing with large numbers of people.

By way of illustration, in 1972 of the roughly 120,000 people with access to U.S. nuclear weapons or responsibilities in the nuclear release process, some 2,647 (3%) were disqualified because of drug abuse, mental illness, alcoholism, discipline problems, etc. Some 1,247 NATO personnel associated with nuclear weapons were removed for similar reasons between 1971 and mid-1973. About 20% of either removal figure was due to drug abuse (U.S. Congress 1973). Clearly, human reliability difficulties have serious implications for the accidental war, inventory control and accidents problems.

Conclusions

The gap between offensive and defensive capabilities has widened into a yawning chasm, making defense in the event of nuclear war impossible. The vast majority of existing mass destruction weapons and their support systems provide no contribution to the prevention of war. Reliability problems make real the chances of destruction of between tens of thousands and millions of human lives by mere accident, of terrorist murder on a scale greater by several orders of magnitude than anything yet seen, even of inadvertent nuclear war in which hundreds of millions will die. And all of these terrible possibilities are increased by the large size, complexity and geographic dispersion of military systems of mass destruction.

We have sought to buy security at the cost of huge expenditures of resources over the past thirty years, but we have bought insecurity instead. The simple fact is we are less secure now than we were ten years ago and we will be still less secure ten years from now if the process of expansionism continues. On purely military grounds, this behavior is clearly irrational.

The deterioration of military national security can be halted effectively only by freezing all weapons systems at their present levels. But this will not increase

national security, it will merely maintain the probabilities of accident, theft and accidental war at their current levels. Given enough time some form of nuclear disaster may well occur, for even though these probabilities are small, they are significant.

The ultimate conclusion to be drawn from this analysis is that the only *military* strategy available which can successfully increase military national security is substantial disarmament.

REFERENCES

- Baltimore Sun. 1974. U.S. nuclear weapons said to be "fall-safe." 27 September.
 Boston Traveler. 1960. December 12.
 Carter B. 1974. Nuclear Strategy and nuclear weapons. Scientific American.
 Crowson, D. L. 1970. Safeguards and nuclear materials management in the U.S.A., Safeguard papers from ANS/AIF winter meeting, November 1968, Office of Safeguards and Materials Management, U.S. Atomic Energy Commission.
 Garwin, R. L. 1972. Antisubmarine warfare and national security, Scientific American.
 Gillet, R. 1973. Nuclear safeguards: holes in the fence. Science.
 Goulding, P. 1970. Confirm or deny. Harper and Row.
 Hudson, R. 1973. Molink is always ready. New York Times Magazine.
 Ingram, T. H. 1973. Nuclear hijacking: now within the grasp of any bright lunatic. Washington monthly.
 Langham, W. H. 1959. Physiology and toxicology of plutonium-239 and its industrial medical control. Health physics. Pergamon Press.
 Lapp, R. 1962. Kill and overkill. Basic Books.
 Larus, J., 1967. Nuclear weapons safety and the common defense. Ohio State University Press.
 Leitenberg, M.
 1969. Accidents of nuclear weapons and nuclear weapons delivery systems. SIPRI yearbook of world armaments and disarmament, 1968/69.
 1974. The race to oblivion. Bulletin of the atomic scientists.
 Long, C. D. 1974. Views of the honorable Clarence D. Long. Submitted to accompany fiscal 1975 military construction appropriations, September 24, 1974.
 Malnak, L. D. 1974. Sworn affidavit, Washington, D.C. January 10, 1974.
 Miami Herald. 1967. Runaway U.S. missile crosses Cuba. January 5.
 Middleton, D. 1974. Could a U.S. atom bomb be stolen. New York Times. September 22.
 New York Times.
 1968. B-52 hunt locates pieces of H-bomb. January 25.
 1969a. Photos of Scorpion discount an attack, January 3.
 1969b. On farm in Dakota missile is something to plow around. March 20.
 1970. Symington finds flaws in NATO's warhead security. November 11.
 1974a. Cyprus crisis stirred U.S. to protect atom weapons. September 9.
 New York World Telegram. 1960. March 14.
 Phelps, J. B. 1960. Accidental war: some dangers in the 1960's. Ohio State University Press.
 Pincus, W. 1974. Congress and tactical nukes. New Republic.
 Schneider, R. and Granquist, D. 1969. Capability of a typical material balance accounting system for a chemical processing plant. Safeguard systems analysis of nuclear fuel cycles. Office of Safeguards and Materials Management, U.S. Atomic Energy Commission.
 Scoville, H. 1972. Missile submarines and national security. Scientific American.
 Shankle, W. M. 1974. Safety, security and efficiency of nuclear weapons storage, maintenance, accountability and logistic movement systems. Department of Defense consultant's report (classified).
 Stone, J. 1968. The case against missile defences. Institute for Strategic Studies Paper No. 47.
 Times (London)
 1971a. War alert a comedy of U.S. errors: February 22
 1971b. Why America ignored this message of doom: February 28
 United Press International. 1974. September 27.
 U.S. Atomic Energy Commission. 1971. Safeguards Dictionary.
 U.S. Congress
 1971. Review of Department of Defense world-wide communications. Investigating Subcommittee, Committee on Armed Services, House of Representatives.

U.S. Congress—Continued

1973. Military applications of nuclear technology. Hearings, Subcommittee on Military Applications, Joint Committee on Atomic Energy.
1974. Proliferation of nuclear weapons. Hearings, Subcommittee on Military Applications, Joint Committee on Atomic Energy.
- Wall Street Journal. 1968. Nuclear nightmare. June 13.
- Washington Post. 1974. Risk seen in keeping U.S. A-arms in South Korea. September 20.
- Welsner, J. B., and H. F. York. 1964. National Security and the nuclear-test ban. Scientific American.
- York, H. F. 1969. Military technology and national security. Scientific American.

PRESIDENTIAL AUTHORITY AND NUCLEAR WEAPONS

(By George H. Quester*)

INTRODUCTION

Who can start World War III by firing nuclear weapons, and who can veto such a firing? These have always been important questions, and never have been fully answered. At earlier times, concern was expressed that some insubordinate General or Colonel might take such an initiative when the President of the United States was trying to prevent it; has the U.S. strategic and tactical arsenal been sufficiently disciplined and padlocked so that this is no longer a threat?

To compound our difficulties, we more recently have seen the resignation and near-impeachment of the President, amid reports that Richard Nixon was bearing up badly under the psychological stress. Would it be possible for one man as Chief Executive to plunge the world into a nuclear holocaust as part of his own *Götterdämmerung*? What legal or social or physical barriers might relieve us of this concern? Can it be that in relieving our concern about mad World War III's launched by Generals, we have devoted too little concern to such wars begun by Presidents?

Rigorous logical analysis must distinguish between the power to *require* the launching of nuclear war, and the power to veto or *prevent* it. A power to require the use of nuclear weapons, or to forbid their use, can further be sorted conceptually into legal power, physical power, and social power.

Who is legally entitled to make such choices? Almost certainly, the Constitution makes the President the Commander-in-Chief here for nuclear war just as much as for conventional war. But what are the relevant precedents then, where any issue has come up?

A very separate question is that of physical power, for there is no necessary congruence between the locus of legal power and the locus of the physical control of war. It is possible to conceive of arrangements by which the power to initiate or prevent nuclear war could indeed be physically insured for the President alone. A button on his desk could be wired so that he could fire missiles directly without the further action of any other American. Or, we could install combination locks on each and every nuclear warhead, and keep the only record of the numerical combination in the President's safe. Each of these are now technically feasible. Yet, for sound reasons, neither exists.

Where the President or anyone else lacks such direct physical control over weapons, he may have a social control nonetheless, in that other human beings are likely to wait for and obey his orders, in using weapons, or in withholding them from use. This then would be a substitute for physical power, almost as reliable perhaps, although requiring the motivation of some intervening actors. Again there is no inevitable congruence between this kind of power and the locus of legal power, although assumptions about legal authority obviously play an important role in getting orders obeyed.

SOME DIFFICULTIES IN CONTROLLING THE MILITARY

Some extreme models of total civilian control have just been cited above, perhaps giving the President the full physical control over nuclear weapons that might seem appropriate to the dictates of the U.S. constitution. We might quickly dismiss the idea of a magic button on the President's desk that gave him the direct physical ability to fire weapons; this will hardly ever seem necessary, and it suggests risks of accident that have to be avoided. We might be a little more approving of the idea of a physical veto on nuclear firings, a veto perhaps embodied in a numerical code that the President alone carried on his person, a code

*Professor of Government, Cornell University, Ithaca, N.Y.

that any soldier, sailor or airman would first have to obtain to dial into the Permissive Action Link (PAL) of his nuclear warheads before they could be detonated. This surely would be the ultimate in civilian control, in reassurance against nuclear insubordination.

Yet the most important theme to be developed here is that of the inherent conflicts and incompatibilities among our goals in the management of nuclear weapons. We want weapons to be controlled so that the military can not use them in defiance of civilian authority. At the same time, we want it to seem certain that such weapons will indeed come into use when a foreign power violates what the U.S. has defined as a vital interest.

- Any direct veto control in the President's pocket would thus surely be unacceptable, if only because it might give the Russians or another potential enemy a veto as well; World War III might be much more likely if all the U.S. nuclear weapons could be preemptively eliminated by a single bomb on the White House, or by an assassin's shotgun attack. We are thus caricaturing the range of choice with this polar extreme which might be labelled "super-PAL," since no nuclear power can dare to adopt it. The ability to fire American nuclear weapons must be physically distributed, at least enough to make it impossible for an enemy to see any easy way to exploit American controls for his own purposes in beginning a war.

This kind of aversion to fuller controls indeed goes beyond a rejection of super-PAL. One could imagine installing self-destruct devices in all American strategic missiles, so that the President or someone else could call off a nuclear war even after the missiles have been launched, in case a mistake was made, in case one had changed his mind. Yet the fear has all along been cited that this might also enable the Soviet Union to decipher the crucial radio signal needed to destroy such missiles, thus giving them a functional anti-missile defense paid for by the American taxpayer, thus enabling them to begin a nuclear war in hopes of escaping retaliation.

The issue of Presidential succession complicates any insistence on full Presidential control in several ways. First, when a President has been killed, perhaps as part of an enemy missile attack, the services may not want to be burdened with tracking down his successor for authority to fire in retaliation. What if the same Soviet missile had also killed the Vice President and the Speaker of the House? Who can remember exactly who is next in line, and who will know where he is at the moment? Common sense about the way retaliation has to be structured may make many or most Americans willing to tolerate an American nuclear strike in such a case which has not been "authorized by the President." And second, a very thorough Soviet first-strike might indeed have killed all the Americans on the list of succession specified by Congress. We will come back later to the question of whether doubts about succession can ever inhibit nuclear war.

One gets into more serious political terrain with arguments about the "trip-wire" function of tactical nuclear weapons. How do these weapons deployed in West Germany or South Korea contribute to American interests? It is claimed that their intended function is to help defeat the invaders in a limited war, that their purpose is defense. Yet it is often obvious that their real purpose is deterrence, to make it more credible, by their very presence, that a Soviet advance would have to lead to nuclear escalation. The latter argument depends heavily on the assumption that an American President would be reluctant to risk World War III in response to a limited Soviet probe, but that his hands would be tied by the presence of tactical nuclear forces in the combat zone, weapons which "unauthorizedly" would come into use even if the White House were at the end opposed. The artillery of all the world has a tradition of never letting its ammunition be captured, of firing it off at the enemy instead. Would not some brave young Captain of Artillery take the initiative in such a case, as his batteries were about to be overrun, firing off some nuclear rounds, with all the risk for further escalation to World War III that this implies? Is this not an important part of what deters the Soviet Union or North Korea from embarking on such aggressions in the first place? Yet the whole deterrent scenario would lose its meaning if it were clearly announced that the President in Washington retained the fullest physical capability for preventing such rounds from being detonated at the last moment. The deterrent impact might also be lost if it were proclaimed that nuclear weapons could not be introduced into battle without the consent of Congress.

Returning again to the World War III scenario, one should note that a "launch-on-warning" policy of retaliation certainly leaves no place for prior Presidential approval, much less Congressional action, if it really involves firing off missiles in response to radar signals of incoming Soviet missiles. Arms controllers may quite rightly condemn any such launch-on-warning policies as unacceptably destabilizing, given the inherent risks of erroneous signals appearing on radar scopes. Yet can one ever be certain that this logic has reached and convinced all the persons that matter on the subject? Even some liberal opponents of ABM at one point seemed to endorse launch-on-warning. More recently, Fred C. Ikle published a critique of deterrence just before he became Director of the Arms Control and Disarmament Agency, an article which contends that launch-on-warning may be more a part of U.S. policy than many of us had realized.¹ There is a general shortage of unclassified information on U.S. strategic targeting policies, and launch policies; it is frighteningly possible that such policies do not get properly monitored by Congress or President or public.

One of the most pessimistic assumptions suggested in the Ikle article is that delayed retaliation by Polaris or Minuteman, even if physically assured on second-strike, would not be politically reliable or credible. The President of the United States supposedly cannot be counted upon to order retaliatory devastation a week or two after the Russian strike, for his anger might have cooled, and his rationality would stand in the way of such revenge.

A parallel question arose more pressingly with regard to ABM, for here one surely would not have wished to wait for Presidential authority before dispatching a defensive nuclear warhead to intercept and destroy an incoming warhead. The criticism of ABM, not the most important criticism, was that it would necessarily erode the prior requirement for Presidential approval before firing.² It is thus interesting to note Congressional testimony that the Commander of NORAD (North American Air Defense Command), has for years been the one military officer authorized to fire nuclear weapons even if the President had not been reached to obtain approval; the nuclear warheads involved are part of various anti-bomber systems deployed in the later 1950's and early 1960's.³

Well then, does the President have enough physical power to prevent nuclear war, or enough social influence, along with the legal authority? How much control over our nuclear arsenal does he have, and is it enough? Is it too much?

The details on the arrangements in effect here are not as easy to obtain as they might be. They nonetheless dribble out in testimony before Congressional Committees, and in periodically forthcoming books and articles, publications often intended to reassure the public that there are no causes for concern here.⁴ Such magazine articles, typically based on information and site-tours provided by the Department of Defense, are often quite vehement in asserting that the system is perfectly capable of supplying the essential commodities, a sure guaranty against accidental or unauthorized launchings of nuclear war, and a sure guaranty that any Russian attack would be retaliated against.

One could however, almost at the dawn of arms control literatures already have found a clear case that we cannot have a perfect arrangement on one of these categories without risking the other. For example Thomas Schelling's chapters 9 and 10 in *The Strategy of Conflict* on "The Reciprocal Fear of Surprise Attack" and "Surprise Attack and Disarmament."⁵

In the officially-sponsored books, along with press accounts, and some movie scripts and novels as well, much is made of the set of codes for launching a nuclear war which are always kept near the President as he travels about. Yet it should be perfectly clear that these are not some sort of *enabling* code, without which military officers could not arm their nuclear warheads, but rather an *authenticating* code, demonstrating for the officers receiving the message in Omaha that it was indeed the President who transmitted it. This then necessarily begs the question of whether some other ways might be found to "authenticate" a message to launch nuclear war, for example reliable news that the President had been killed, and/or that nuclear warheads had fallen on Washington and other major American cities.

Such a code signal must apparently also then move from SAC headquarters to the various missile siloes and bomber bases to commit them to war. Again it must

¹ Fred Charles Ikle, "Can Nuclear Deterrence Last Out the Century?" *Foreign Affairs*, LI, 2 (January 1973), 267-285.

² See chapter by Bill D. Moyers, "Command and Control" in Abram Chayes and Jerome B. Wiesner, *ABM* (New York: Signet, 1969), pp. 101-4.

³ *The New York Times*, Aug. 10, 1974.

be clear that an enabling signal is not involved, but merely an authenticating signal. We are assured that various backup signal-transmitted locations are provided in case the first one should be knocked out, including one constantly aloft. We are also assured that none of these could wrongfully dispatch a nuclear attack, but that each is *automatically* enabled to dispatch such an attack when the responsibility properly devolved upon it in the event of enemy efforts at preemption. Once again we are offered that classic "perfect compromise that loses nothing," never launching retaliation in error, never failing to launch it when needed. Some skepticism is irrepressible here, especially when the account is as unhesitatingly approving as Lloyd Mallan's:

"The order to launch ICBMs can only be authorized by the President of the United States. Once that fateful order is authorized, it is executed by the Commander-in-Chief of the Strategic Air Command, who must first authenticate the authorization. The authentication then simultaneously travels as coded launch orders through multiple communications networks to the missile command posts, where again it must be verified in terms of the code. At the same time, the combat missile control centers are receiving and verifying the code. Even after the code has been verified throughout the vast interlocking system, no combat crew at an ICBM site can launch a missile until electronic devices at the site receive what are known as "launch-enabling signals. These can be transmitted only by the Underground Command Post at SAC Headquarters. In the unlikely event that the key command post should be destroyed by enemy action, the electronic capability to launch or prevent a launch of ICBMs would automatically switch to other key command posts. If these should also be destroyed by an enemy, the automatic system would immediately switch the capability to alternate control points. SAC has more than 80 command posts, both groundbased and airborne, throughout the Northern Hemisphere."

A similarly difficult choice between tighter Presidential control and more reliable deterrence shows up in the investment in submarine-based missiles. One intuitively senses that the submarine should present more command-and-control risks than land-based missiles. One can saturate a missile complex with Air Police, and equip it with redundant underground wire communications channels, to reinsure one's self against an authorized firing. The size of the submarine precludes putting a police veto element on board, and the deployment of such submarines far from home raises the risk at least in principle that communications from Washington might someday be so garbled as to convince reasonable men that an unauthorized attack nonetheless was appropriate.

This must all be balanced, of course, against the inherently greater vulnerability of land-based missiles to Soviet preemptive attack. When all else comes into doubt, for insuring assured second-strike destruction and nuclear peace in the 1980's, one is always relieved to contemplate the invulnerability of the submarine-based forces.

As is the case with the land-based missiles, the articles defending the reliability of the command-and-control system often strive to be more reassuring here than is possible. One is relieved to note that it takes more than the judgment of the Captain by himself to fire the missiles (we thus have a clear abridgement of the traditional authority of the "captain of the ship"). An executive officer who ignored his Captain's order to fire off the *Polaris* would not be guilty of mutiny or insubordination, when in his judgment no Presidential message had been received for such a firing. The published accounts suggest that the positive decisions of as many as three or four officers altogether are required, to decide whether a duly authorized signal to launch their missiles had indeed been received, and that the physical act of firing them involves the turning of keys at locations physically remote from each other through the hull of the submarine. What the accounts do not stress, but leave quite clear, however, is that the code signal the submarine must receive is again merely an *authenticating* code, rather than an *enabling* code. It has apparently been judged too tempting to a foreign attacker to leave

* See, for example, Lloyd Mallan, *Peace Is a Three-Edged Sword* (Englewood Cliffs, N.J.: Prentice Hall, 1964); and Stanley L. Englehardt, *Strategic Defenses* (New York: Thomas Y. Crowell Company, 1966).

† Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960), pp. 203-54.

‡ Mallan, *op. cit.*, pp. 9-10.

American submarines physically unable to fire missiles without a code number; any clever gimmick capable of causing a communications blackout would otherwise presumably then amount to a perfect preemptive counter-force strike.

The insurance against local junior-officer insubordination has been described fairly specifically for the land-based missile case, involving a minimum of two teams of two men to launch a strike, the teams located remotely from each other, the individuals within each team moreover being out of pistol-range of each other, such that a single mad officer could presumably not ever coerce his partner into the initiation of World War III.⁷

Less specific accounts are available for tactical nuclear weapons and other forward-based nuclear systems, with the description sometimes going to "two-key" systems (but what would keep someone, American or German, from overpowering the holder of the other key?) and sometimes to numerical combinations on PAL—permissive action link—systems, combinations which presumably this time would be *enabling* rather than *authenticating* codes.⁸

Some of the reassurances offered for Strategic Air Command manned-bomber procedures become less reassuring once one realizes that they cannot possibly apply to tactical forces. For example, one reads that nuclear weapons on board B-52's must be activated in flight, involving the cooperative effort of several crewmen. This seems an elementary precaution against an accidental explosion if the plane were to crash, as well as one additional reinsurance against mad insubordination by a single member of the B-52 crew, e.g., the Aircraft Commander. Yet one surely cannot have the same practice on tactical aircraft of the U.S. or West German Air Forces flown by a single pilot.

The Issue In Public

The dialogues of the American political process are not full of references to the nuclear command-and-control process. Indeed, such references have been very rare. One small burst of such discussion by important political figures came during President Johnson's campaign of 1964 against Barry Goldwater. It responded to Goldwater's suggestions that greater authority for the use of nuclear weapons be delegated to officers below the President, and it generally won votes for Lyndon Johnson, who presented the issue as follows:

"First, we have worked to avoid war by accident or miscalculation. I believe the American people should know the steps that we have taken to eliminate the danger of accidental attack by our strategic forces, and I am going to talk about that tonight. The release of nuclear weapons would come by Presidential decision alone. Complex codes and electronic devices prevent any unauthorized action. Every further step along the way from decision to destruction is governed by the two-man rule. Two or more men must act independently and must decide the order has been given. They must independently take action. An elaborate system of checks and counterchecks, procedural and mechanical, guard against any unauthorized nuclear bursts. In addition, since 1961 we have placed permissive-action links on several of our weapons. These are electromechanical locks which must be opened by secret combination before action at all is possible, and we are extending this system. The American people and all the world can rest assured that we have taken every step man can devise to insure that neither a madman nor a malfunction could ever trigger nuclear war."⁹

One might note the phrase "by Presidential decision alone," which sounded far more reassuring in 1964 than in 1974. A second major statement, referring this time to "the national authorities" came in testimony prepared for Secretary McNamara and presented by his successor Clark Clifford in Congressional hearings of 1968:

"Finally, we undertook an extensive program to improve and make more secure the command and control of our strategic offensive forces. Among the measures taken was the establishment of a number of alternate national command centers, including some which would be maintained continuously in the air so that the direction of all our forces would not have to depend upon the

⁷ A succinct and up-to-date summary of the command-and-control arrangements on American strategic nuclear weapons can be found in Phil Stanford, "Who Pushes the Button," *Parade*, Mar. 28, 1976, p. 16.

⁸ See Joel Larus, *Nuclear Weapons Safety and the Common Defense* (Columbus: Ohio State University Press, 1967), pp. 82-86; and Harold L. Nieburg, *Nuclear Secrecy and Foreign Policy* (Washington: Public Affairs Press, 1964), pp. 192-196.

⁹ Appears in *United States Arms Control and Disarmament Agency, Documents on Disarmament 1964* (Washington: U.S. G.P.O., 1965), p. 431.

survival of a single center. Steps were also taken to enhance the survivability, reliability and effectiveness of the various command and communications systems, including, for example, provision for the airborne control of bomber, MINUTEMAN and POLARIS launchings. They were all forged into a new integrated National Military Command System. To guard against accidental or unauthorized firings, new procedures, equipment and command arrangements were introduced to ensure that all nuclear weapons could be released only to the positive command of the national authorities."¹⁰

If such public statements were reassuring in their impact, they may nonetheless again have been a trifle misleading, in focussing on the problem of insubordination at lower ranks and not addressing the risk at a higher, senior-officer level. The permissive-action-links and guard systems might be less foolproof against the schemes of mad Generals than of mad Majors.

Public concern about insubordinate Generals launching a nuclear war had indeed already peaked a little earlier, perhaps at the very beginning of the 1960's, as exemplified in the popularity of the novels *Red Alert* and *Fail-Safe*, and the movie *Dr. Strangelove*, afterward converted into a novel.¹¹ Each of these scenarios dealt with the U.S. bomber force, which for various reasons seemed to excite more concern than missile forces. The bombers in those days were repeatedly flown toward the USSR, to be turned around at a specified point still far from Soviet territory, but nonetheless suggesting a certain momentum that might always need to be stopped. Bombers moreover move up to higher alert statuses during crises, while missiles just continue to rest easy in their underground sites. The sheer novelty of nuclear weapons may also have excited more concern, and more fear, in the early 1960's than at present.

In *Fail-Safe*, the cause of war was simple, a malfunctioning condenser in a communications machine, accidentally sending out a signal to dispatch American bombers past their turn-around point, on into the USSR. It was relatively easy to demonstrate the astronomical odds against this ever happening. *Dr. Strangelove* and *Red Alert* were more germane to our discussion here, as conscious human insubordination played an important role in each case. In *Dr. Strangelove*, a psychotic Air Force General was able to dispatch his bombers into the USSR with the special code provided for the contingency of the President's death in a Russian sneak attack, dispatching them in a manner which cancelled any further reliance on "fail-safe" signals and any further vetoes from Strategic Air Command headquarters. In *Red Alert*, a similar general applied elaborate technical stratagems to override the fail-safe system which normally should have called the bombers back.

A second wave of concern about insubordinate Generals would hardly be surprising today, after the disclosures that General Lavelle as commander of U.S. Air Force operations in Vietnam may have deliberately disobeyed orders in launching "protective reaction strike" bombings of North Vietnam in 1972. To be sure, we will all rate this as less serious than an insubordinate launching of nuclear warfare. Yet the career recruitment and training processes that produced a General Lavelle are the same ones that produce the senior officers in charge of Minuteman Missiles. Have we overrated the respect for legal authority that presumably guards against an unwanted war? If the malfunctioning condenser of *Fail-Safe* was too unlikely, can we really rule out *Dr. Strangelove's* malfunctioning psychotic General Jack D. Ripper? Perhaps, as the various accounts would have it, there is enough backup also of Generals and Admirals checking each other, although no one was quick to check General Lavelle. And who checks the President?

SOME DIFFICULTIES IN CONTROLLING THE PRESIDENT

Yet a very different kind of question might capture our imagination, now that the United States has passed close to an impeachment debate. Could a President elect to launch a nuclear war as he lashed out at the personal misfortune of such an impeachment. Or what if another President quietly and suddenly becomes psychotic? What is there legally, or physically, or socially to veto such a nuclear war?

¹⁰ United States Arms Control and Disarmament Agency, *Documents on Disarmament 1968* (Washington, U.S. G.P.O., 1969), p. 248.

¹¹ Peter Bryant, *Red Alert* (New York: Ace Books, 1958); Eugene Burdick and Harvey Wheeler, *Fail-Safe* (New York: McGraw-Hill, 1962); and Peter George, *Dr. Strangelove* (New York: Bantam Books, 1963).

The discussion thus far has been primarily intended to outline a series of difficult choices, as more satisfying civilian control over the military's handling of nuclear weapons may have been deliberately sacrificed, to retain the credibility of American nuclear responses where such credibility is very much desired.

Yet this first difficult choice merely sets the stage for another. We are not only concerned to keep Generals and Lieutenants from beginning unwanted nuclear wars, but also to keep Presidents from starting them. This stretches our budget of what is possible all the more. Can we achieve tighter control over a President without sacrificing the same important credibilities in deterrence? Can we do so without sacrificing controls over the military? Have we perhaps left the President too uncontrolled in earlier days, in the process of balancing deterrence and the control of the military?

The Constitutional situation remains clear. The United States Constitution was obviously written too early to differentiate between nuclear and conventional weapons. If the President is entitled to initiate any kind of hostilities, therefore, he is entitled to initiate nuclear war. A formal Congressional Declaration of War might seem tidier, but United States military forces have by now been often enough involved in hostilities without such a declaration. Self-defense in face of an alleged enemy attack has always seemed to legitimate this. War has moreover not been declared by the U.S. Congress since the end of World War II.

It is clear that Congress has not effectively sealed off the nuclear war option in any of its recent acts intended to curb Vietnam-type conventional wars. Logically the Congressional ban on the use of funds for combat operations in Cambodia, Laos, and Vietnam of June 1973 would forbid nuclear strikes against these countries, but the rest of the world remains open to attack without any explicit Congressional ban.¹² Some testimony of the Commander of the Pacific Forces (Cincpac) moreover suggested that U.S. military officers would obey a Presidential order for resumed conventional war even in face of the above Congressional action. The "War Powers" limitation of November 1973 by comparison indeed lets the President conduct a war (conventional or nuclear) for 60 days without Congressional approval, with the proviso that the Congress can take positive action to terminate it within this time;¹³ all in all this is also not much of a brake on the President's nuclear option.

As noted, one assumes that the President does not have a direct physical capability for firing off missiles. He cannot simply press a button which begins World War III with no further human participation by members of the U.S. armed force. But how many intervening layers of possibly resistant humanity does he have to pass through? If the President simply can pick up a telephone and talk directly to hundreds of missile silo officers, he would *de facto* have a veto-proof war-launching capability, for at least some of such officers would obey his orders, even if others balked. After all, the U.S. Constitution would steer them to obey more than to disobey, even if humanity and common sense would steer them otherwise.

One can thus readily understand the concern about President Nixon's remark to a group of Congressmen in November, 1973, as the Watergate crisis was unfolding: "I can go into my office and pick up the telephone and in 25 minutes 70 million people will be dead."¹⁴

Most certainly, the President's order would first have to pass through several layers of headquarters involving high-ranking Air Force and Navy officers, before it was indeed diffused to reach any Minuteman sites or Polaris submarines. If there were no plausible explanation for nuclear war other than that the President had gone berserk in face of impeachment, one supposes or hopes that some General or Admiral would become insubordinate enough at this point to prevent nuclear war from being launched. Yet one hesitates to rate this as a certainty: what if there were some plausible crisis, for example in the Middle East, to lend a slight trace of credibility or legitimacy to the President's command?

We must also consider the possibility that what served as a safeguard for one contingency may have eliminated a safeguard for the other. Having several Air Force Generals and Navy Admirals redundant to, and checking, each other may keep any particular officer from launching a war. But might this not offer

¹² *The New York Times*, July 1, 1973, p. 1.

¹³ *The New York Times*, Nov. 7, 1973, p. 1.

¹⁴ Remark quoted by Rep. Charles G. Rose III (Democrat, N.C.), cited in press release from office of Senator Alan Cranston (Democrat, Calif.), Feb. 11, 1976.

the President alternative channels so that he as Chief Executive can bypass any General who wished to prevent World War III? A mad President does not need to fire off all the nuclear force to achieve his purposes, or to win the subordination of all his officers; he only needs some.

It is in this connection that the real-life example of Richard Nixon's departure from office becomes most interesting, and only partially reassuring. Defense Secretary James Schlesinger is reported to have been concerned about some of the possibilities discussed here in the final weeks before the Nixon resignation.¹⁵ As always there were two sides to the worry. What if the President, for no good reason, ordered some menacing move with nuclear weapons? What, instead, if the President had good reason to make a move because of international events, but the American public questioned these reasons, assuming political trickery or psychological aberration on the President's part? Some of such public reaction had indeed already occurred at the time U.S. strategic forces were alerted during the Arab-Israeli War on October, 1973. (Not so directly related to nuclear war, Secretary Schlesinger was also reportedly concerned about the inherent possibility of Presidential moves ordering the American military to stage a coup on the Latin American pattern, perhaps to prevent the Congress from moving ahead with impeachment; the Secretary is said to have speculated about the comparative loyalty to the constitutional process of different branches of the armed forces.)

Schlesinger apparently relieved some of his concern by issuing directives that any usual orders from the White House were to be referred back to him for verification during these final weeks, in effect seeking to consolidate and establish the veto on nuclear initiatives which our above analysis suggests is lacking. Yet the legality and constitutionality of the Secretary's action was hardly clear. The President was elected while the Secretary was not. History is replete with instances of Presidents bypassing their Cabinet officers to issue a direct order, direct orders which were obeyed, direct orders which by law should have been obeyed. In the defense area itself, orders for the bombing of Cambodia had apparently very recently moved from Nixon's White House directly to the Joint Chiefs of Staff and the implementing military agencies, without any reference to Defense Secretary Melvin Laird. Schlesinger's moves may or may not have been well-taken, but they hardly settle the constitutional and practical ramifications of controlling the President on the use of American nuclear weapons.

In the last hours of Richard Nixon's Presidency, he was apparently moreover pressured or persuaded into handing over to Vice-President Ford the "black box" in which are carried the authorization codes for the use of nuclear weapons, again a precedent-upsetting move.¹⁶

To return to the question of Presidential Succession, the 25th Amendment to the United States Constitution established a process whereby an incumbent President might be found to have temporarily or permanently lost his ability to serve. This might hold in the case of grievous bodily illness, or an incapacitating stroke, or some form of pronounced mental illness. The Amendment requires that the finding of disability be made by "the Vice President and a majority of either the principal officers of the executive departments or of such other body as Congress may by law provide." Does this serve, or can it serve, as a pretext for cabinet officials or military officers postponing execution of a Presidential order for a nuclear war, or also perhaps his order for a military coup? Military officers might surely feel justified in anticipating such a finding of disability by the Vice President and Cabinet, and restraining the nuclear forces accordingly. But legal purists would instead want to have "Congress provide" some more formalized check here, not requiring Generals to rely quite so much on their Judge Advocate's legal advice. And still there is the question of who can coordinate the conclusion that the President had been disabled in time to head off a nuclear strike; "the Vice President and a majority" may be too diffuse a body, as may even be "the Joint Chiefs of Staff" or "the commanders of the strategic nuclear forces."

Extrapolations from the 25th Amendment may not be that fruitful, therefore. If we think that the President's judgment not be absolute on something so momentous as the use of nuclear weapons, we will still be reluctant to see the 25th Amendment's succession question used to convert the President into a Prime Minister. Other Congressional moves might thus seem more in order, if

¹⁵ *The New York Times*, Aug. 25, 1974, p. 1.

¹⁶ *The New York Times*, Aug. 10, 1974.

one wants to plug an additional check and balance into the system to veto the use of nuclear weapons.

The United States has already seen some such "collective leadership" vigilance on other aspects of atomic energy, which may provide useful models of how to proceed. The Congressional Joint Committee on Atomic Energy long stood out as an unusually powerful and privileged committee, in part because of the great importance Americans imputed to the nuclear technology question almost from the day of Hiroshima. The Committee has held the authority to review agreements for peaceful and military nuclear cooperation with foreign countries for thirty days before such agreements can be implemented, with the right to veto such agreements during that time.¹⁷ The Committee in addition has held broad investigative powers, indicating the seriousness with which Americans treat at least a part of the nuclear problem.

Such procedures for Congressional veto have been held constitutional by the U.S. Supreme Court, and might well be adapted to our problem here.¹⁸ Perhaps we would want to go so far as to require that no American nuclear warhead ever be fired without the concurrence of the Chairmen of several relevant Congressional committees. Perhaps we would instead want to require that a proposal to fire such weapons be placed on the table for such Committees or their Chairmen to consider, with a proviso that the weapons be fired if no Congressional objection intervene to veto the operation within three days, or a week, or thirty days. If the Russians had been so foolish as to wipe out the U.S. Congress with a missile targetted on the Capitol, this presumably would mean that retaliation would come along unvetoes in due course.

One doubts that the U.S. government and public will have the stomach to establish such procedures by formal constitutional amendment; it would be truly novel to have any reference in the Constitution that discriminated between nuclear and non-nuclear weapons. Yet the authority of the Congress to direct and limit military operations may already be sufficient. If the MacMahon Act could forbid a President to give nuclear weapons away to foreigners, a parallel Act of Congress might forbid him to use nuclear weapons without specific Congressional approval.

This verges on arguments in support of a no-first-use policy for American nuclear weapons. If one favored such a policy, it would be so much easier to wish to tie the President's hands on nuclear war in general. The choice becomes more difficult if one is against so explicit a policy, in particular for the defense of regions particularly opposed to conventional attack. To make Communist armed aggression against West Germany or South Korea remain unlikely, we may wish to extract something from "the threat that leaves something to chance," from the possibility that nuclear weapons would somehow come into use even if the Russians had not yet used their nuclears as their tank forces were rolling forward. Our uncertainty about controls on the President, or controls on Generals and Admirals and Commanders and Majors, is in part the price we pay for this added layer of deterring uncertainty.

In this connection, one notes with interest a proposal recently presented by Jeremy Stone in the name of the Federation of American Scientists calling for a requirement that the President not be allowed to launch any first-use of nuclear weapons without the consent of some agency of Congress.¹⁹ This proposal as put forward would not tie the President's hands if nuclear weapons had already been used, or had been irrevocably launched, by an adversary.

One can see some clear problems here in that a berserk President could claim that an enemy's nuclear salvo has been launched, with some fair chance that his orders to fire American missiles would still be obeyed.

Stressing the special issue "no-first-use without Congressional authority" moreover communicates to one and all a signal that the United States is moving in the "no-first-use" direction as a matter of national policy, with whatever undesirable consequences this might produce for the defense of certain areas as noted above. Imposing a requirement for Congressional concurrence instead on all use of nuclears avoids some of this, for a Congressional Committee Chairman might be

¹⁷ See Nieburg, *op. cit.*, p. 44.

¹⁸ See Joseph Cooper, "The Legislative Veto: Its Promise and Its Perils," *Public Policy*, 7 (1956), 128-174.

¹⁹ See "First Use Deserves More Than One Decision-Maker," and Jeremy Stone, "No First Use vs. No One Decision-Maker: A False Dichotomy," *Bulletin of the Atomic Scientist*, March 1976.

just as disposed as a President to recognize and underscore the need for a threat of nuclear escalation, as part of what has kept wars from breaking out in Korea and Central Europe. The more general hedge would of course also rule out false Presidential claims that the other side already had fired nuclear warheads.

One thus worries about whether some real issues on Presidential rationality are not being used as a tool on another issue here—a no-first-use policy—rather than being addressed in their own terms. If the tightening-up were instead kept across the board, the world might simply conclude that the United States had elected to insure itself against madmen, rather than calculatedly terminating its escalation-commitments to various allies; much less of an uproar, must less of a spur to nuclear proliferation, might then occur.

THE INTERNATIONAL CONNECTION

Responsible control over the use of nuclear weapons is by definition an "international" problem. If such weapons are intended to be used at all, it would be against other nations. And five other nations now have such weapons, in order of appearance, the USSR, Britain, France, China, and India. If we have not thought through all the implications of the command-and-control constraint for the United States case, we obviously are likely to know still less for some or all of these other countries, where public discussion of military matters is not as open as in the American case.

We have some good evidence of Soviet concern with the command-and-control problem, even if much of it emerged earlier, when Russian arms control statements were typically phrased as propaganda designed to embarrass the West. There was a time when the USSR devoted a good portion of its propaganda to alleged defects in American command and control procedures,²⁰ attacking U.S. bomber flights with weapons on board, criticizing the deployment of missile submarines. Since the Russians were for a time slow to deploy many missile submarines of their own, one guessed that they were more seriously concerned with the greater command and control problems that might be involved here. More recently, of course, the Russians seem to have shaken off any inhibitions about deploying a large fleet of submarines carrying nuclear missiles.

We have evidence of considerable concern also in Britain and France that nuclear weapons be kept under civilian control, in many respects matching the American concerns as stated in the latter 1950's and early 1960's. In Britain this gets stated as "The final decision about their (nuclear weapons) use rests solely with the British Prime Minister."²¹ In France the formulas have been a little less clear. For a time the possibility remained that the Premier might have legal authority over nuclear weapons along with the President, although this has been clarified to hold this in the hands of the President. More recently, there have been accounts that authority to fire "tactical" nuclear weapons had been delegated to high-ranking military officers, but then again withdrawn after President Giscard came in office.²²

One could note quickly that each of these situations has some of the same defect now noted for the Americans case; we stress the power of the civilian head of government, to calm our fears of unauthorized action by military officers, but what is omitted then is any institutionalized check on the head of government.

India, pretending to have only peaceful nuclear explosives (PNE) and not nuclear weapons, could of course hardly be expected to be very forthcoming about its command-and-control arrangements here. The Chinese government, more openly deploying weapons, has also not discussed command-and-control in any detail.

Quite apart from command-and-control in the narrowest sense, however, we can extrapolate some worried observations from what we know of the broader political arrangements in all these nuclear powers. The United States and France are the only nuclear powers with separately-elected legislatures and executives, a system which constitutionally assures that there will always be a "head of government," and which indeed at the same time allows for the institutionaliza-

²⁰ See description by Herman Kahn, *On Thermonuclear War* (Princeton: Princeton University Press, 1961), pp. 205-210.

²¹ Quoted in Congressional Research Service, *Authority to Order the Use of Nuclear Weapons* (Washington: U.S. Government Printing Service, 1975), p. 11.

²² *Newsweek*, Oct. 27, 1975, p. 15.

tion of checks and balances in the requirement of multiple consent by different branches of government.

Great Britain and India by contrast are capable of being without a head of government, while the Soviet Union and China have all along had regimes with no real recourse to any electoral mandate at all. India, of course, has within the past year abandoned the identification with political democracy which had so long distinguished it among economically underdeveloped nations.

Should one worry more about the nuclear weapons of the "parliamentary system" states, that could conceivably be without a government? Perhaps not, if those states would simply institute a rule that only a Prime Minister can order such weapons into action; if there is no Prime Minister, the weapons simply never get used. One worries, of course, that this will not be the practice, because analogs will get drawn to other weapons. What did the French army do with its ordinary artillery during a cabinet crisis? The answer is clear: the cannon went on firing.

The political processes of outright dictatorships are often enough encumbered by violent coups. So also are systems which have shown themselves prone to be stalemated by prolonged cabinet crises. Violent coups could then easily enough see a nation's nuclear weapons come into frightening domestic political use. It comes as no surprise, but certainly as no reassurance either, that two instances have already been noted of nuclear weapons being brandished within an internal armed struggle for power. One such case came during the Chinese Great Cultural Revolution, when an Army Commander in Sinkiang reportedly threatened to use the nuclear weapons in his custody if the Red Guards were not kept out of his district. An earlier instance came when a French atomic bomb had to be test-detonated several days ahead of schedule in the Sahara in 1960, for fear that it might otherwise fall into the hands of the French Generals rebelling against the government of Charles DeGaulle.²²

The latter revolt occurred at the outset of DeGaulle's "Presidential" Fifth Republic, but might well be seen as the last throes of the frustrations and civilian-government power vacua which had characterized the "Parliamentary" Fourth Republic. Having a President in place, a President always chosen by a popular electoral process, is thus not a trivial asset for the heading off of trouble with nuclear weapons. In this paper we have been recounting the possible defects of reliance on the Presidency for this purpose, but we cannot forget the advantages of the institution either.

In short, if there are causes for worry about reliable nuclear command-and-control within the United States, there may be even more reasons for worry abroad. At the very least, we might then consider some possibilities for bringing nations to cooperate in holding back this problem. If domestic constitutions can not so easily provide a remedy, international treaties and arms control agreements might unexpectedly fill some gaps. This then indeed brings us back again to the topic of "no-first-use" agreements.

It was argued above that the very serious issue of Presidential responsibility should not be exploited simply as part of an effort to introduce a "no first use" policy by the back door. Yet, in the international arena, it might be appropriate and possible to do quite the reverse, to exploit discussions of no-first-use as a way to induce greater responsibility for heads-of-government all around the system.

The Chinese, perhaps to their credit, have proposed a blanket no-first-use policy. Their statements have very explicitly proclaimed that China will never use nuclear weapons first, under any and all circumstances. Presumably this has included scenarios of 500,000 Americans invading China from the south, or one million Russians advancing on Peking from the north. We would have to leave it to conjecture whether the Chinese would really keep to such a self-proclaimed restraint.

We do know that every other nuclear power will be reluctant to endorse so total a restraint. The French have certainly never offered to hold back their nuclears if Paris were threatened by a conventional army, and the British would probably escalate in defense of London. The USSR and U.S. similarly would not tolerate another capture of Moscow or Washington, on the pattern of 1812 or 1814. As mentioned, the U.S. also importantly relies on the threat of nuclear escalation to prevent conventional attacks on more remote areas, e.g., West Germany and South Korea.

²² See Donald Brennan, "The Risks of Spreading Weapons: A Historical Case," *Arms Control and Disarmament* Vol. I (1968).

Yet no-first-use is at least the one arms control proposal on which the Chinese are clearly willing to sit down for negotiations, and Chinese participation is probably essential if we are to hope for any general locking-up of nuclear risks. One can hardly deny that a multilaterally negotiated no-first-use treaty would tend to make unauthorized or irresponsible use of nuclear weapons less likely all around the system. If the strategic disadvantages of such a treaty will be too great for the U.S., the negotiations on no-first-use might yet be converted into negotiations, or simple multilateral consultations, on the general problems of responsible command-and-control. The negotiation process in the past has sometimes seen unworkable schemes exploited to produce important arms control measures, and this can happen again.

Congress can thus legislate within the U.S. itself to guard against a berserk President launching nuclear missiles. It probably should be done as soon as possible, without obscuring or fudging the assurances by introducing the issue of no-first-use. But such a "national solution" to the problem seems impossible within the current constitutional structures of Britain or Russia or India or China. To achieve the international agreement for the same purposes, the United States should thus also be willing to enter into negotiations on any topic related to nuclear command-and-control, not excluding "no-first-use."

[From Arms Control Today, July-August 1975]

"FIRST USE" OF NUCLEAR WEAPONS

(BY HERBERT SCOVILLE, JR.¹)

The post Vietnam-Mayaguez syndrome is now taking a new and very dangerous turn. Seemingly, to demonstrate our manhood and to reassure our allies of our support, the U.S. is flexing its nuclear muscles by threatening the "first use" of nuclear weapons in a wide variety of situations. The setback in Vietnam will force us to adopt a "stern and abrasive" foreign policy, Secretary of State Henry Kissinger is reported to have said in the final days of the debacle. Apparently, the Ford Administration has decided that nuclear saber rattling is an appropriate diplomatic tool for this purpose.

Ever since the initial development of the atomic bomb, the first use of nuclear weapons has been the subject of intense debate. Even now, some thirty years later, it is an unresolved question as to whether the U.S. should or should not have dropped the bombs on Hiroshima and Nagasaki. In 1953, President Eisenhower discreetly warned the Chinese, Russians, and North Koreans that unless progress was made in the armistice talks, the U.S. would feel free to use any type of weapons at its disposal [meaning nuclear] and not confine hostilities to the Korean Peninsula. All during the 1950s, nuclear weapons were brandished by Secretary of State Dulles and others as the counter to Sino-Soviet aggression with larger conventional forces. During this period the implicit threat of first use of nuclear weapons was a fundamental element of our foreign and national security policies.

As the Soviet Union procured an H-bomb capability of its own, the threat of a U.S. nuclear attack became less and less credible. During the Kennedy Administration, defense officials increasingly realized that conventional attacks must be deterred or resisted by conventional forces. Nuclear weapons were primarily regarded as useful to deter a nuclear attack, or to be employed only as a last resort when all conventional means had failed. The U.S. still maintained large nuclear forces in Europe, and somewhat smaller ones in Korea to discourage large-scale aggression, but agreement on plans for their use was never satisfactorily worked out. America's European allies had little stomach for becoming the battlefield for a nuclear conflict although they welcomed the deterrent effect of the presence of tactical nuclear weapons which they hoped would be associated in Soviet minds with the risk of escalation to the strategic level.

MOVING AWAY FROM NO-FIRST-USE

Meanwhile, the "firebreak" between conventional and nuclear weapons became stronger as the years passed without their use. Even during the long and difficult years of involvement in Vietnam, the U.S. never seriously considered dipping into its atomic stockpile—an option which was becoming less viable each day. When the U.S. signed Protocol II of the Latin American Nuclear Free Zone Treaty in 1968, it agreed not to use nuclear weapons against contracting parties to that Treaty. Thus, the U.S. cold war policy of maintaining the freedom of action to use nuclear weapons whenever it saw fit was gradually becoming eroded by custom and even by formal treaty commitment.

Now, however, there is evidence of a major reversal of this trend. Instead of just being reluctant to commit itself to a no-first-use policy, the U.S. has apparently started on a campaign of atomic threats. In March 1975, retired

¹ *Arms Control Today* regularly features guest editorials on arms control subjects of interest. The opinions expressed in the guest editorials do not necessarily reflect those of the Arms Control Association.

Herbert Scoville, Jr., is secretary of the Arms Control Association and former assistant director for Science and Technology of the U.S. Arms Control and Disarmament Agency.

General Westmoreland mused that "the use of several small yield nuclear weapons conceivably could have put an end to the whole [Vietnam conflict]." Later, on June 9th, President Ford stated that one lesson America has learned from the Vietnam war is how to prosecute such a military engagement. Apparently, the President agreed that controlled escalation with conventional weapons is an unsatisfactory military tactic. Furthermore, ever since the political coup of Mayaguez, the public has witnessed a barrage of official statements concerning the possibility of U.S. nuclear responses to aggression in many corners of the world.

In May, a highly placed U.S. military officer in Seoul was quoted as warning that the nuclear option would be most seriously considered if war broke out on the Korean Peninsula; Secretary of Defense Schlesinger more modestly declared that while this would be carefully considered, the ground balance in the Korean Peninsula is not unsatisfactory. On May 29th, Schlesinger released his report to Congress on our nuclear force posture in Europe, in which he simultaneously sought to raise the nuclear threshold by urging improved conventional capabilities and endorsed the use of nuclear weapons even in response to Soviet conventional attacks. At the same time, it was leaked that Strategic Air Command (SAC) crews were being trained for limited nuclear strikes. President Ford, when queried on "first use" at his June 25th news conference, avoided a direct response but admitted that in the past eighteen months U.S. security policy had been changed to provide maximum flexibility for such use of nuclear weapons as our national interest might require.

This brandishing of nuclear weapons peaked on July 1st when Defense Secretary Schlesinger stated at a press breakfast that "first use" could conceivably involve strategic forces possibly in a "selective" strike at the Soviet Union. He attempted to differentiate between a "selective" and a "dismantling" first strike, the latter not being achievable because of the invulnerability of submarine missile forces. The improved counterforce capability which Schlesinger is seeking through greater accuracy and higher yield MIRV warheads will, however, threaten the Soviet fixed, land-based ICBM force—a capability which his predecessor, Secretary Laird, said the U.S. should never seek. Soviet planners cannot avoid thinking that our military is prepared to initiate a nuclear strike against their ICBM force, apparently what Schlesinger wishes them to believe. Since Schlesinger, in testimony before the Senate Foreign Relations Committee in September 1974, characterized a similar Soviet attack against our Minuteman and bomber forces with several thousand megaton-yield weapons as "limited," the Russians may not be reassured by Schlesinger's term "selective strike." He has stated that they should not worry since they can adopt a "launch-on-warning" posture. If the Russians follow his advice and launch-on-warning, then his "selective" strike will only destroy empty silos while their warheads will be killing millions of Americans.

THE ILLUSION OF CONTAINING NUCLEAR WAR

To allay fears over initiating the use of nuclear weapons, Secretary Schlesinger argues that breaching the "firebreak" between conventional and nuclear weapons by a selective strike would not run a high risk of escalation to a major nuclear conflict. He believes that logic would override psychological pressures on decision makers for such escalation, which would require a conscious policy choice. He further asks why, since conventional escalation was controlled in Vietnam, similar control could not be exercised in the nuclear case. Such arguments ignore the fact that the time available for making decisions will be much shorter in a nuclear conflict. And even Secretary Schlesinger has admitted that "Soviet military doctrine does not subscribe to a strategy of graduated nuclear response", so escalation may be inevitable regardless of any U.S. restraint. Finally, since the fate of mankind may depend on the result, can we afford the risk that Schlesinger's judgment might be wrong?

The procurement of new counterforce weapons generates pressures for escalation since both sides will know that unless they preempt a major element of their force could be wiped out. While it might be possible to limit a conflict if nuclear weapons were used only in the battlefield situation, it would seem very unlikely, if not impossible, for it to be controlled once even a few strategic weapons were used only in the battlefield situation, it would seem very unlikely, if not impossible, for it to be controlled once even a few strategic weapons were exploded on the homeland of either the U.S. or the Soviet Union. Even a limited

nuclear strike would result in millions of casualties and the pressure to retaliate would be tremendous. A flexible strategic capability only makes it easier to pull the nuclear trigger.

Secretary Schlesinger's objective of raising the nuclear threshold by maintaining sufficient conventional capabilities to cope with non-nuclear aggression is commendable. However, this goal is being undercut by his nuclear saber rattling. The more America threatens to use nuclear weapons as a response to a conventional provocation, the less the U.S. or its allies will remain prepared to deal with such aggression by non-nuclear means. The forward deployment of tactical nuclear weapons in Europe and Korea can lead the U.S. to be inadvertently embroiled in a nuclear conflict. Presidential permission to use nuclear weapons will be difficult to deny when forward-deployed nuclear forces are in the process of being overrun. Tactical nuclear weapons should be available only as a last resort after careful presidential and allied review of all the consequences. Re-deployment of nuclear weapons to rear areas would be a sounder method of raising the nuclear threshold than threatening a "selective" strategic attack. The use of strategic weapons should be decoupled from tactical situations to reduce the risk of a local conflict escalating to a worldwide holocaust.

UNDERMINING THE NPT

Furthermore, this rising crescendo of nuclear threats is undercutting efforts to prevent the proliferation of nuclear weapons. The more nuclear weapons appear to have political or military usefulness, the more non-nuclear weapons countries will become convinced that they too must take advantage of these benefits. The U.S. and other nuclear weapons countries are asking nonnuclear states to forego the option of acquiring nuclear weapons, but they are unwilling to make a commitment not to use such weapons even against these non-nuclear countries. The U.S. should make a declaration that it will not use or threaten to use nuclear weapons on non-nuclear weapons states, who are parties to the Non-Proliferation Treaty (NPT). This does not mean that the U.S. must renounce its "nuclear umbrella," or that allies of the U.S. would be unprotected against aggression by other nuclear states. Furthermore, to the extent that other nuclear nations make similar pledges, the nuclear threat to these countries is further reduced, providing an added incentive for nations to become parties to the NPT. Unless the spread of nuclear weapons can be halted, they will soon be considered as another conventional weapon. American security will then be greatly decreased since nuclear weapons are the great leveler, and the U.S. will become vulnerable to devastation by small nations or even sub-national groups.

Apparently, the Administration lesson learned from Vietnam is that the U.S. must never again be involved in a controlled-response, conventional war. Instead, it must be prepared to move rapidly with nuclear shock tactics to deter further aggression or wipe out the opposition. The groundwork is being laid for public acceptance of such a policy, which is the logical culmination of the goal of acquiring a flexible nuclear response. The warnings of the critics that this would increase the likelihood of a nuclear conflict are now coming true. Escalation to a nuclear level is now being considered less dangerous than a prolonged conventional stalemate. We are trying to find a way of making our nuclear weapons serve some political or military purpose, ignoring the catastrophic destruction that would result if these weapons are ever actually used.

We can't afford the dangerous luxury of using nuclear threats to demonstrate our resolve in the post Vietnam climate. Actions taken now to restore our national ego could irrevocably lead to our ultimate devastation.

[From Parade Magazine, Mar. 28, 1976]

WHO PUSHES THE BUTTON?

(By Phil Stanford)

WASHINGTON, D.C.—On July 9, 1973, Maj. Harold L. Hering, U.S. Air Force, asked a question. At the time he was a student at a special school at Vandenberg Air Force Base in California where officers learn how to launch this country's huge nuclear missiles from their underground silos. According to Major Hering, it seemed like a logical question. So he raised his hand and asked.

What he wanted to know was this: If he got an order to fire the missiles, how could he be sure it was a lawful order? How, for example, could he be sure it wasn't a fake sent by someone other than the President? Or could he be sure the President himself hadn't gone crazy?

Major Hering never got an answer.

Instead, the Air Force dropped him from the course, stopped his promotion to Lieutenant Colonel and began proceedings to kick him out of the service.

Last November, Major Hering, a 21-year veteran who received the Distinguished Flying Cross in Vietnam, was given an administrative discharge from the Air Force for "failure to demonstrate acceptable qualities of leadership." He had, the Air Force said, a "defective mental attitude toward his duties."

Today Hering lives in the small town of Mt. Carmel, Ill. He still hasn't found a job, and sometimes, considering what has happened to his career and his family, he wonders whether he should have kept his question to himself. He has exhausted all his appeals to the Air Force and his case is closed.

A TABOO SUBJECT

As Major Hering discovered, there is probably no subject more taboo than how this country handles its nuclear weapons. The military refuses to discuss the subject with anyone who does not have the highest security clearance and, to use the military expression, the "need to know." The Air Force, for example, refused to answer Major Hering's question because they said he did not have the "need to know." (Major Hering contended that, as an officer who took seriously his pledge to protect the country, he had to know whether an order to launch the missiles was lawful.)

It is, however, possible to piece together enough information from unclassified sources to get at least some idea of how the system works in the control centers of ICBM's, nuclear missile submarines and nuclear bombers.

Intercontinental Ballistic Missiles (ICBM's) are launched electronically from underground control centers. There are two officers in a control center. To fire their missiles, each officer must insert a key into the control panel in front of his desk and turn it. After they have turned their keys, another two-man team in another launch control center several miles away on the missile base must follow the same procedure.

Each of the four officers must verify the launch order. An order to launch the missiles is transmitted in code. There is a different code every hour. The message received must match the one in the codebook on the operator's desk before each officer takes his key from a red metal box on the wall and inserts it into his control panel.

On a nuclear missile submarine, a firing also requires several people. After the launch order has been verified, two officers must get a key from a double safe—one safe inside another—and deliver it to the captain. The key fits into a control box in front of the captain's chair on the bridge, but the captain can't open the safe to get it. Only the two officers assigned that special duty have the combinations, and each has only one combination.

To launch the submarine's missiles it takes four officers in different parts of the submarine to turn keys or throw switches. The navigation officer has a

switch, launch control has a key, the captain has a key and, finally, the missile officer pulls a trigger. If one of these officers fails—or refuses—to do his part, the missile cannot be fired. There are no controls outside the submarine.

Controls on nuclear bombers are somewhat less rigid. During a nuclear alert—such as the one during the last Mideast war—long-range bombers with nuclear arms fly to a predetermined spot, usually near the Arctic Circle, then circle in holding patterns awaiting further orders. A “go code,” if it ever arrives, must be authenticated by three officers in a B-52 (only two in the smaller FB-111). The officers then unlock a leather satchel, take out their orders, and depart for their target. There are no external controls on bombers, either.

MAJOR'S QUESTION

These procedures are designed to keep one man—in an ICBM control center, a submarine, or a bomber—from starting World War III on his own. But, as Major Hering wanted to know, what are the checks and counterchecks at the end where the orders are given?

Not long ago, in response to a request from the House International Relations Committee, the Library of Congress asked the Department of Defense about procedures for ordering the use of nuclear weapons. The answer they got was short: “Only the President,” said the Pentagon, “can authorize the use of our nuclear weapons, and there are positive controls to preclude the use of such weapons without Presidential authority.”

Other inquiries have been no more successful. According to officials who have been let in on the secret procedures that govern the use of nuclear weapons, the President could not order a nuclear attack without “involving” the Secretary of Defense and the Joint Chiefs of Staff. It is not clear, however, how any of these officials might prevent an unwarranted launch. The President is, after all, the Commander-in-Chief, and they are subordinates. It is also unclear what safeguards exist to keep a high-ranking official other than the President from getting the “go code” and sending it on his own. The President is not the only official who has access to the codes. If the President were the only one and he were killed in a nuclear attack, the United States would be unable to retaliate.

NO ANSWERS

Although there is perhaps no subject of greater importance than how a decision to use nuclear weapons might be made, there is also no subject about which less is known. There are no answers, only questions.

Recently Sen. Alan Cranston (D., Cal.) got worried about “who pushes the button.” His concern, he says, stems in part from a conversation during the summer of 1974 among several members of the House of Representatives and then-President Richard Nixon. At that time impeachment was beginning to close in on Nixon, and he had invited the Congressmen to the White House to lobby for their support.

As he spoke, Nixon got very emotional. His work for peace, he said, had been far more important than any “little burglary” at Watergate. And then, perhaps to emphasize the awesomeness of the power he had administered so wisely and so well, Nixon said a very strange thing. “Why,” he said, “I can go into my office and pick up the telephone, and in 25 minutes 70 million people will be dead.”

It was shortly afterward that Cranston decided to ask the Pentagon for a briefing on the controls over the launching of nuclear weapons. What he got, Cranston says, left him “somewhat reassured,” but it also left him with “some serious questions.”

PRESIDENT FORD'S THREAT

The questions, he says, became nagging doubts not long ago, when President Ford threatened to use nuclear weapons in response to an attack against South Korea and U.S. forces in Korea.

Cranston and others in Congress, including Reps. Jonathan Bingham, Richard Ottinger (both D., N.Y.) and Les Aspin (D., Wis.), are currently proposing legislation that would limit the President's freedom to start a nuclear war without consulting Congress.

Hering's case may be closed, but his question isn't.

[From the Inter Dependent, the monthly newspaper of the United Nations Association, December 1975]

SCHLESINGER'S LEGACY: LIMITED NUCLEAR WAR?

(By James M. Wesley)¹

The ouster of James Schlesinger on November 2 may have reflected the President's disapproval of the former Secretary of Defense's obstruction of Kissinger's detente strategy, but there is no reason to believe it was a rejection of Schlesinger's overall military counsel. Even Schlesinger's sharpest critics are therefore reluctant to predict a reversal of the former Secretary's nuclear strategy, which they consider alarming.

So it remains for his successor, Donald Rumsfeld, to disavow Schlesinger's declared willingness to launch a nuclear first strike at the Soviet Union. That threat was made on July 1, when Schlesinger told breakfasting reporters that the US might attack the Soviet Union with nuclear weapons—not in retaliation for a nuclear strike on the US or its allies, but to stave off defeat in a major conventional war.

The "selective first strike" policy is only the "visible tip of a hidden iceberg of changes at DOD [Department of Defense]," as a report to Congress by Representative Morris Udall (D-Arizona) charges. In fact, it caps a two-year campaign to effect a wholesale change in America's nuclear strategy, based on Schlesinger's desire to develop a flexible "counterforce" capability to destroy the entire Soviet ICBM force in the event of a Russian nuclear strike. Though many experts doubt this goal is technologically feasible, belief is widespread that flexible nuclear response would bring the superpowers to, and quite possibly over, the brink of nuclear war. The reason is that it is impossible to distinguish between counterforce capability and first-strike capability. Counterforce development on both sides would feed the suspicion of surprise attack, and place the already delicate nuclear balance on an extraordinarily tense, hair-trigger footing.

The so-called "selective first strike" scenario outlined by a Schlesinger aide this summer goes like this: If Soviet armies threaten to overrun an area of supreme importance to the US—chiefly Western Europe but perhaps Korea or the Mideast—the US would consider launching a limited number of nuclear missiles at targets inside the USSR. The targets would be chosen carefully for their military importance, such as oilfields or naval installations, but would not include population centers or the USSR's strategic deterrent.

Moscow would thereby be warned that continued aggression would incur unacceptable losses, but with its cities and strategic forces intact and unharmed, would not feel compelled to retaliate with a corresponding reciprocal strike against the continental US, according to Dr. Edward Luttwak, a nuclear strategist and consultant to the Office of the Secretary of Defense. This "selective" use of a small portion of America's strategic arsenal, Luttwak said, would make it possible to "redeem deterrence" even after it had initially failed, a second chance not afforded by previous policies.

When Schlesinger publicly unveiled the "selective first strike" policy, he carefully qualified it as a "highly improbable" eventuality. At the time, many observers considered it merely tough administration posturing in the weeks before the Helsinki summit, or a prod to Moscow to quit stalling at the SALT II talks.

It was a credible threat nonetheless. US missiles are for more accurate than they were a few years ago. Moreover, they can be retargeted in only 36 minutes, rather than 24 hours, providing greater flexibility for "selective" use in a crisis. And enough land-based and seaborne ICBMs, with their new multiple independ-

¹ James M. Wesley is the former associate editor of The Inter Dependent and is presently with "The Robert MacNeil Report," on WNET, New York public television.

ently-targeted reentry vehicles (MIRVs) have, in fact, been retargeted during the past 24 months to make a selective strike entirely feasible. The policy is operational.

The credibility of the threat was also increased because it was made by a then authoritative Secretary of Defense, without contradiction by the President. And finally, it was made by a Secretary who believes that nuclear war can be limited, that it need not automatically result in a massive nuclear exchange.

As Schlesinger told the Senate Foreign Relations Committee on April 4 of last year, "What we are seeking is the ability to conduct constrained nuclear warfare, so that if deterrence were to fail . . . the use of nuclear weapons would not result in the kind of orgy of destruction to which members of the committee have referred." Strategic nuclear warfare was becoming more "thinkable."

The critical variable is obviously the Soviet response. The selective strike is designed primarily to aggression, but opponents fear that in a crisis it will only incite Moscow to resort to nuclear weapons from the start, to pre-empt a US attack. They would have little incentive to even plan for non-nuclear war.

And if deterrence failed, would there be, in Luttwak's words, a second chance? If the US did attack first, would Moscow wait patiently for the missiles and then assess the damage? Or would they launch a massive retaliatory strike at the first confirmation of incoming missiles?

Schlesinger himself has suggested that Moscow could adopt a "launch on warning" policy which, of course, would ensure a nuclear exchange between the superpowers, if the US launched a selective first strike. Further, as Benjamin Lambeth of the Rand Corporation reported recently, Soviet military doctrine does not acknowledge the possibility of a limited nuclear exchange. On the contrary, writes Lambeth, "Once the nuclear threshold is confronted, Soviet doctrine unambiguously rejects any possibility of limitation. . . ." Moreover, Soviet doctrine does not distinguish between "tactical" and "strategic" nuclear weapons.

Luttwak is dubious about taking Soviet theoretical doctrine too seriously. In a real conflict, he insists, Moscow will know what the US is up to, and will show restraint. However, as arms control expert Herbert Scoville Jr. points out, Schlesinger's concept of "limited" nuclear war has been so expansive that the USSR may not be particularly "reassured" by American definitions of selective, limited strikes.

Nor is there any guarantee that Soviet politicians or military officials will act rationally, or with restraint, under nuclear attack. How would their American counterparts, for that matter, respond? "Any view of the Soviet response is speculative," concludes one high-ranking official of the Arms Control and Disarmament Agency (ACDA).

Even if Moscow chose to reply tit for tat, that is, selectively, rather than launch a massive retaliation, what are the prospects that such a war could be contained? "Fifty-fifty," answered the ACDA official, calling the idea of limited nuclear war "a dreamworld." In addition, the Pentagon recently revised its estimates of American casualties in the event of a limited Soviet strike drastically upward, from 3.5 million to a maximum of 22 million.

Secretary Schlesinger linked the selective first-strike option to a possible failure of the NATO defense of Western Europe. Many defense analysts fear that NATO conventional forces, as presently constituted, could not contain a major Warsaw Pact tank thrust without resorting to tactical nuclear arms. NATO doctrine has always contemplated the possible first use of tactical nuclear weapons. The use of large numbers of these arms, which were originally designed to compensate for conventional shortcomings, would produce widespread collateral damage in the countries they were meant to defend.

Schlesinger hoped to persuade the NATO allies to strengthen their conventional forces to the point where nuclear weapons would become unnecessary. But many of these nations, under domestic pressure to cut defense spending, question the need for greater defense efforts in an era of detente with the Soviet Union. Moreover, Schlesinger's policy may prove counterproductive. According to Scoville, "The more America threatens to use nuclear weapons as a response to a conventional provocation, the less the US or its allies will remain prepared to deal with such aggression by non-nuclear means." Schlesinger's recent European tour understandably failed to persuade anyone to beef up their armies.

These changes are not likely to end with Schlesinger's dismissal. They will have to be consciously reversed by executive or congressional action. But President Ford is unwilling, and the Congress may be unable, to do so.

Representative Jonathan Bingham (D-New York) and several other liberal members of the House have introduced resolutions denouncing a US first-strike policy of any kind, and the House International Relations Committee has scheduled November 14 to open hearings examining US policy in this area, which one committee staffer characterized as "no real policy at all." But despite these efforts, and despite a promising campaign last summer by a liberal group of Senators led by McIntyre, Humphrey and Brooke to block appropriations for the first counterforce weaponry, the current DOD budget allots \$100.7 million for their development.

Still, the major problem may remain psychological. The US has never officially denied the possibility of first use of nuclear weapons, but until Schlesinger's verbal campaign, top US officials had generally avoided the enunciation of strategic nuclear threats. Now, after years of movement in the opposite direction, nuclear war is again becoming "thinkable" in some Pentagon circles. According to Scoville, "The groundwork is being laid for public acceptance of such a policy, which is the logical culmination of acquiring a flexible nuclear response."

This is Schlesinger's legacy, and it will remain so until either Rumsfeld or the President disavows it.

[From Orbis, vol. XVIII, fall 1974]

THE ESSENCE OF ARMED FUTILITY*

(By Donald R. Westervelt†)

In the wake of the superpowers' failure to agree, at the 1974 Moscow summit, on principles leading to a permanent strategic arms treaty between them, a national debate on strategic policy has been called for by Secretary of State Kissinger. The burden of failure is placed by Dr. Kissinger squarely on the "military establishments" of both sides, and he suggests that further progress in arms control will be impossible until these establishments are taught the benefits of restraint. Thus the future of the Strategic Arms Limitation Talks (SALT) is unpromising.

The point on which the Moscow negotiations foundered was the limit to be imposed on future Soviet MIRV forces, regarded by the United States as having critical importance because the forces projected, unlike those now deployed, are believed to have potentially destabilizing, disarming first-strike implications. The throw-weight advantage granted in the SALT I agreement could increase in the next few years by more than half; MIRVing combined with predictable improvements in guidance technology could lead, it is argued, to a situation in which there is (in Kissinger's syntax) "elaboration of a gap between first- and second-strike capability," an unstable situation that would be unacceptable to the United States. This issue blocked further progress in Moscow, and it placed in jeopardy any SALT II agreement of genuine arms control significance.

Kissinger's remarks immediately after the summit did not make clear whether it is the military or the political implications of potential Soviet deployments that he views with particular gravity.¹ The present discussion is primarily concerned with the former—the extent to which projected Soviet actions possess genuine destabilizing first-strike implications. This issue, while narrow, is essential to the more general debate proposed by the Secretary (and earlier by the Secretary of Defense). It has been suggested that development of this debate will prove to be difficult or impossible, both because of the complexity of the issues involved and because much of the basic information required to discuss them is classified.² Some of that information, derived from unclassified sources, is given below in order to provide a basis for evaluating the threat of a disarming first strike posed by the possible Soviet deployment actions.

From it I conclude that the threat is easily exaggerated. The United States, by taking appropriate and possibly essential actions, can, at each step, render any Soviet attempt to secure a disarming first-strike capability against its fixed land-based ICBM's an exercise in futility. On the other hand, these actions can be avoided if sufficient restraint is shown in Soviet deployment; the Department of

*The opinions and conclusions contained in this article are those of the author and are not intended to represent those of the Los Alamos Scientific Laboratory of the University of California (his employer), the Atomic Energy Commission, or the Department of Defense.

†Donald R. Westervelt, Group Leader in the Field Testing Division of the Los Alamos Scientific Laboratory, University of California, and a member of a small group at the Laboratory involved in the study of SALT and other defense-related issues.

¹In his words: "... one of the questions we have to ask ourselves as a country is what in the name of God is strategic superiority? What is the significance of it, politically, militarily, operationally? What do you do with it?" The rhetoric of strategic debate, thus enriched, doubtless will provide answers. He also indicates that strategic arms limitation is important "because a perception may grow that these warheads will provide a capability which will not be sustained by any systematic analysis, but because in any event they bring about a gap between the perceived first and second strike capabilities which in itself will fuel a constantly accelerating arms race." (Henry Kissinger, press conference, Moscow, July 3, 1974; *New York Times*, July 4, 1974, *Emphasis added.*) The first quotation seems to deny both political and military significance to potential Soviet superiority, the second, to indicate that the "perception" of a gap, even if unsupported by analysis, may operate politically to fuel further escalation of arms and to exacerbate broader aspects of the relations between the SALT principals.

²See, e.g., Flora Lewis, "Strategic Debate and Secrecy—Lack of Arms Data Limits Discussion Kissinger Seeks," *New York Times*, July 9, 1974.

Defense program for FY 1975 evidently is based both on a preference to avoid them (an example of U.S. military restraint), and the necessity to keep open the option for response if future Soviet behavior demands it. I also suggest that the ability and will of the United States to meet the challenge of unrestrained new Soviet deployments, and thereby to render them fruitless, would provide one of the most important incentives for Soviet restraint that can be devised. Recognition of this fact is essential if progress in SALT is again to become possible; the negotiating prospect offered by *quid pro quo* restraint on both sides should not be overlooked.

THROW-WEIGHT: THE CURRENCY OF COUNTERFORCE

If military power is to play its proper role in negotiations between nations, its value must be accurately assessed; what it is worth both in a military and in a political sense must be correctly measured or had bargains will inevitably be struck. SALT I, in the opinion of a few vocal critics at the time, and many more now, was just such a bad bargain—though I will suggest later that the truly significant implications of the SALT I agreements have been overlooked by admirers and critics alike.

In an attempt to forestall a similar "bad bargain" in SALT II, Senator Henry M. Jackson obtained passage of the well-known Jackson Amendment to Senate Joint Resolution 241, the legislation granting Senate approval to the SALT I Interim Agreement limiting strategic offensive arms. This amendment, which became law with the President's signature and therefore binding in further U.S.-Soviet negotiations on arms limitation, lays out a requirement that any future treaty "not limit the United States to levels of intercontinental strategic forces inferior to the limits provided for the Soviet Union." Interpretations of this wording were deliberately obscured or avoided during the debate on the amendment, but if the legislative history of August-September 1972 is less than clear, Senator Jackson's more recent proposal for SALT II is explicit: the negotiators should start with equal (and reduced) numbers of delivery vehicles in each of the three major intercontinental systems (ICBM's, SLBM's, bombers), then adjust the basic numbers to bring the *throw-weights* of the two nations' forces into approximate equality.³ Numbers and throw-weight, therefore, are the currency in which a new treaty is to be negotiated, with the latter taking pride of place in the final balance.

Jackson is far from alone in his conviction that gross disparity in throw-weight must be avoided. Recently Albert Wohlstetter asserted that "in SALT II it is important to try to get agreement on equal lower total missile throwweight as well as equal aggregate MIRV throwweight and equal lower numbers of missile launchers and bombers."⁴ He is not specific on why it is important. Colin Gray is more direct: ". . . one can see that the more flexible doctrine now endorsed by President Nixon is ill-served by a regime which . . . incorporates numerical and payload asymmetries that give the Soviet Union an enormous prospective counterforce advantage."⁵ Dr. Gray repeats the counterforce concern elsewhere;⁶ he also expresses concern about the *political* as well as military implications of a significant imbalance in apparent counterforce capability (thus evidently placing himself at odds with Kissinger), and about its destabilizing potential. Emphasis on throw-weight, and particularly on first-strike implications of the payload capability of individual missiles was further strengthened by recent testimony by Secretary of Defense Schlesinger, analysis of which forms the basis for much of this article.

In fairness, it should be noted that all analysts are not in agreement on the throw-weight issue. Joseph Kruzel, in an article written before the recent Soviet missile developments became public knowledge,⁷ assigns to *qualitative* limitations the highest priority in SALT II. (The difficulty of achieving such limitations, particularly after extensive MIRV testing on both sides, is well known.) Maxwell D. Taylor⁸ expresses concern about *numbers* of strategic systems, although he

³ See *Congressional Record*, Dec. 4, 1973, p. S. 21757 ff.

⁴ Albert Wohlstetter, "Threats and Promises of Peace: Europe and America in the New Era," *Orbis*, Winter 1974, p. 1143.

⁵ Colin S. Gray, "Rethinking Nuclear Strategy," *Orbis*, Winter 1974, p. 1154. (Emphasis added.)

⁶ See his "Unsafe at any Speed: A Critique of 'Stable Deterrence' Doctrine," *RUSI Journal*, June 1973, pp. 23-27; and "Defense and Negotiation," *Air Force Magazine*, January 1974, pp. 32-36.

⁷ "SALT II: The Search for a Follow-On Agreement," *Orbis*, Summer 1973, pp. 334-363.

⁸ Maxwell D. Taylor, "The Legitimate Claims of National Security," *Foreign Affairs*, April 1974, p. 577.

concludes finally that unilateral reduction to a minimum deterrence posture might be desirable if bilateral restraint is not achieved. He ignores the throw-weight issue entirely, as well as requirements for support of a more flexible strategic doctrine.

The value of throw-weight in the marketplace of SALT thus meets with less than complete unanimity; the political scientist is likely to emphasize its political implications, while the military specialist will probably (but not necessarily) be most conscious of its military potential. Both, if they overestimate its significance, are apt to approach SALT II shackled by serious misperception.

The military evaluation appears to be of critical importance: it must be correct, else how can sound political judgment be hoped for? At present that evaluation can be gleaned most authoritatively from the March 4, 1974 testimony of Secretary of Defense Schlesinger presented before a top-secret session of the Subcommittee on Arms Control, International Law and Organization of the Senate Committee on Foreign Relations.⁹ The Annual Defense Department Report for FY 1975 was published on the same day.

THE MUSKIE HEARING: THROW-WEIGHT AND FIRST STRIKE

The Muskie Subcommittee hearing on U.S.-USSR strategic policies, "sanitized" for public release on April 4, 1974, and the accompanying FY 1975 DOD Report, are documents of genuine historical significance, although on the whole they raise as many questions and concerns as they answer.¹⁰ One aspect of the testimony is particularly relevant to the purpose of this article, and is considered in detail below: the disarming first-strike implications of recent Soviet improvements in throw-weight, re-entry vehicle (RV) design and guidance, as they relate to SALT negotiating objectives and the U.S. force structure. The major concern centers on the new Soviet SS-X-18 and SS-X-19 ICBM's, potential replacements for the SS-9 and SS-11.

The SS-X-18 and SS-X-19 have greater throw-weight capability than their predecessors, as well as improved guidance and MIRV's. While the ratio of Soviet to U.S. ICBM throw-weight would increase only from four-to-one to five- or six-to-one if these new missiles were fully deployed, the combination of the available payload with accurate onboard computer guidance has counterforce implications not present in the earlier systems as now deployed.

These implications were given considerable attention in the course of the hearing. While Schlesinger consistently stressed the impossibility of either side achieving a disarming first-strike capability, he made it clear, in response to questioning, that he viewed the Soviet potential for counterforce with gravity, and he stated that a major U.S. arms control objective in SALT II is to discourage Soviet deployment of large numbers of these new missiles. Should we fail in this objective, we would augment our own throw-weight "as a second best solution to maintaining arms balance."¹¹

⁹ Testimony of Defense Secretary Schlesinger, U.S.-U.S.S.R. Strategic Policies, Hearing before the Subcommittee on Arms Control, International Law and Organization of the Committee on Foreign Relations, U.S. Senate, 93d Congress, 2nd sess., Mar. 4, 1974. Schlesinger was the sole witness before the Subcommittee, of which Senator Edmund S. Muskie was chairman.

¹⁰ Schlesinger's extemporaneous testimony and response to questioning was described to me by a close associate as "a virtuoso performance." As an exposition of strategic doctrine, however, it was imprecise and the flaws bode ill for acceptance of that doctrine until the record is corrected. The same imprecision can be noted in the DOD annual report, but to a lesser degree. In addition to the misleading treatment of missile throw-weight, other errors include:

(a) Use of the term "targeting doctrine" throughout, when in fact "execution doctrine" is sometimes meant. The separate and laudable objective of city-avoidance is thus inextricably involved with later discussion of the need for limited-response options, and possibly for improved counterforce (specifically, hard-target) capability. Changes in execution priority are entirely independent of the latter two subjects; execution at low levels (limited strategic options) is similarly not dependent on improved hard-target capability.

(b) Failure to acknowledge that deterrence of limited strategic options (LSO's *works both ways*, by suggesting (reluctantly, in response to a question) that the United States might strike a Soviet oil field in response to a massive invasion of Western Europe. It is precisely because credible deterrence of limited as well as massive threats *must* act both ways, thereby lowering the probability of any strategic nuclear exchange, that it is a necessary addition to U.S. planning. Neglect of the obstacles to threatened or actual limited *first use* of strategic forces by either side can only harden resistance to the LSO concept. The value of limited response options *after* an attack, should one occur, is quite distinct from their value as a deterrent of attack, and discouraging first use by providing credible response options must be the overriding objective.

¹¹ U.S.-U.S.S.R. Strategic Policies, *op. cit.*, p. 41.

Most of the testimony in this area emphasized the destabilizing implications of the Soviet throw-weight potential. The purpose of this article is to examine those implications, both as presented by the Secretary of Defense and as derived independently from information available in the transcript¹² and elsewhere. My conclusions differ significantly in judging the importance of throw-weight restriction (because of its first-strike implications) as a primary bargaining objective in SALT. How justified are concessions in other areas—e.g., B-1, Trident, forward-based systems (FBS), extension of the Interim Agreement (if that, in fact, is a concession)—in order to secure Soviet restraint in deployment of new systems? Are other limitations possibly of greater importance? Can we identify incentives for Soviet restraint that are independent of major U.S. concessions in these areas? What is an appropriate U.S. response, should extensive deployment of the new systems occur? Specifically, would large increases in U.S. throw-weight be required? And can we justify significant imbalance in throw-weight capability under the constraints of the Jackson Amendment? Some, though not all, of these questions will surface in this article; others involve not only the narrow question of first strike, as discussed here, but broader issues as well.

"THE ESSENCE OF ARMED CIVILITY"

The throw-weight problem has two related parts: the throw-weight per missile, and the total throw-weight capability possessed by each side. In his testimony, Schlesinger stressed the destabilizing implications of high throw-weight missiles. A graph, printed on page forty of the transcript to illustrate this point, appears to show that at high booster throw-weight (ten kilopounds and five kilopounds), the nation attacking in a first strike destroys a much larger fraction of his opponent's force than he is required to expend on the strike; thus, it was argued, there is a premium attached to striking first—an unstable situation. At a two-kilopound level, on the other hand, the graph shows the situation to be reversed: the attacker spends more missiles than he kills; therefore, a first-strike is not profitable, and the situation is inherently more stable. An extension of this idea to large numbers of low throw-weight missiles, in preference to smaller numbers of heavier missiles, is described as "the essence of armed civility."

The conclusion regarding the effect of missile payload on stability, however, is highly dependent on the assumptions peculiar to the figure used (drawn from a 1963 Harvard study): namely, that the two-kilopound payload provided two RV's per target, each having a kill probability of 50 per cent, with a missile reliability of 90 per cent. Under other conditions (number of RV's target, kill probability per RV, and reliability), as we shall see, a two-kilopound payload can easily achieve, in theory at least, a "profitable" exchange ratio. Stability, as pointed out by Gray¹³ thus may depend on the eye of the beholder; or, more accurately, on the specifics of his calculations.

In another chart used in Schlesinger's testimony, the "Hypothetical Reciprocal Countersilo Capabilities" of a potential Soviet force (expanded to 7,000 RV's against 1,000 U.S. targets), and a potential U.S. force (expanded to 3,000 RV's, against 1,400 Soviet targets), are compared. Secretary Schlesinger observes that, assuming a 0.1 nautical mile (nm) operational degradation of the Minuteman III (MM III) CEP, it would take the entire U.S. force of 1,000 missiles (or 3,000 RV's) to draw down the Soviet ICBM-silo target system by 40 per cent; whereas, with the same CEP degradation, the Soviets could reduce our force by 75 per cent (to 250 missiles) while retaining 20 per cent (or 280) of their own. This he cited as an undesirable "psychological imbalance," and it was implied that deterrence would thereby be weakened.

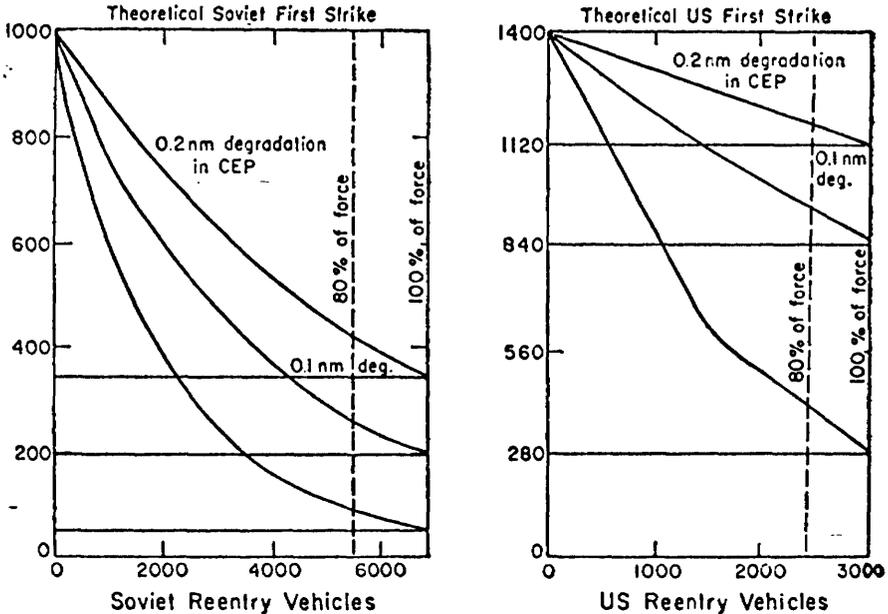
This chart, which appears on pages sixteen and forty-five of the "sanitized hearing transcript, is reproduced here as Figure 1. It conveys the strong impression that, from the point of view of a nation contemplating a disarming first strike against ICBM silos, the Soviet Union would be in a much better position if its forces are augmented as shown than the United States would be. Neglecting operational degradation in CEP, it suggests that the United States could be reduced to fewer than 100 missiles by the expenditure of 80 per cent of the Soviet

¹² To quote Dr. Schlesinger: "We are more or less obligated to explain to the American public as well as to the Soviets and to third audiences, the calculations on which American security and the security of our alliances rest." *Ibid.*, p. 36.

¹³ Gray, *op. cit.*, p. 1152.

force (the USSR would retain 1,400 RV's for other purposes), while even under the most optimistic assumptions we would spend our entire force in order to draw the opposition down to 280 missiles, or again 1,400 RV's.

FIGURE 1.—Hypothetical reciprocal countersilo capabilities: Soviet Union and U.S. ICBMs.



Source: Testimony of Defense Secretary Schlesinger, *U.S.-U.S.S.R. Strategic Policies, Hearing* before the Subcommittee on Arms Control, International Law and Organization of the Committee on Foreign Relations, U.S. Senate, 93rd Congress, 2nd Session, Mar. 4, 1974, pp. 16, 45.

Thus, the prospect of Soviet deployment on the scale indicated is cause for alarm. The Secretary asserts that "Our hope is ultimately to restrict either Soviet MIRVing or Soviet throw-weight so they don't get up here into the 7000 or 8000 large yield range."¹⁴

ANOTHER VIEW OF THE PROBLEM

It is unfortunate, but presumably necessary, that public understanding of these issues is limited by the requirements of security; the facts on which sound conclusions might be based tend to be classified. In the case at hand certain information needed for further discussion of counterforce (and, specifically, disarming first-strike) implications of the Soviet MIRV potential is missing. Some of the essential numbers can be derived, however, directly from the data provided in the "sanitized" chart reproduced above, if we read it with precision. Needed are the weapon and target characteristics assumed in calculating the curves, specifically the yield, CEP, reliability and target "hardness." These characteristics (hypothetical since they are derived from hypothetical capabilities) turn out to be, for the U.S. first strike case, a CEP lying between 700 and 775 feet, or about

¹⁴ *U.S.-U.S.S.R. Strategic Policies, op. cit.*, p. 45.

one-eighth of a nautical mile, and a reliability of 80 to 100 per cent.¹⁶ An assumed Mk 12 warhead yield of 170 kilotons leads further to an estimated target hardness of 1,000-1,500 psi, but the precision of these latter two values is not of great importance. For the Soviet first-strike force, one obtains a (hypothetical) CEP¹⁶ of about three-tenths of a nautical mile and a reliability of about 90 per cent. If a one-megaton yield is assumed (the value most often mentioned in the testimony), a 1,000 psi target hardness results.

Why are these numbers important? Simply because they are essential in evaluating the "hypothetical" Soviet capability and in estimating, on the basis of published information, future trends in U.S. capability. A possible U.S. response to the potential Soviet threat, and therefore its real implications for U.S. security, emerges from the discussion.

We first take the curves for the Soviet first strike and focus attention on the lowest, which assumes no CEP degradation. This curve is a continuous plot of the formula for target kill by multiple RV's. In fact, with only 1,000 targets and 7,000 RV's, the formula is spun out seven times. But this does not correspond to the *real* world. Each U.S. silo can be singly targeted (1,000 RV's spent), or doubly or multiply in all or part, but each choice of execution doctrine results in the single point that is its result. Use of a continuous curve to represent these results is misleading (force application is inherently a discontinuous process). The end point, with seven RV's per target, could be reached by firing all 7,000 RV's at once, if it were not that most of them would end up killing each other, rather than silos.¹⁷ A far more likely attack would involve double targeting (2,000 RV's), with a delay before launch of the next salvo, which would be substantial and essential. If there were no U.S. response, a first wave of 400 missiles or 2,000 RV's would reduce the U.S. Minuteman force to about 400 missiles, assuming no CEP degradation. This result can be plotted by the reader at the appropriate point, although it is a point that might never be reached in practice.

We turn now to the hypothetical U.S. "first strike." With the weapon characteristics assumed by Schlesinger, we would have to spend the entire postulated Minuteman III force to kill all but 280 of the Soviet missiles, with no operational degradation. This can hardly be considered a profitable exchange. But what about possible improvements in the MM III force? An insert attributed to "Pentagon sources," which accompanied a William Beecher article,¹⁸ stated that programs were underway to increase the MM III warhead's yield by a factor of about four. Furthermore, the fact that guidance accuracy is constantly improving is public knowledge: a theoretical limit of thirty meters or less at ICBM range has been suggested by D. G. Hoag, Director of the Apollo Guidance and

¹⁶The derivation proceeds as follows (only the U.S. first-strike case is described; for the Soviet case the arithmetic is similar): The first unknowns to be determined are Pk, the single shot kill probability, and NRR, the nonreprogrammable reliability. Their product can be determined from the number of missiles killed when 1,400 or 2,800 RV's are fired at 1,400 targets (725, 1.074). This product is 0.518. If NRR=1, a lower limit for Pk results, and it can be shown that this determines the ratio of lethal radius (LR) to CEP, using the well-known "cookie-cutter" approximation: for this Pk it is 1.026. If a lower NRR, 0.8, is assumed, then LR/CEP turns out to be 1.226. The kills at the nominal CEP and the CEP plus 608 feet are given: these suffice to determine both LR and CEP for the two cases considered, which in turn lead to specific values for target hardness if a value for yield is assumed. The yield of the MM III Mk 12 warhead is classified. However, for the purpose of these calculations I use the value 170 kilotons, suggested by William Beecher in the *New York Times* (Mar. 21, 1971) before he joined the Defense Department. For the NRR=1 case, we find that CEP=776, LR=796 feet, and H=1,500 psi. For the NRR=0.8 case, the values are 694 feet, 851 feet, and 1,000 psi. Thus, the NRR=0.8 case implies a CEP that is reported (Edgar Visamer, "The Soviet ICBM Threat Is Mounting," *Aviation Week and Space Technology*, Feb. 4, 1974, p. 14) to be the goal in existing improvement programs; this presumably establishes a lower limit for the NRR assumed in developing the DOD charts. My later calculations of Minuteman kill against the Soviet system, based on improved MM III characteristics, maintain the relationship between NRR and target hardness apparently used in the DOD calculations.

For the above mentioned "cookie cutter" approximation, see, e.g., L. E. Davis and W. R. Schilling, "All You Ever Wanted to Know About MIRV and ICBM Calculations But Were Not Cleared to Ask," *Journal of Conflict Resolution*, June 1973, pp. 207-242. Using different assumptions, these authors reach conclusions quite different from those derived here.

¹⁷I have assumed that a single yield/CEP combination was used for all 7,000 Soviet and all 3,000 U.S. RV's.

¹⁸The subject of warhead fratricide is discussed, with perhaps some hyperbole, by Simon Winchester in the *Massachusetts Guardian*, June 29, 1974. For a considerably more technical exposition of the fratricide problem, which supports my assertions, see "Why ICBM's Can Survive," by Joseph J. McGlinchey and Jacob W. Seelig, *Air Force Magazine*, September 1974. An even more restrictive interpretation of the effect of fratricide appears in Kosta Tsipis, *Offensive Missiles* (Stockholm: Stockholm International Peace Research Institute, Stockholm Paper No. 5, August 1974).

¹⁹*New York Times*, Aug. 5, 1972.

Navigation Program.¹⁹ We have already noted reports of an existing program of guidance improvement,²⁰ with the objective of a 700-foot CEP, and a new system (AIRS), mentioned by Edgar Ulsamer,²¹ "has a very real potential to cut CEP roughly in half."

If Beecher, Ulsamer and *Aviation Week* are to be believed, the counterforce (I deliberately here avoid the term "disarming first strike") capability of the Minuteman system could change radically. A 500-kiloton warhead (improvement by less than a factor of three, rather than four), combined with a 700-foot CEP would result in a modernized, 1,000-missile (a figure assumed by the Secretary of Defense) MM III force that could, in the absence of CEP degradation and assuming 80-100 per cent reliability, take out 70-85 per cent of Soviet 1,000-1,500 psi targets (silos) with an expenditure of only 47 per cent of our own. If, following Ulsamer's suggestion, one calculates on the basis of one-half of the above CEP, a still smaller fraction of the Soviet silo targets would survive. At that extremely high accuracy, reliability dominates the result, and yield and hardness are relatively unimportant. Thus, in the short term, the U.S. force may be capable of achieving significantly greater hard-target capability than even the maximum postulated Soviet forces. At least this is true if operational CEP degradation is ignored, and a reason for ignoring it in relevant situations is suggested below.

THE DISARMING SECOND STRIKE

In his testimony Schlesinger expressed serious concern about destabilizing implications of a potential Soviet disarming first-strike capability. These implications clearly will be greatest when the Soviets can predict with confidence that (a) U.S. strategic forces other than the land-based ICBM's will be unusable through intrawar deterrence or as a result of their prior or simultaneous destruction; and (b) the U.S. ICBM force will be reduced by a first strike to a level that precludes an intolerable riposte by the remainder of that force, and leaves the balance decisively in favor of the Soviet Union. To the extent that these conditions fail to be met, perceptions of destabilization must be modified.

Survivability of the SLBM and some of the bomber forces is most often cited by those seeking to demonstrate that condition (a) cannot be met, and therefore that a disarming strike against the ICBM's would be profitless. It is less than comforting, however, to place total reliance on assumptions about the impossibility of technological progress—in anti-submarine warfare, for example—if alternatives exist; furthermore, the possibility of intrawar deterrence, particularly of employment against value targets, must be considered, especially in light of current efforts to revise the "targeting doctrine." Thus, it is important to examine whether the Soviets can attain condition (b). Can an unacceptable reply by the United States be precluded? Will the imbalance resulting from the attempt to disarm be decisive, so that in effect we have no alternative but to quit?

In contemplating his chances of success, any attacker most likely will make *pessimistic* assumptions about the performance of his own forces and *optimistic* assumptions about his adversary's. Thus, for a U.S. President contemplating a disarming first strike against Soviet ICBM's, the CEP degradation problem alone would dissuade him, as Schlesinger makes quite clear. A Soviet leader, given the figures derived here, would be equally unlikely to launch an attack that would (with the present assumed accuracy), after the first wave leave the United States with at least 400 missiles—ample at least for the assured destruction mission even if no other forces survived. In the short term, therefore, an unacceptable U.S. reply to a Soviet first strike cannot be precluded: the resulting imbalance would be much less than decisive, particularly so long as any counter-value response is considered possible.

In the longer term, Soviet accuracies must be expected to improve. Eventually there might be grounds for confidence that the first wave of one or two thousand RV's would substantially eliminate the Minuteman force, leaving the bulk of Soviet ICBM's available for other purposes. This could be regarded as decisive, provided it is passively accepted by the United States. But in this situation the Soviets would have to anticipate another, more threatening, response:

¹⁹ D. G. Hoag, "Ballistic Missile Guidance," in Bernard T. Feld and others, editors, *Impact of New Technologies on the Arms Race* (Cambridge, Mass.: MIT Press, a Pugwash Monograph, 1971).

²⁰ Ulsamer, *loc. cit.*

²¹ *Air Force Magazine*, November 1973, p. 37.

that, faced with the postulated maximum Soviet counterforce threat, we would launch the Minuteman force at their entire 1,400-silo target system before the first Soviet warhead arrived. In making that assumption and calculating the probable result, they cannot at the same time make the assumptions about CEP's that would clearly discourage us from launching a disarming first-strike attempt. They would calculate—given the MM III improvements described above—that, if we launched 2,800 RV's against their silo system on warning that their 400 missiles were approaching, each side would end up with no more than a few dozen land-based missiles.²² There would, of course, be extensive collateral damage on both sides, but the land-based ICBM forces on *both* sides would be effectively removed as a factor in further hostilities. Such a result would appear neither acceptable nor decisive.²³

The concept of launch-on-warning has correctly been deplored in the context of a spasm-response countervalue-oriented strategic emphasis. It is quite a different situation when counterforce objectives are primary, when an opposing force is known to have the characteristics imputed to future Soviet forces, and when the warning is based on observation of an attack as massive as would be necessary in any attempt to disarm us. Attack assessment in the 1980's must be made adequate for that purpose, if the postulated maximum deployments take place.

None of the arguments presented thus far suggests that the Secretary of Defense is incorrect in asserting that a disarming first strike against ICBM's is beyond the capability of either nation, although this conclusion must explicitly rest on appropriate response determined by evolution of the threat. But the discussion, therefore, necessarily also demonstrates that grave concern about growing Soviet (or U.S.) counterforce potential, as a *destabilizing first-strike threat*, is unjustified, at least on the basis of rational military considerations. (The important but separable subject of more restricted damage-limitation capability, and its effect on stability, must be left for discussion elsewhere.) The concern that *should* exist thus lies in other areas, and is addressed in relation to SALT.

SALT I AND SALT II: THE ESSENCE OF ARMED FUTILITY

What can now be said about SALT I that has not already been said? Two things, perhaps. First, the most significant result of the Interim Agreement on offensive weapons was not, as conventional wisdom would have it; that it broke Soviet momentum in an area in which we had none. (Senator Jackson never believed that, and clearly Soviet momentum has picked up considerably.) Rather, *it froze the numbers of ICBM launchers* (and therefore *the number of silo targets*) on both sides. Second, the most significant aspect of the ABM Treaty is not that it rendered populations forever hostage, but that it *rendered the ICBM's on each side invulnerable* (in its own calculations) to a disarming *second* strike, making an attempt to disarm in a first strike, as demonstrated by this analysis, no longer credible. With the target system fixed and no ABM defense of silos, each side can, if it has the will, arrange its forces so that a disarming first strike by the other—as perceived by both sides—cannot possibly succeed. *This is not an unstable situation.* (Although in the short term it can be shown that no Soviet countersilo response—other than "launch-on-warning"—to a first strike by an *improved* U.S. MM III force is possible, that would not leave them disarmed while we retained between 500 and 1,000 RV's. This fact may understandably concern Soviet planners, but it becomes operative only if we are forced to upgrade our forces.) If the Soviets achieve a high enough kill probability to threaten our force to a similar degree *in the first wave of the attack* (a CEP of about 880 feet with high reliability), a launch-on-warning capability on our part could become imperative—assuming we do not move entirely away from fixed-base ICBM's. But even under that condition of silo vulnerability the projected 7,000-RV Soviet force is irrelevant in the first-strike calculus; only the

²² Beecher suggests (*New York Times*, Mar. 21, 1971) that the early warning satellite system will permit retargeting within minutes against only those silos that are still occupied. This would further increase the efficiency of the "disarming second strike," save several hundred missiles, and create an imbalance in our favor.

²³ The "disarming second strike" postulated here clearly has damage-limitation as its primary objective. Its necessity derives from retention in the hypothetical Soviet ICBM force of most of that force after a first strike. Dr. Schlesinger's requirement that Soviet hard-target capability be matched by the United States, if it develops unchecked, has been widely questioned. A possible explanation is apparent in this discussion. Alternative response options (e.g., mobiles) could preserve the assured destruction capability but would fail to meet a damage-limitation requirement.

first couple of thousand RV's should be counted because the rest (unless we fail to meet the challenge²⁴) can be killed in their silos.²⁵

THE ESSENCE OF ARMED FUTILITY

What, then, of SALT II? Thus far it is clear that the U.S. approach to these negotiations has been dominated by the specter of an evolving Soviet capability, through the deployment of large numbers of potentially highly accurate MIRV's, to eliminate in a surprise first strike a substantial part of the U.S. ICBM force—a capability that it is feared will lead to both political and military Soviet predominance. But this specific military apprehension is exaggerated, as we have seen. Instead of being so deeply concerned about a future position in which we could be forcibly disarmed, our approach to SALT should be motivated by justifiable reluctance to proceed with further countervailing changes in U.S. forces—not because of the cost of those changes in dollars or because they are destabilizing, but because of their impact on political relationships and world opinion. With regard to the latter, the political cost to the Soviet Union of imprudent behavior is likely to exceed the cost of our necessary response to it. As for the political utility of the forces themselves, Dr. Kissinger may have overstated the case, but in a real sense ICBM forces *have* only a restricted political utility in that they cannot be visibly, even ostentatiously, altered (brandished) in time of crisis as can other forces. Furthermore, they cannot be credibly used to back up ultimatums, if mutual deterrence *at every level of execution* is maintained. Their only use, then, is to maintain that deterrence, or as a reply in the last resort to nothing less than a nuclear attack, in like-for-like retaliation or a reply scaled to discourage further hostilities and/or to limit further damage.²⁶

It is possible that the United States should welcome some degree of Soviet force modernization. The possibility of city avoidance depends crucially on the ability to attack other than countervalue targets, as well as on the declaratory policy of the adversary and his conduct in war. But limits to the expansion of capability accompanying that modernization are clearly desirable. Reports in the press following the 1974 Moscow summit suggest a Soviet willingness to cut off deployment at roughly 1,000 MIRVed missiles of new design. We have seen that a number as large as 400 would, eventually, require a U.S. response, a number that could be reached in four years or less, based on Schlesinger's estimate of replacement rate. But there may be grounds for hope that the response can be avoided. The hint of redefinition of the role of fixed-base ICBM forces in his testimony could become, during those four years, more than a straw in the strategic wind.²⁷ Much greater dependence on land-based forces by the Soviet Union in its total military posture will render impossible, in the short

²⁴ If U.S. forces must be upgraded to meet a Soviet challenge, increased throwweight (this analysis suggests) is less important than feasible yield/accuracy improvement and expansion to 1,000 MM III MIRVed missiles. Such expansion would clearly be desirable in order to "cover" adequately the 1,400-silo target system. The Secretary's assertion, therefore, that MIRV's would be unnecessary in the absence of Soviet ABM is difficult to understand; MIRV emerges from this analysis as the critical factor negating the possibility of a "profitable" disarming first strike. MIRV is necessary because of opposing MIRV, not ABM, but it has been shown by Herbert York and Roscoe Tammien that MIRV was probably inevitable.

²⁵ It is possible that the attacker would launch the rest of his ICBM force against targets *other than silos* on warning that it was under attack. But this is inconsistent with the concept of an attempt to disarm his opponent partially in a first strike, under the assumption that a massive countervalue response can be effectively deterred by withheld residual forces. If total application of the ICBM force is contemplated from the outset, it would be done at the outset against the entire enemy system, but at impossible cost.

²⁶ I am not one of those who believe that mindless escalation is the inevitable result of attack at any level, but this view is not essential to the others expressed here.

²⁷ Schlesinger made the point that the SLBM is not ideal for limited strategic options, since it is hardly capable of a limited response. But his remarks to this effect suggest an eventual redefinition of the ICBM force mission. If the main reason for retaining it (outside of the one developed in the text above) is the requirement for limited-option capability, perhaps its appropriate size will come to be viewed more flexibly. And eventual perceived ICBM vulnerability would be of little importance if these constituted a minor, rather than a major, fraction of the total force structure.

range, steps toward their substantial reduction—say to levels of a few hundred—but evolutionary change in that posture should not be ruled out.

Soviet motivations for arms procurement clearly differ from ours; political value, if not utility, of forces is a significant factor, and as Schlesinger pointed out in 1967, they seem to respond to "attention cues" rather than in a simple action-reaction pattern.²³ U.S. MIRV deployment may have been such a cue; a desperate concern about short-term inferiority is reported to dominate present Soviet decisions. Therefore, some adjustment on one or both sides must be expected so that a "favorable relationship of forces" can be attained. It is not, however, credible that the anticipated Soviet deployment, as part of this adjustment, is based on serious disarming first-strike aspirations; this observation suggests that the path to a more favorable force balance might be sought in more than one way, if preconceptions are set aside. Flexibility at SALT on both sides could result from recognition that *any attempt to achieve a disarming first-strike capability is the essence of armed futility*. Throw-weight as the currency of counterforce is devalued by first-strike impossibility.

"ESSENTIAL EQUIVALENCE" AND THE FUTURE

Any long-range accommodation with the Soviets on strategic arms will be constrained by the U.S. doctrine of essential equivalence (or perceived equality), and by Administration and Senate interpretation of the requirements of the Jackson Amendment. But the equivalence of forces cannot be measured simply in numbers and throw-weight; it lies in their overall adequacy to perform recognized and realistically defined tasks, both political and military. Equivalence thus should be assessed after cold examination by each side of the forces on both sides—their political and deterrent roles and their application in adversity against each possible target system. If each force is thus adequate, they must be considered equivalent, the one not inferior to the other. Discussion of perceived inadequacies at the level of openness reportedly achieved in the Yalta meeting of July 1, 1974, *if adequately supported by military as well as political insights*, can only facilitate moderation of response to false "attention cues" on the one hand and to the misperception of intent through misjudgment of capability on the other.

It is difficult to accept without serious reservation a judgment that there is a lack of restraint on the part of U.S. defense officials. It has become clear that assured destruction is not adequate as a war-fighting strategy or force-planning tool, and is insufficient, standing alone, as a deterrent. The probability of holocaust is not, as Panofsky would suggest,²⁴ simply proportional to the numbers of weapons deployed and the probability of accidental or irrational launch of each weapon. It depends much more on the sequence of events that would result from such a launch. In that sense, emphasis on counterforce-capable systems on both sides, which makes possible restraint and deliberate city avoidance in war, must be regarded as a step toward nuclear sanity.

The Secretary of Defense has made it clear that such systems, and an evolving doctrine for their use, are already in hand. He has also suggested, as this analysis has tried to make clear, that under some circumstances (which still can be avoided if appropriate decisions are made on both sides) substantial improvements in U.S. forces may become essential. These improvements, however, cannot reasonably be construed by either side as leading to a disarming first-strike capability; nor can those that may take place in the Soviet forces be so construed, *if we are prepared to respond*. Informed by this knowledge, those in opposition to modernization of U.S. forces should re-evaluate their position. Modernization on both sides, to the extent required, together with careful attention to the roles assigned to each part of the force structure, should diminish the likelihood of any rational decision to employ these forces, or to threaten their use, while offering the best hope for survival of the two societies should any use, intended or accidental, occur. In the longer run, it should also make substantial reductions in forces both less imperative and easier.

²³ In "Arms Interactions and Arms Control," Paper presented on Dec. 13, 1967, at the Military Operations Research Symposium (Santa Monica, Calif.; The RAND Corporation, RAND P-3881, September 1968).

²⁴ Wolfgang K. H. Panofsky, "The Mutual-Hostage Relationship Between America and Russia," *Foreign Affairs*, October 1973, p. 116.

[From the Washington Post, July 20, 1975]

NEW U.S. STRATEGY FOR NUCLEAR WAR

(By George C. Wilson)

The Congressman from Michigan took the floor of the House on Jan. 19, 1951, to demand that the White House and State Department let the U.S. Air Force bomb deep inside China to help American troops "pressed to the breaking point" in Korea.

"First and foremost," he said, "we must bomb the Chinese Communist supply bases in China itself . . . The fallacy of fighting the hordes of Asia on the ground is obvious. We are bleeding ourselves to death, which is just what Stalin wants us to do. It is utter stupidity to continue such a policy when we are not fighting with both fists."

Back then, in 1951, he was Rep. Gerald R. Ford, an obscure Republican from Grand Rapids, Mich. Today he is President Ford—commander-in-chief of military forces that could incinerate the world in half an hour. He talked about Korea and the use of American power again, as President, just a few weeks ago.

"Mr. President," a reporter asked him at his June 25 press conference, "let me just ask you this question point blank: If North Korea attacked South Korea, would you use nuclear weapons to stop that?"

After some verbal fencing, the President responded: "I am not either confirming it or denying it. I am saying we have the forces and they will be used in our national interest, as they should be."

While Congressman Ford in the 1950s was complaining about restraints on American power, a Harvard professor was calling for more imaginative use of our A-bombs and H-bombs. In 1957, the professor set down his thoughts in a book entitled "Nuclear Weapons and Foreign Policy." He argued that nuclear weapons could be used without crossing the firebreak separating little wars from world holocaust.

"With proper tactics, nuclear war need not be as destructive as it appears when we think of it in terms of traditional warfare," he wrote.

"Without damage to our interest," he argued, "we could announce that Soviet aggression would be resisted with nuclear weapons if necessary; that in resisting we would not use more than 500 kilotons explosive power unless the enemy used them first; that we would use 'clean' bombs with minimal fallout effects for any larger explosive equivalent unless the enemy violated the understanding; that we would not attack the enemy retaliatory force or enemy cities located more than a certain distance behind the battle zone . . ."

"A limited nuclear war does not guarantee success by itself," he wrote, "but it would use the sociological, technological and psychological advantages of the United States to best effect . . ."

Back then, in 1957, he was Prof. Henry A. Kissinger, executive director of the Harvard International Seminar and a strategist confined to consulting the government. Today he is Secretary of State Kissinger, maker and implementer of government policy, staff boss of the President's National Security Council. In those jobs, he has signed off on changes in American nuclear war strategy—with some concepts reminiscent of the ideas he set down in his 1957 book and amended in a subsequent study.

Another college professor—this one an associate professor of economics at the University of Virginia—joined Kissinger in the 1950s in theorizing about how America could use its power in the world more effectively.

"We have not reconciled ourselves emotionally to the need for the continual exercise of power to protect our interests," this professor wrote in a book published in 1960 and entitled "The Political Economy of National Security."

He contended that "we must become adjusted to the heavy costs of limited warfare as a condition of life . . ."

This same professor later devoted full time to analyzing military strategy as director of strategic studies of the Rand Corp. from 1963 to 1969. He never served in any military service himself and thus was denied the chance to see what happens to many theories in actual combat.

Today he is Secretary of Defense James R. Schlesinger—civilian head of the world's mightiest military establishment and adviser to President Ford, both as defense secretary and member of the National Security Council.

Mr. Ford, Kissinger and Schlesinger—who came together by a series of political accidents—are now this nation's civilian triad for making military policy. Their past statements portray them as hawks, believers in using American military power forcefully—including setting off nuclear weapons on a battlefield, under some circumstances, in the common belief this would not necessarily lead to uncontrolled incineration of the world.

THINKING THE UNTHINKABLE

The extraordinary willingness of these three top government executives to think and talk about the unthinkable—nuclear war, including firing the first “nuke”—has aroused concern among arms control specialists in this country and drawn fire from Soviet spokesmen over the last several weeks.

The public perception has been that nuclear weapons would be used only if everything else had failed—the American or NATO cause appeared almost lost or Russia had hit us first. But the Ford-Kissinger-Schlesinger willingness to consider nuclear war controllable has resurrected some of the old scenarios about using nukes like conventional artillery on the battlefield. Army theoreticians—to the disgust of some battle-hardened officers who know that actual combat is often mass confusion—are holding secret meetings in the Pentagon these days, for example, to sing the praises of the new nukes that destroy only the target—nothing else. “Zero collateral damage” is one of the buzz phrases used by this once “out” group that now finds itself “in.”

Strategic Air Command bomber crews, to cite another reaction to this “nuclear wars can be small” theory, are being trained to swing their sights to smaller targets in Russia, such as a single refinery or factory, rather than a big target like an airfield or missile base or city.

The first question one might ask about all this is whether there is anything really new in what our government's hawkish triad is saying and doing about American nuclear strategy? Secondly, if there are changes being made in long-standing American strategy, are they anything to worry about? The main source for the answer to the first question is Schlesinger, whom President Ford has let explain administration policy in this area.

There is indeed something new—as Schlesinger himself has said publicly on a number of recent occasions. These are a few of his specific statements on this first question of newness and change, listed in chronological order:

“There has taken place . . . a change in the strategies of the United States with regard to hypothetical employment of central strategic forces. A change in targeting strategy as it were . . .” January 10, 1974, before the Overseas Writers Association.

“The main point of this change in strategic doctrine is to introduce flexibility and options for the national command authorities so they may deal with a set of events without being forced by prior planning to make a decision that would bring about a degree of devastation that neither the Soviet Union nor the United States, nor our allies around the world, would find palatable . . .” April 4, 1974, before two subcommittees of the Senate Foreign Relations Committee.

“The change in targeting doctrine is, of course, both broader and more limited than counterforce attacks.” (Counterforce is the term for weapons shot at the other side's missiles and bombers—his military force as distinguished from his cities.) “. . . The purpose of our changing our targeting doctrine has been to enhance deterrence . . . A major change which results from the change in targeting doctrine is that we are paying much more attention than previously to planning for the possibility of these kinds of selective strikes we have been talking about . . .” Sept. 11, 1974, before the Senate Foreign Relations Arms Control Subcommittee.

So we have Schlesinger's own word that there is something new in American nuclear doctrine—that there have been changes made, even though some Pentagon officials are still reluctant to admit it.

TO WOUND, NOT KILL

The basic objective of the changes is to let the President aim for the enemy's ear lobe, leg or arm with the nation's nuclear gun—not just the heart or other vitals. The President under this changed strategy could merely wound his adversary—not necessarily kill him.

This option to wound rather than kill could mean that in a war the President would give an Army colonel permission to set off nuclear mines to stop Soviet troops marching toward West Germany; order a B-52 bomber pilot to fire one of his SRAM nuclear-tipped missiles at a single Russian refinery or factory; radio a submarine skipper to shoot a missile at a Soviet airfield; approve the launch of a few Minuteman ICBMs to knock out the communications center for Soviet rocket forces without hitting cities in the process.

Without such an option to wound, Schlesinger argues that the American President might be afraid to fire the nuclear gun at all. Schlesinger has made that point in the complex phases of the nuclear strategist—a specialist sometimes hard to understand:

"The point is that we should deter nuclear attacks on the United States across the spectrum" by preparing for a limited nuclear conflict as well as an all-out war. "If an opponent were to decide that we would be self-deterred because the President of the United States lacked adequate response options, and if an opponent were a risk taker, then such a selective nuclear attack becomes conceivable."

Having sold his strategy to President Ford, with the help of Kissinger or at least his compliance, the defense secretary is now trying to give America's nuclear forces more of a wounding capability than they have had in the past as well as a killing one. For the moment, this requires tinkering with the missiles and bombers we already have rather than building new ones. The idea is to make these weapons more selective, more accurate and more responsive to the President's commands.

For example, before Schlesinger started to implement the changes, it would take up to 24 hours to go inside a Minuteman III long-range missile targeted on Russia and tinker with its brain—a computer—so it would shoot at a different target than the one previously programmed. The Air Force is now installing what it calls a command data buffer system so the missile's mechanical brain can be washed of its old targets and re-instructed within 36 minutes to hit new ones. The men making the change would no longer have to go inside the missile silo itself.

Such tinkering and research on ways to make our nuclear weapons more surgical will cost about \$300 million in this year's Pentagon budget, but that is just the beginning unless the United States and Soviet Union find a way to call off this pursuit of precision.

The second question, about whether changes in American nuclear strategy are anything to worry about, is the tougher and more important one. Certainly, respected members of the arms control community and of Congress are worried about the changes, even if Ford, Kissinger and Schlesinger are not.

THE KING'S NOSE

Critics of the new targeting doctrine recall the age-old warning about never hitting a king in the nose unless you intend to kill him. They contend that there is no such thing as a little nuclear war—that once either the United States or Russia hits the other's homeland with a nuke there will be no way to control the nuclear incineration. Schlesinger escalated their concern by recently asserting that the United States might fire a nuclear-tipped Trident submarine missile at Russia before the Soviet Union had resorted to nukes in a war in Europe. This willingness to threaten "first use" of a big strategic missile like Trident—as distinguished from smaller battlefield nuclear missiles like mines or short-ranged missiles which would not reach Russia from Germany—is considered provocative by some arms control specialists.

Sen. Stuart Symington (D-Mo.), a former Air Force secretary and member of the Senate Armed Services, Foreign Relations and Joint Congressional Atomic Energy Committees heard Schlesinger explain the new targeting strategy in top secret briefing and came to this conclusion:

"The new targeting program lowers the nuclear threshold and increases the possibility of the beginning of nuclear weapons use in war . . . The more you lower the kilotonnage of these weapons, the more you disperse them around the

world, the more you make them common practice for utilization of our services and those of our allies, the greater the chance of their going off and the world blowing up."

Sen. Edmund S. Muskie (D-Maine), chairman of the Senate Foreign Relations Arms Control Subcommittee, is worried that the unthinkable idea of using nuclear weapons has already become thinkable by virtue of officials in the United States and Soviet Union portraying them as legitimate arms for battle. Said Muskie to Schlesinger:

"Whether or not this new strategy is designed to lower the nuclear threshold, it seems to me at the very least to reflect the fact that perhaps the nuclear threshold has already been lowered; that both sides now are less horrified by the prospect of nuclear war; that both sides are now more willing to consider the use of tactical nuclear weapons."

"What concerns me," Muskie said in another exchange with Schlesinger, "is that in building these limited responses we cloak the possibility of massive exchanges" of H-bombs and thus erode the deterrent value of "massive retaliation" which has kept the United States out of a nuclear war so far.

"If we add evidence to our doubts upon our willingness to go the full route," Muskie argued, "it seems to me that we add assurance to the other side's belief that we will be self-deterred. Therefore, you encourage the development of limited war as an acceptable kind of conventional military involvement. And when you escalate the possibilities to that level, it seems to me you escalate the possibility for ultimate nuclear war."

In rebuttal of such fears, Schlesinger has cited the desires of earlier Presidents to have something besides "an all or nothing at all" option; stressed that the United States would only fire nukes in response to aggression, and that even then it would be an agonizing decision; said filling in the gaps in our nuclear deterrence, while strengthening conventional forces, will make nuclear war less—not more—likely.

Schlesinger has translated his theory about the possibility of selective nuclear warfare into a Soviet missile attack on the Whiteman Air Force base outside St. Louis, Symington's hometown. Whiteman is a big launching pad for Minuteman missiles targeted on Russia and thus might be selected by Kremlin leaders trying to hit military targets instead of cities—a so-called "selective" strike.

If Russia, said the Pentagon, hit each of the 150 Minuteman II silos at Whiteman with two, big dirty nukes and attacked Strategic Air Command bombers bases as well, as many as 750,000 people in St. Louis would die and another 210,000 would be injured by the radioactive fallout carried to the city by the wind after what the Pentagon called a "worst case comprehensive counterforce attack." Russia would not aim at cities in such a counterforce attack, but at American missiles and bombers.

The Pentagon said it figured those casualties on the basis of the average fallout protection in U.S. metropolitan areas. It did another calculation figuring the shelter St. Louis itself actually has available, estimating the fallout casualties from the "dirty" attack would be 51,000 deaths and 540,000 injuries.

If the Kremlin's leaders concentrated on precision and aimed a single "clean" one-megaton bomb at each of Whiteman's missiles, the casualties from fallout would be much less in St. Louis but still not comforting. The Pentagon figured 26,000 people in St. Louis would die from fallout coming from a selective, clean attack and 130,000 would be injured—using the national average of fallout protection. With what the Pentagon called "effective" use of shelter available in St. Louis, the Pentagon said deaths in St. Louis from fallout might be brought under 1,000 and injuries would go down to about 3,000.

If the wind were blowing from east to west, said the Pentagon, the fallout from such a precision attack on Whiteman would hit Kansas City—killing 216,000 and injuring 477,000 people there, using the national average of city protection. Those figures would be lowered to 1,500 deaths and 8,000 injuries if Kansas City's shelters were used effectively, the Pentagon added.

Thus, if the Ford administration pursues this new selective targeting doctrine to its logical conclusion, it will have to re-issue the politically unpopular call for spending more money on fallout shelters.

With rhetoric which Hollywood might put into a Dr. Strangelove movie, the Pentagon has put together a slide show on the new targeting doctrine to help congressmen and others understand it. Slide 17, for example, makes the argument this way:

"The Soviets have a capability to conduct limited nuclear strikes on U.S. military targets. Nth country attacks will by their nature be limited in the foreseeable future.

"Although the probability of nuclear war is extremely remote, a limited strike scenario—as contrasted with a full exchange scenario with the Soviet Union—may be the more likely way a nuclear war could start.

"By: Developing pre-planned options for less than SIOP (Single Integrated Operation Plan)—level strikes. Investing in C3 (command, control and communications) and retargeting flexibility to provide improved ad hoc response capability.

"We can contribute to deterrence of such attacks by improving our capability to deny the hypothetical attacker his objectives.

"To do otherwise would result in unacceptable alternatives in the face of such an attack—no response or holocaust.

"The likelihood of limited nuclear attacks cannot be challenged on the assumption that massive civilian fatalities and injuries would result."

KEEPING UP WITH MOSCOW

In plain language, the Pentagon is arguing that the Soviet Union is pushing ahead with nuclear weapons that could be used for selective as well as all-out attacks; that the United States must keep up with Russia in this endeavor unless both sides agree to call off the development and fielding of more precise nuclear weapons.

But how will such neat theories about nuclear warfare stand up if they ever have to be tested in battle? The Vietnam experience is hardly comforting in this regard. Before that war got out of hand and required the presence on the ground of a 500,000-man American expeditionary force, the theorists were talking about keeping the war manageable through a strategy of graduated response—tit-for-tat.

Ironically, Kissinger himself—despite his support of the new targeting doctrine today—warned against expecting limited nuclear war to remain limited. In his 1960 book, entitled "The Necessity for Choice," he wrote the following:

"While it is feasible to design a theoretical model for limited nuclear war, the fact remains that 15 years after the beginning of the nuclear age no such model has ever won general agreement. It would be next to impossible to obtain a coherent description of what is understood by 'limited nuclear war' from our military establishment.

"The Air Force thinks of it as control over a defined air space. The Army considers it vital to destroy tactical targets which can affect ground operations, including centers of communications. The Navy is primarily concerned with eliminating port installations.

"Even within a given service, a detailed, coherent strategy is often lacking. The Strategic Air Command and the Tactical Air Force almost surely interpret the nature of limited war differently.

"Since disputes about targets are usually settled by addition—by permitting each service to destroy what it considers essential to its mission—a limited nuclear war fought in this manner may well become indistinguishable from all-out war."

