

WITHDRAWAL SHEET (PRESIDENTIAL LIBRARIES)

1761

FORM OF DOCUMENT	CORRESPONDENTS OR TITLE	DATE	RESTRICTION
#1 report	Strategic Nuclear Issues secret (gp 3) <i>open 2-1-94 NLS 93-363</i> 42p	12/68	A

FILE LOCATION
 NATIONAL SECURITY FILE, Subject File
 [Transition: Policy Planning Council Papers -- Strategic Nuclear Issues]
 Box 50

RESTRICTION CODES
 (A) Closed by Executive Order 12356 governing access to national security information.
 (B) Closed by statute or by the agency which originated the document.
 (C) Closed in accordance with restrictions contained in the donor's deed of gift.

~~SECRET~~

43



STRATEGIC NUCLEAR ISSUES

DECLASSIFIED
E.O. 12356, Sec. 3.4
NJ 93-363
By ing, NARA, Date 1-28-94

ONE OF A SERIES OF PAPERS ON
CURRENT FOREIGN POLICY ISSUES
IN A LONGER-TERM PERSPECTIVE

Policy Planning Council

DECEMBER, 1968

GROUP 3

Downgraded at 12-year intervals;
not automatically declassified.

~~SECRET~~

NOTE

This is one of a series of papers prepared for the next administration by the Policy Planning Council on foreign policy problems with major long-term implications. In preparing these papers, comments have been secured from other areas of the State Department, from other government agencies, and from consultants outside the government. The papers have not been cleared; they represent only the views of the Policy Planning Council. Other titles in this series are:

I. GENERAL

1. US Foreign Policy: Current Issues in a Longer-Term Perspective
2. The Planning Process and How to Improve It

II. THE DEVELOPED WORLD: US, WESTERN EUROPE, JAPAN

1. US Policy Toward Western Europe
Annex: US Force Levels in Europe
2. Economic Relations among Developed Countries
3. Japan's Security Role in Asia

III. THE DEVELOPING WORLD

1. US Security Interest in the Developing World
2. Security Problems in Post-Vietnam Mainland Southeast Asia
3. US Policy Toward Communist China
4. The Middle East: US Policy in the Absence of a Settlement
5. The Future of Foreign Aid
Annex: Use of SDR's as Foreign Aid
6. Peacekeeping: Possible New Approaches

IV. US-SOVIET RELATIONS

1. The US Relationship with the Soviet Union
2. Science and Technology: A New Arena for International Cooperation

~~SECRET~~

DEPARTMENT OF STATE
POLICY PLANNING COUNCIL

STRATEGIC NUCLEAR ISSUES

Prepared by
Wreatham E. Gathright
Member, Policy Planning Council

December 1968

DECLASSIFIED
E.O. 12356, Sec. 3.4
NEJ 93-363
By ing, NARA, Date 1-28-94

~~SECRET~~

STRATEGIC NUCLEAR ISSUES

Table of Contents

	<u>Page</u>
SUMMARY	i-vii
I - THE PRESENT STRATEGIC CROSSROADS	1
A. THE MAJOR VARIABLES	1
1. The Changing Relationship of U.S. and Soviet Strategic Forces	1
2. The Emergence of New Technological Options	2
3. The Coming Acquisition of Missiles by Communist China	5
B. THE MAGNITUDE OF THE PROBLEM	6
1. The Possible Multiplication of Danger.	6
2. The Rising Cost of Strategic Deterrence	8
II - IMMEDIATE STEPS.	11
A. FACTORS AFFECTING EARLY DECISIONS ON FORCE GOALS.	11
1. "Good" Investments and "Bad" Investments	11
2. Selective Change and Selective Restraint	12
B. SELECTIVE CHANGES TO STRENGTHEN U.S. STRATEGIC FORCES	12
1. Strengthening Research and Development	12
2. Enhancing the Effective Strength of our Second-Strike Deterrent	13
3. Other Measures	14
C. SELECTIVE RESTRAINT TO HOLD OPEN ARMS CONTROL OPTIONS	14
1. Deferral of Advanced Re-Entry Vehicles	14
2. Other Problems	15
III - THE ARMS CONTROL ALTERNATIVE	16
A. FACTORS FAVORING A U.S.-SOVIET AGREEMENT	16
1. The Present State of the Strategic Equation	16
2. The Adequacy of Verification.	16
3. The Economic Incentive.	17

B.	LIMITATION OF STRATEGIC OFFENSIVE AND DEFENSIVE ARMAMENTS	18
1.	Basic U.S. Interests	18
2.	Limitation of Defenses.	18
3.	Limitation of Offensive Forces	20
4.	Weighing the Results of Negotiations	22
C.	ALTERNATIVE APPROACHES	22
1.	An Agreement Limiting ABM's Only	22
2.	An Agreement Permitting MIRV's	22
D.	COLLATERAL SAFEGUARDS AGAINST VIOLATION OR ABROGATION OF AN AGREEMENT.	23
1.	The Explicit Character of the Agreement	23
2.	Expansion of National Detection Capabilities	23
3.	Research, Development and Standby Production Capabilities	24
IV -	STRATEGIC FORCE GOALS IF NEGOTIAIIONTS FAIL.	25
A.	GEARING UP FOR THE LONG HAUL	25
1.	Continuing A Selective Approach.	25
2.	Maintaining the Effectiveness of Our Second-Strike Deterrent	25
3.	Modernizing Our Manned Bomber Force	26
4.	Determining the Feasibility of Sea-Based ABM's	27
B.	PROBING FOR AREAS OF MUTUAL RESTRAINT	27
1.	ABM's for City-Defense	27
2.	MIRV's.	28
V -	THE STRATEGIC DIALOGUE WITH THE SOVIET UNION	29
A.	ROOM FOR IMPROVEMENT	29
B.	AN EXPERIMENTAL APPROACH	29

~~SECRET~~

STRATEGIC NUCLEAR ISSUES

SUMMARY

A. ISSUES CONFRONTING THE NEW ADMINISTRATION

1. In the age of nuclear weapons and ballistic missiles, foreign policy and defense policy share a wide area of joint concern. Decisions on nuclear issues directly influence political as well as military factors in our relations with the Soviet Union, Communist China, and our allies in Europe and Asia.

2. For these reasons, two interrelated decisions confronting the new Administration have significant foreign policy aspects:

-- First, whether to adopt or modify the concepts and goals for strategic nuclear forces set by the departing Administration.

-- Second, whether and on what basis to hold talks with the Soviet Union on limiting strategic offenses and defenses.

3. This paper explores key considerations affecting these decisions. Of special importance from the standpoint of our foreign policy interests is the fact that decisions made in the short-term will shape our future choices for a prolonged period.

B. CONTINUING NEEDS, CHANGING CONDITIONS

1. Strong strategic nuclear forces will continue to be required for two indispensable roles in support of our foreign policy objectives.

a. The first of these is to deter strategic nuclear attack against us and our allies, and to deter major conventional aggression in situations where there is a plausible risk to the aggressor

~~SECRET~~

that conflict might escalate beyond any reasonable expectation of gain.

b. The second role is to maintain among our allies in Europe and Asia confidence both in our military strength and in the strength of our commitments. Confidence will not be determined wholly by our strategic nuclear strength; however, this remains a central factor. Consequently, full consultation with allies on all the issues discussed below is essential.

2. Although these needs remain undiminished, the conditions under which they must be met are growing increasingly complex.

a. The Soviet Union has engaged in a substantial effort to strengthen its strategic deterrent. We would now suffer a great deal more damage in a strategic nuclear war than at any time in the past. While the Soviet Union has thus improved its strategic nuclear strength, the U.S. retains a strong second-strike deterrent force.

b. A second source of increasing complexity arises from the changing character of strategic offensive and defensive technology. The anti-ballistic missile (ABM), the multiple independently targetable re-entry vehicle (MIRV) and other new systems such as the land-mobile strategic missile can lead to a new cycle of moves and countermoves between U.S. and Soviet strategic forces. This can be a costly process, and if, as is likely, these moves and countermoves cancel each other out, we will not be buying increased security. Moreover, certain of the new systems now in the offing can greatly complicate the tasks of our national detection capabilities. If weapons technology should outpace detection technology, our security interests would not be well-served.

c. The third source of complexity is Communist China's approaching acquisition of ballistic missiles. This will create a new threat for our Asian allies and ourselves. Because there is a reasonable probability of effective defense of the U.S. against the small-scale missile attack Communist China will be able to mount against us, a very limited ABM deployment could enhance our posture vis-a-vis Communist China and help maintain the confidence of our Asian allies. However, this could backfire unless ABM deployment is held below levels which could trigger the new round of move and countermove by the U.S. and Soviet Union sketched above.

3. The interplay among these factors is now at a critical stage. The recommendations which follow look to the question of how best to maintain an effective strategic deterrent in the face of this interplay.

C. RECOMMENDATIONS

1. Immediate Steps

a. Our research and development programs should be strengthened in order to underwrite the continuing strength of our strategic forces and our detection capabilities.

b. If expert opinion holds that the Soviet offensive buildup has significantly increased the potential vulnerability of the MINUTEMAN force to a first strike, a portion of the force should be moved to more survivable ("superhard") silos. This move could be useful whether or not an arms control agreement is reached later.

c. We should seek a preliminary agreement with the Soviet Union to defer for a limited period the further flight-testing of MIRV's and other advanced re-entry vehicles which can add to the complexity and uncertainty of the strategic situation. The purpose of this deferral would be to hold open the possibility of prohibiting such vehicles in an arms control agreement.

2. Arms Control

a. We should seek an explicit agreement with the Soviet Union in order to maintain a balance of strategic forces which would be tolerable to both countries, and would preclude either from achieving a highly effective first-strike capability.

b. Such an agreement should include the following limitations: (i) Limitation of ABM deployment to a very low level, possibly a level of around 200 ABM's for each country. (ii) Prohibition of MIRV's and other advanced re-entry vehicles by prohibiting the flight-testing essential to their development. (If agreement cannot be reached to prohibit MIRV's, it may not be practical to limit changes in offensive forces which would be needed to offset the first-strike potential of MIRV's.) (iii) Prohibition of land-mobile missiles of strategic range. (This would include missiles which could be launched against Western Europe from the Soviet Union.) (iv) Limitation of other strategic offensive forces, without seeking exact comparability of numbers in each type of delivery vehicle.

c. An agreement along the foregoing lines would be preferable from the standpoint of maintaining a tolerable strategic balance at least cost. However, if agreement cannot be reached on limiting offenses, an agreement to limit ABM's only would be better than no agreement at all.

d. The agreement should provide that national detection capabilities would be employed for verification and that neither country would interfere with the detection capabilities of the other. Our own detection capabilities should be strengthened as necessary.

e. Safeguards against violation or failure of the agreement should be provided by continuation of the strong research and development effort recommended above, and by provision of standby production facilities which could be placed rapidly in operation.

3. Force Goals in the Absence of Arms Control

a. If efforts to negotiate an arms control agreement do not succeed within a reasonable period of time, our long-term strategic interests suggests such steps as the following to maintain a strong second-strike deterrent force: (i) expansion of our offensive missile force (possibly with emphasis on sea-based systems), if the Soviet Union continues to expand its own forces; (ii) improvement of the penetration capabilities of the B-52 in the face of increasingly heavy Soviet air defenses, or possibly initiation of development of a new US manned bomber.

b. It would, however, be desirable for the U.S. and Soviet Union to exercise restraint in ABM's and MIRV's, since these would spur a chain reaction which would be costly for both countries without improving the security of either. A tacit understanding might encourage mutual restraint in ABM's

b. It would, however, be desirable for the U.S. and Soviet Union to exercise restraint in AMB's and MIRV's, since these would spur a chain reaction which would be costly for both countries without improving the security of either. A tacit understanding might encourage mutual restraint in ABM's and MIRV's, even if a more formal agreement cannot be reached.

c. Over the longer-term, we may be confronted with the question of providing our Asian allies with some level of ABM defense against Communist China. The feasibility of a sea-based ABM system for this purpose should be determined. This need not interfere with formal or tacit limits on U.S. and Soviet ABM's.

4. The Strategic Dialogue with the Soviet Union

a. It would be useful to establish a new mechanism -- possibly a joint commission of U.S. and Soviet experts -- to facilitate future exploration of strategic nuclear issues.

b. If an arms control agreement can be reached, this commission's attention could be focused on problems of interpretation, and on the possibility of additional arms control measures, such as reducing the numbers of strategic missiles.

c. In the absence of arms control, the commission could encourage tacit restraint in some types of armaments, and clarify changes in the forces of either country which might otherwise prompt a disproportionate reaction by the other

d. The commission might afford additional opportunities

for consideration of questions related to the use of nuclear weapons as the result of accident, miscalculation, or failure of communication; and questions of mutual interest related to third countries, in particular Communist China.

~~SECRET~~

I - THE PRESENT STRATEGIC CROSSROADS

A. THE MAJOR VARIABLES

1. The Changing Relationship of U.S. and Soviet Strategic Forces

a. Throughout much of this decade we have enjoyed a substantial margin over the strategic forces of the Soviet Union. We continue to have a larger number of intercontinental nuclear delivery vehicles and of deliverable nuclear warheads. However, we are today faced by increasingly formidable Soviet forces.

b. Four points about this changing relationship between U.S. and Soviet strategic forces need to be recognized:

-- The expansion of the Soviet ICBM force and the introduction of an improved Soviet ballistic missile launching submarine (now in an early stage of deployment) have substantially strengthened the Soviet Union's second-strike retaliatory force. Even if the U.S. were to strike first, surviving Soviet forces could do enormous damage to our cities.

-- If the Soviets were to employ their missile force in a first strike against our own land-based forces, they could do much more damage than in the past. However, they do not have enough highly accurate, reliable missiles to prevent the survival of a substantial percentage of our land-based forces.

-- Even after a Soviet first strike, our surviving land-based forces and our submarine-based missile force could destroy much of the Soviet Union. As yet, the Soviets have deployed anti-ballistic missiles (ABM's) only

~~SECRET~~

around Moscow, and this deployment has proved exceedingly limited. Therefore, they could not contemplate striking first and then relying on ABM's to reduce the damage to their cities that would be done by our remaining missiles.

-- Although the Soviets still have little defense against our missiles, they have continued to improve their defenses against our strategic manned bombers. As part of this anti-bomber effort, the so-called Tallinn system has widely and heavily deployed. It is clear that the Tallinn system is not an ABM system.

c. What these changes add up to thus far is a significant improvement of the Soviet Union's strategic deterrent without depriving us of an effective second-strike deterrent force. However, the prospect that the Soviet build-up will continue is a source of pressure for upward revision of our own force goals.

d. These changes also add up to the conclusion that in considering our own options, we should recognize the likelihood that the Soviet Union would further strengthen its forces in response to changes on our part which appeared to threaten the effectiveness of its strategic deterrent. The sustained, substantial, and varied effort already pursued at great economic cost by the Soviet Union confirms a determination to maintain a strong nuclear posture.

2. The Emergence of New Technological Options

a. Prospective changes affecting the strategic equation have a new dimension as the result of changing technologies. The new offensive and defensive technologies now appearing amount, in effect, to a "whole new ballgame:"

-- The present deployment of ABM's around Moscow is limited, but the ABM raises significant questions for the future. If either country should embark on heavy ABM deployment, the other would necessarily have to weigh the continuing effectiveness of its deterrent. Neither country could afford to be caught in a situation where its opponent -- possessing substantial ABM's -- might be tempted to strike first and rely on defenses to reduce the impact of retaliation by forces surviving such a first strike.

-- Heavy ABM deployment by either country can, therefore, stimulate changes in the offenses of the other, changes designed to maintain the effectiveness of deterrence. The multiple independently targetable re-entry vehicle (MIRV) offers an especially effective means of enabling offensive forces to counter ABM's. We have initiated development of the MIRV; the Soviet Union can also develop the MIRV and may, indeed, have taken a step in this direction. Meanwhile, the Soviets have also been at work on other types of advanced re-entry vehicles which could complicate the tasks of a U.S. ABM system. This role could be played by a Fractional Orbit Bombardment System (FOBS) or Depressed Trajectory ICBM (DICBM). It is not entirely clear whether the end product of current Soviet efforts will be the FOBS or DICBM. Either would make efforts to defend the U.S. more difficult and more costly.

-- The odds in this emerging contest between defense and offense continue to favor the offense. However, this might not be so if either country could, through a disarming first strike, substantially reduce the weight of the attack the defenses would have to bear. The accuracy of missiles is improving, and present hardened missile silos are becoming more vulnerable. If either country were in a position to launch two or three

accurate missiles against each of the other's land-based missiles, the possibility of a more effective first strike would rise. But building up such a large force would be exceedingly costly. From this standpoint, accurate MIRV's could offer a technological short-cut to enhancing the effectiveness of offensive missiles in a first strike by multiplying the number of re-entry vehicles each missile can carry. This is not in all respects the equivalent of multiplying the number of missiles since it is apparent that when the payload of a missile is divided among several re-entry vehicles, each of the latter will not be able to do as much damage separately as might have been done by a single, very heavy re-entry vehicle. But many MIRV's will combine sufficient yield and accuracy to enlarge the threat to hardened missile silos.

-- This threat too can be offset by such measures as the "superhardening" of missile silos, developing land-mobile strategic missiles, or placing greater reliance on sea-based systems. Even before the MIRV began to appear, the Soviet Union had begun coppering its bets against the hazard of a U.S. first strike. Concern about this hazard has long been reflected in Soviet statements about U.S. "spy satellites," and Soviet interest in land-mobile strategic missiles was pre-figured in such statements. Initiation of MIRV development by the U.S. can be expected to intensify Soviet concern about the first-strike potential of U.S. strategic forces, and to generate new Soviet efforts to ensure the survivability of its deterrent. Similarly, we would regard Soviet acquisition of MIRV's as enlarging the threat to our own land-based forces, and we would necessarily take steps to offset this new threat.

b. This chain of developments now in the offing will not materialize symmetrically as between the U.S. and Soviet Union. But a new and prolonged cycle of moves and countermoves can be set in motion.

3. The Coming Acquisition of Missiles by Communist China

a. Communist China's nuclear weapons program adds still another element of complexity to an already complex situation:

-- The deployment of mid-range ballistic missiles (MRBM's) may occur at any time. With MRBM's, Communist China will be able to target U.S. allies and U.S. bases in Asia. India will also be within range of such missiles. And part of the Soviet Union will be potentially vulnerable to this threat.

-- Exactly when Communist China will test and be ready to deploy ICBM's is problematical, but there is no reason to doubt that it can acquire a small ICBM force by the mid-1970's. It may also be able to develop a submarine-launched ballistic missile capability although the type of submarine which presently appears marked out for this purpose has severe operational limitations.

b. The prospective appearance of these forces must now be a factor in our own strategic calculations, and it is fair to assume the Soviets will also find it necessary to take Communist China's strategic forces into account.

-- The substantial damage our strategic offensive forces could inflict on Communist China should prove effective from the standpoint of deterrence. There is no present need to enlarge our offensive forces to increase the level of damage we could inflict.

-- We have announced a decision to deploy ABM's for defense against attack by the emerging Communist Chinese ICBM force. The Soviet Union may also wish some level of ABM defense against Communist China. ABM deployments for this purpose need not be so large as to raise questions about the adequacy of the deterrent forces of the U.S. and Soviet Union vis-a-vis each other.

-- We will also need to regard Communist China's MRBM's (threatening U.S. allies and U.S. bases) and ICBM's (directly threatening the U.S. itself) as potential targets for a disarming strike by U.S. offensive forces. The effectiveness of such a strike would depend in part on how Communist China's missiles are deployed, but it is reasonable to assume that its initial missiles will be vulnerable. We cannot, of course, know whether the Soviet Union will see a similar requirement vis-a-vis Communist China, but it would be surprising if this were not the case.

B. THE MAGNITUDE OF THE PROBLEM

1. The Possible Multiplication of Danger

a. The foregoing trends could conceivably lead to increased hazards in the form of an actual shift in the strategic balance or an enlarged risk of miscalculation.

b. The most dangerous kind of shift in the strategic balance would be one which lessened the present overwhelming disincentives that bar deliberate resort to strategic nuclear war. These disincentives could be lessened if either the Soviet Union or the U.S. should acquire some combination of offenses and defenses which seemed to make a first strike a worthwhile option. As a practical matter, this danger is not likely to materialize because each country can offset the other's moves, and neither

is likely to permit the other to gain a decisive advantage.

c. An enlarged risk of miscalculation is also improbable. Although this risk could materialize if either country came to overestimate its own strategic strength relative to that of the other, each country has a large and continuing stake in confronting the other with an obviously survivable and effective second-strike capability.

d. Although neither of these dangers seems probable, new complexities and uncertainties can have a multiplier effect on the amount of strategic insurance considered necessary to prevent them:

-- Through most of the 1960's, as the result of advances in various national detection capabilities, we have enjoyed increasing confidence in our ability to estimate Soviet strategic strength. Consequently, we have had a relatively firm basis for formulating our own requirements.

-- But MIRV's and land-mobile strategic missiles can greatly complicate the tasks of our detection capabilities. The problem here is that while the existence of such weapons can be determined by national detection capabilities, these capabilities will not be able to provide an accurate count of how many MIRV's and land-mobile strategic missiles have actually been deployed.

-- Consequently, there could re-emerge a degree of uncertainty comparable in some respects to that which prevailed during the early days of the missile age when our basis for estimating Soviet strategic strength was exceedingly slim.

e. If new weapons technologies should impose serious limits on our ability to measure Soviet strategic strength, the feeling of need for extra insurance against error will inevitably rise. Strategic force requirements will continue to grow.

2. The Rising Cost of Strategic Deterrence

a. Excluding some research and development costs, we are currently spending around \$10 billion a year on our strategic deterrent forces.

b. It is difficult not to foresee a very great rise in this level of expenditure if we should find ourselves simultaneously deploying heavy ABM defenses, ensuring the ability of our missiles to overcome Soviet ABM's, restructuring or replacing our ICBM force to enhance its survivability, developing a new manned strategic bomber, and taking out insurance against mounting uncertainty.

c. Especially at a time when there are many other demands on our resources, the rising cost of strategic deterrence is a strong reason for seeking an agreement to limit the arms race. If this cannot be achieved, we will, of course, have to pay whatever may be necessary to maintain our own strategic security and that of our allies. But this will not necessarily lead to increased security: just as we can prevent the Soviets from gaining a significant advantage, they can prevent our doing so. This is why the greatest probability is a series of moves and countermoves tending to cancel each other out and leading to no net gain in security.

d. This view is not shared by all students of the problem. Some maintain, in effect, that we might deploy a heavy ABM system and that the Soviet Union might not improve its own offenses sufficiently to counter our defenses (because of internal bureaucratic rigidities, budgetary constraints, and other factors). To the extent

that they failed to do so, it is argued, we would suffer less damage in the event of strategic nuclear war. The net effect, according to this argument, might not be decisive, but we might still gain an advantage worth having. Moreover, it is urged, the confidence of our European allies would be strengthened if our cities were not so vulnerable to Soviet attack (just as it is hoped that confidence of our Asian allies will be bolstered by a light ABM system to preclude or lessen exposure of U.S. cities to attack by Communist China).

e. No one, of course, can say flatly that the foregoing view is beyond the realm of possibility. But it is discounted here for three reasons:

-- It seems unrealistic to suppose that, having made a tremendous effort at tremendous cost to improve its strategic position, the Soviet Union would fail to respond to U.S. actions (such as a heavy ABM deployment) which threatened to nullify the value of its investment.

-- Moreover, what the Soviet Union would see is not simply a U.S. defensive effort alone but one that was coupled with strong offensive forces. They would be likely to fear (just as we would if confronted by similar developments on the Soviet side) that the time might come when U.S. offensive and defensive forces might, in combination, deprive them of an effective second-strike deterrent force. It is unrealistic to suppose that this fear would not lead the Soviet Union to make further changes in its own forces.

-- If the Soviet Union should in fact take steps to maintain an effective second-strike deterrent, then the argument that heavy U.S. ABM deployment would bolster the confidence of our European allies would not prove valid. Indeed, new concern rather than renewed confidence might

~~SECRET~~

10

result as the Europeans found themselves caught in the middle of a prolonged series of moves and counter moves by the U.S. and Soviet Union.

~~SECRET~~

II - IMMEDIATE STEPS

A. FACTORS AFFECTING EARLY DECISIONS ON FORCE GOALS

1. "Good" Investments and "Bad" Investments

a. The strategic situation has never been static, and, as the preceding discussion makes clear, it is far from static today. Since negotiation of an agreement to limit strategic offensive and defensive armaments (recommended in Part III below) will be a complex and time-consuming process, it will be necessary to consider what immediate steps should be taken with respect to our strategic force goals.

b. A special sense of urgency about the need to ensure strategic deterrence, and a special psychological regard for maintaining a strong nuclear posture relative to that of the Soviet Union will always affect decisions in this field. Here as elsewhere, however, there are good investments and bad investments, and over the years we have made our share of both (as, indeed, have the Soviets).

c. What are "good" and "bad" investments in strategic capabilities?

-- We already have the capability to destroy on a second-strike basis, the intellectual, managerial, and industrial core of the Soviet Union. A "good" investment is one that would maintain this capability against probable hazards, and that would work to achieve this in ways least likely to trigger Soviet responses requiring still further investments on our part.

-- A "bad" investment is one which would, in effect, create a lien against our own future resource allocations by necessitating Soviet moves which we, in turn, would have to counter.

d. This is obviously easier said than done. The initiative is not wholly in our hands; neither is the kind of response the Soviets might make to changes on our part. However, the foregoing "rules of investment" can serve as a general guide.

2. Selective Change and Selective Restraint

a. In the present situation, these "rules of investment" suggest two needs:

-- Selective change, as necessary to underwrite the continuing effectiveness of our second-strike deterrent; and

-- Selective restraint, as necessary to avoid touching off a new series of moves and countermoves.

b. In both cases, it will be necessary to take into account further changes the Soviet Union might make in its own strategic forces during the period required for arms control negotiations.

B. SELECTIVE CHANGES TO STRENGTHEN U.S. STRATEGIC FORCES

1. Strengthening Research and Development

a. A strong research and development effort is especially important in this period of increasing complexity and uncertainty. Wider basic knowledge and greater technological flexibility can broaden our own range of choices and lessen any chance that we might be confronted by a "technological surprise" on the part of the Soviet Union.

b. It would go beyond the scope and competence of this paper to try to specify the details of a strengthened research and development effort. In general

terms, such an effort should encompass advanced types of strategic systems, anti-submarine warfare, warning, detection, and communications.

c. A strengthened research and development effort would be useful from the political as well as military standpoint. It would be an unmistakable signal of our determination and ability to maintain our strategic strength under all future circumstances.

2. Enhancing the Effective Strength of our Second-Strike Deterrent

a. A second area for increased emphasis is protection of the heavy investment we have already made in land-based missiles. Any second-strike force intended primarily for retaliation might, in an extremity, be employed in an effort to reduce the opposing offensive force. The present Soviet ICBM force could be employed in this way against our MINUTEMAN force. Although a first strike by the Soviet Union would remain an act of desperation under foreseeable circumstances, the conceivable hazard to MINUTEMAN is growing larger, and the effective strength of our second-strike deterrent is being reduced.

b. In view of these circumstances, early steps may be desirable to enhance the survivability of our MINUTEMAN force, thereby enhancing the effective strength of our second-strike force. There are two basic approaches:

-- One would be to provide ABM defenses for MINUTEMAN sites. This approach could complicate efforts to limit ABM's via an arms control agreement.

-- The other approach would be to move some part of the MINUTEMAN force to "super-hard" silos. This approach would not complicate efforts to limit ABM's, and consideration should be given to initiating this approach at an early time.

3. Other Measures

a. Decisions on other measures to strengthen our deterrent forces do not appear to have as high a priority as the foregoing. For this reason, detailed consideration of additional measures is presented in Part IV below rather than in this section.

b. If necessitated by further changes in Soviet forces during the period required for arms control negotiations, the numbers of our land or submarine-based missiles should be increased.

C. SELECTIVE RESTRAINT TO HOLD OPEN ARMS CONTROL OPTIONS

1. Deferral of Advanced Re-Entry Vehicles

a. During the period required to determine whether an acceptable agreement can be reached to limit strategic offensive and defensive armaments, certain developments could be pressed to the stage where they could no longer be effectively controlled. Of special concern in this regard are the MIRV, multiple warheads (which might facilitate development of the MIRV), and the FOBS/DICBM.

b. Because of the difficulty of detecting deployment of such systems once they have been developed, it would be much more difficult (and probably impractical) to limit deployment of these re-entry vehicles than to prohibit the flight-testing which is necessary to perfect them and which is detectable.

c. As of today, however, the U.S. and Soviet Union are proceeding with flight-tests. If these tests continue, there will be two problems. First, prohibition of flight tests will no longer offer a means of controlling these systems, and in view of the detection problems noted above, it may not be possible to control them at all. Second, either country might at any time conclude that the other had conducted enough tests to perfect advanced re-entry vehicles; it would then be unwilling to consider any limit on similar tests of its own.

d. To avoid these dilemmas, we should seek a preliminary understanding with the Soviet Union that both countries would defer further testing for a limited period of time. Since our main reason for developing MIRV's is to counter Soviet ABM's, and since the present Soviet ABM deployment has proved limited, temporary deferral of MIRV tests would not jeopardize our security.

2. Other Problems

a. We should make clear to the Soviet Union that if they should perfect and begin to deploy land-mobile strategic missiles, the chance of an agreement to limit offenses would be sharply diminished. (As in the case of the re-entry vehicles discussed above, numbers of land-mobile strategic missiles could not be adequately policed by national detection capabilities).

b. With respect to the ABM, it does not now appear that ABM deployment by the Soviet Union will proceed at a pace which would lead to a heavy deployment in the near future.

III - THE ARMS CONTROL ALTERNATIVE

A. FACTORS FAVORING A U.S.-SOVIET AGREEMENT

1. The Present State of the Strategic Equation

a. If agreed limits are to be placed on strategic offensive and defensive armaments, this must be done at a point in time when neither the U.S. nor the Soviet Union considers itself at a grave disadvantage. We are now at such a time.

b. However, if major new changes are set in motion, it may be necessary to move through a full cycle of change before both countries once again have sufficient confidence in their deterrent forces to provide a secure basis for negotiations. This would mean putting off negotiations until each had offset what it regarded as significant changes by the other.

2. The Adequacy of Verification

a. Detailed technical assessment of the effectiveness of national detection capabilities goes beyond the scope and classification of this paper. However, these capabilities are adequate both for providing a basis for negotiations and for the timely detection of potentially significant departures from an agreement designed to limit strategic offensive and defensive forces.

b. Here again, however, time is working against arms control:

-- If effective MIRV's are to be developed, they must be flight-tested, and that activity is detectable. But once that stage has been passed, we will not have adequate means of determining unilaterally how many have been deployed.

-- The land-mobile strategic missile would also present major difficulties for national detection capabilities. Our ability to detect the existence of such delivery vehicles is adequate for the purpose of prohibiting them; detection of even one would represent a violation. But if there is no prohibition and if they are deployed in significant numbers, it is improbable that national detection capabilities would suffice to provide an acceptable count.

-- And if land-mobile ICBM's are eventually equipped with MIRV's, the uncertainty will be further multiplied.

c. If the foregoing changes in weapons technology preclude reliance on national detection capabilities and create a requirement for on-site inspection, it will be much more difficult to reach an arms control agreement with the Soviet Union.

3. The Economic Incentive

a. A third transient factor favoring arms control is the state of the Soviet economy. The economy continues to grow but has fallen short of goals set by Soviet leaders. Their willingness to enter into arms control negotiations is at least in part due to a desire to lessen the drain imposed on the economy by the strategic arms race and to allocate additional resources to growth-producing investment.

b. The force of this special inducement will, however, decline. Even though goals are not being met, the Soviet economy is growing and will continue to grow. Therefore, the cost of the strategic arms race -- though burdensome -- may be somewhat easier to bear in the future than today.

B. LIMITATION OF STRATEGIC OFFENSIVE AND DEFENSIVE ARMAMENTS

1. Basic U.S. Interests

a. This section is not intended to propose specific negotiating positions or to specify the detailed technical provisions of an agreement. Its purpose, rather, is to suggest the general basis on which an agreement serving U.S. interests might be constructed.

b. Our continuing interests require the maintenance of an effective strategic deterrent. A primary purpose of seeking an agreement would be to preclude changes which would make this task harder, more costly, and less certain.

c. Therefore, we should seek to limit changes on the Soviet side which we would have to counter. We should also seek to preclude or limit technological changes which -- regardless of which country initiated them -- would set in train a new cycle of moves and countermoves by both countries. Because these matters are of direct concern to our allies in Europe and Asia, we should consult fully with them. We should stress the fact that an all-out strategic arms race would no more serve their interests than our own, and we should avoid any implication that we regard the negotiations as mainly, if not wholly, the business of the U.S. and Soviet Union.

2. Limitation of Defenses.

a. A key problem will be to arrive at an agreed limit on ABM deployment for the defense of cities. In the absence of such a limit, each country will be under pressure (in order to maintain deterrence) to counter the other's ABM's by changing its own offensive forces.

b. The agreed limit could be "low" or "high" or somewhere in between. From our own standpoint, the limit should be as low as would be consistent with our announced decision to provide a defense against attack by Communist China. (A larger number might be

needed if we wish to deploy ABM's not only for defense of cities against attack by Communist China but also for defense of MINUTEMAN sites against Soviet attack. The possibility of deploying ABM's for the latter purpose was noted in Part II above, but since this would complicate efforts to limit ABM's, a preference was expressed in favor of "superhardening" as a means of protecting MINUTEMAN.)

c. The reasons for preferring a "low" (rather than "high" or "medium") limit on ABM deployment are as follows:

-- If the level is low, greater insulation is afforded against failure of the agreement. Much greater time and effort would be required for the Soviet Union to move to a significant level of ABM deployment in the event that it sought to violate or abrogate the agreement.

-- A second and related reason for preferring a low level is to facilitate limiting offenses, in particular MIRV's. As long as the level of ABM deployment is low and as long as much time and effort would be required to move to a significant deployment, neither country will have a present requirement for MIRV's (or for other advanced re-entry systems intended to complicate or counter defenses).

-- Finally, it would be desirable to hold down the cost of ABM deployment. An inter-continental nuclear delivery system has yet to be developed by Communist China, and even if ICBM testing should be initiated by Communist China at an early time, its operational force is likely to be limited and vulnerable through much of the next decade. Accordingly, it may not be necessary to pursue the full SENTINEL program; a level of perhaps 200 ABM's might meet our essential needs.

d. It has to be recognized that over a period of time subsequent to a U.S.-Soviet agreement, changes in Communist China's strategic forces might have the following effects:

- Such changes might cause either the U.S. or Soviet Union to desire a higher level of ABM deployment.

- Pressures from Asian neighbors of Communist China for ABM's might increase.

- Pressures to bring Communist China into effective arms control arrangements might also increase.

We should not expect to resolve all of these contingencies now. We should, however, have in mind the possible need to explore them with the Soviet Union if and as they arise.

3. Limitation of Offensive Forces

a. Without attempting here to cover all technical and negotiating aspects, the main offensive limitations we should seek are as follows:

- Advanced re-entry vehicles such as the MIRV and FOBS or DICBM should be prohibited. In order to accomplish this, the prohibition should apply to the flight-testing of such vehicles, which is detectable.

- Prohibition of MIRV's would not automatically rule out the POSEIDON and MINUTEMAN III launching vehicles since these could be deployed with single warheads rather than MIRV's. However, we must expect the Soviet Union to try to preclude or at least limit the numbers of these more powerful launchers just as we will wish to preclude any extensive Soviet replace-

ment of less effective launchers with more effective ones. It would be premature to attempt to weigh possible trade-offs here.

-- Land-based mobile missiles of strategic range (that is, including those which might be launched against Western Europe from the Soviet Union) should be prohibited. While we could count on detecting violation of a complete prohibition, we could not reliably determine whether a limit on the numbers of such vehicles was or was not being observed.

-- A ceiling should be placed on numbers of strategic missiles in order to preclude major expansion of the missile forces of either country. Exact comparability of numbers of each type of missile could not be achieved. However, it should be possible to achieve limits that both the U.S. and Soviet Union would find acceptable.

b. The question of comparability does raise two special issues:

-- Soviet naval forces include cruise missiles as well as ballistic missiles. Although the cruise missiles are believed to be intended for sea warfare rather than strategic warfare, it would be important not to leave open the possibility that the Soviet Union might increase the number of cruise missiles of strategic range.

-- Our own forces place much heavier emphasis on strategic manned bombers. There is clearly no reason for us to volunteer a limit on these (it is for this reason that the preceding section did not propose limits on defenses against manned bombers). On the other hand, the Soviets may well desire a limit on bombers as well as missiles.

4. Weighing the Results of Negotiations

a. The foregoing discussion has not attempted to weigh all technical details or to anticipate Soviet positions.

b. In the final analysis, the acceptability of an agreement would have to be viewed as a whole when negotiation of this highly complex matter has reached the stage where the probable outcome is in view.

C. ALTERNATIVE APPROACHES

1. An Agreement Limiting ABM's Only

a. If the U.S. and Soviet Union should prove unable to reach agreement on limitation of offenses but were able to agree on a limit on ABM's, then limiting ABM's only would be better than allowing both offenses and defenses to remain unlimited.

b. Although this alternative should be considered as a possible fallback position, our main effort should be to limit offenses as well as defenses as recommended above.

2. An Agreement Permitting MIRV's

a. Still another approach, one which has a number of advocates, would be to seek an agreement generally along the lines outlined in Section B above but to permit MIRV's. The chief argument in favor of this approach is that it would provide an absolute safeguard against the chance that the Soviets might at some future time violate or abrogate the agreement and proceed with large-scale ABM deployment.

b. The trouble is that MIRV's can increase the first-strike potential of both countries. Consequently, both would want to ensure the survivability of their land-based forces, and this would make improbable

any agreement to limit offenses. In particular, the Soviet Union might well insist on proceeding with land-mobile strategic missiles if we should insist on MIRV's.

c. While the MIRV would provide a safeguard against violation or abrogation of the agreement, the approach outlined in Section B above is also safeguarded. Under that approach, it would require a major effort to move from the very low level of ABM's that would be permitted to a level which might conceivably affect the strategic equation to any significant degree. It is not probable that such an effort could be successfully carried out clandestinely, and if the Soviets were to abrogate the agreement and then carry out such an effort, there should be ample time for us to respond. Certain collateral safeguards are suggested in the following section.

D. COLLATERAL SAFEGUARDS AGAINST VIOLATION OR ABROGATION OF AN AGREEMENT

1. The Explicit Character of the Agreement

a. A major agreement of the character recommended here should be explicit rather than tacit.

b. An explicit detailed agreement would involve less risk of conflicting interpretations and would provide a far better focus for our national detection capabilities.

2. Expansion of National Detection Capabilities

a. An expert study should be made to determine whether qualitative or quantitative changes in our national detection capabilities might be useful.

b. It will, in any event, be important to ensure against interference with these capabilities. The agreement should provide that national capabilities will be

employed for verification and that neither country will interfere with the capabilities of the other.*

3. Research, Development and Standby Production Capabilities

a. The strengthened research and development effort recommended in Part II above should be continued in order to ensure an adequate scientific and technological base for moving ahead with our own strategic programs if the arms control agreement should be violated or abrogated.

b. How far research should be pursued into the development stage would have to be considered on a case-by-case basis. Up to the point of flight-testing, the development of wholly new systems would not be detectable. Pressing the development of wholly new systems into the flight-test stage could raise questions regarding viability of the agreement.

c. Some provision should also be made for standby production capabilities. This could compress the leadtime involved in responding to violations or to changes which the Soviet Union might introduce if it should abrogate the agreement.

*A possible alternative is to be found in a suggestion by Dr. Edward Teller who has urged the international use of space systems for surveillance of the earth. This proposal is well worth considering for the future. However, it is assumed here that we will have greater confidence in our own national capabilities at least until the viability of an arms control agreement has been established.

IV - STRATEGIC FORCE GOALS IF NEGOTIATIONS FAIL

A. GEARING UP FOR THE LONG HAUL

1. Continuing A Selective Approach

a. It may not prove possible to reach an acceptable agreement with the Soviet Union. This might -- but need not -- spur the assumption on the part of either or both countries that an all-out strategic arms race had become inevitable.

b. Failure to reach agreement would not suddenly turn "bad" investments into "good" ones. Moreover, it is possible that even unsuccessful negotiations might clarify the issues for both the U.S. and Soviet Union and lay the basis for a degree of continuing restraint.

c. While continuing to probe for areas where mutual restraint might benefit both countries, we should proceed with whatever actions might be necessary to meet our basic need of maintaining an effective second-strike deterrent force.

2. Maintaining the Effectiveness of Our Second-Strike Deterrent.

a. It is beyond the scope or competence of this paper to undertake a full review of all technological options now open to us or emerging from research and development. However, consideration should be given to the following questions involving the long-term effectiveness of our deterrent:

-- For the long haul, should we shift a larger portion of our retaliatory force to ships or submarines? In arriving at a conclusion, possible changes on the Soviet side which might affect our sea-based forces should be assessed as well as changes which could make our land-based forces vulnerable.

-- Should we consider some enlargement of our total missile force if the Soviet Union continues to expand its own force? Would there be merit, for example, in maintaining some fixed numerical edge over the Soviet Union's force? This need not lead to continually mounting missile forces on both sides if we could discourage the Soviet Union from major additional increases by making clear our determination to up the ante. This is, of course, a very big "if", and maintaining such an edge would be a complicated task if MIRV's and land-mobile strategic missiles were introduced. Nonetheless, this approach is worth considering.

b. We should avoid changes in our own forces which would be viewed by the Soviet Union as an effort to acquire a highly effective first-strike capability. Such changes would serve mainly to stimulate further changes on the Soviet side.

3. Modernizing Our Manned Bomber Force

a. A mixed deterrent force -- that is, one including some land as well as sea-based missiles and manned bombers as well as missiles -- remains a useful means of complicating the problems confronting the Soviet Union. Such a force avoids the dangers that could arise if we were, in effect, to put all of our eggs in one basket.

b. The B-52 continues to comprise a major element of our mixed deterrent force. It is possible that steps can be taken to prolong its usefulness in the face of increasingly strong Soviet air defenses, and expert study should be made of the feasibility of such steps. On the other hand, a case can be made that it will soon be time to start development of a replacement for the B-52, and this possibility should be carefully weighed.

c. The Soviet Union would probably see a need to strengthen its air defenses still further. However, improvement of the B-52 or development of a new manned bomber would not touch off the extensive chain reaction inherent in the ABM-MIRV sequence.

4. Determining the Feasibility of Sea-Based ABM's

a. As noted in Part III above, there may arise in time the question of whether we should make available to our Asian allies some defense against Communist China's missiles. A ship-based ABM system has been suggested as a possible approach to this problem, and a determination should be made of technical feasibility and potential effectiveness from the standpoint of defending Japan and other major allies threatened by Communist China.

b. The foregoing recommendation may prompt the question of whether such a system should also be made available to our European allies. In view of the large number of Soviet missiles threatening Western Europe, and in view of further changes the Soviet Union could make to overcome a European ABM defense, effective ABM defense of Europe does not appear feasible.

B. PROBING FOR AREAS OF MUTUAL RESTRAINT

1. ABM's for City-Defense

a. The deployment of heavy ABM defenses against Soviet attack would be no more promising after failure to negotiate an agreed limit than is now the case. Such an effort would still face the prospect of a Soviet response that would nullify the value of our investment.

b. We should, therefore, continue to measure our requirements for ABM's for city defense against needs occasioned by Communist China's forces, and we should hold our deployment to the minimum needed for that purpose.

2. MIRV's

a. A second area in which continuing restraint might usefully be considered would be the development of MIRV's. The existing Soviet ABM deployment to which MIRV's would be a counter is exceedingly limited. In the absence of an agreed limit on ABM's, the Soviets will doubtless deploy some more ABM's, but it is not clear that the level they might deploy would establish a requirement for MIRV's.

b. We could not, of course, hold off on MIRV's if the Soviets should move toward a significant level of ABM deployment or develop MIRV's themselves. Therefore, restraint on our part would necessarily be contingent on what they do, and we would need to make that fact clear to them.

V - THE STRATEGIC DIALOGUE WITH THE SOVIET UNION

A. ROOM FOR IMPROVEMENT

1. In one form or another -- and usually in more than one form at any given time -- we have for years engaged in a strategic dialogue with the Soviet Union. These exchanges have included what we say directly, officially, and privately to each other; what we say in various international forums such as the various disarmament conferences; what we say indirectly in talking to ourselves (in our case, for example, in Congressional testimony); and what is said through a large number of unofficial channels (Pugwash meetings are a case in point).

2. This dialogue also proceeds in terms of actions -- the testing and deployment of new systems; changes in established operational patterns, and so on. Such actions may speak louder than words, but their intended meaning is not always self-evident.

3. It is very hard to say what all of this adds up to in Soviet eyes (or ears). From our own standpoint, a wider-ranging authoritative dialogue through official channels might be useful.

B. AN EXPERIMENTAL APPROACH

1. Given the increasing complexity of the strategic nuclear situation, it might be well to establish a permanent official channel which could be employed at the initiative of either country. The mechanism for such communication might, in effect, be a joint commission of experts which would meet periodically to discuss strategic nuclear issues.

2. If an agreement can be reached to limit strategic offensive and defensive forces, this commission might be useful in two areas related to arms control:

-- In clarifying questions of interpretation of the agreement, or actions taken by either country subsequent to the agreement; and

-- In exploring the possibility of additional steps in arms control, such as the reduction of offensive forces.

3. In a sense, this commission could be even more important in the absence of arms control. Under these circumstances, it might aid communication about such matters as the following:

-- Encouraging mutual restraint in certain types of armaments; and

-- Clarifying changes in the forces of either country which might prompt disproportionate reactions by the other.

4. Whether or not there is an arms control agreement, discussion of a number of questions of mutual interest could also be facilitated. For example:

-- Questions related to the risk of the use of nuclear weapons as the result of accident, miscalculation (or failure of communication); and

-- Questions related to third countries, in particular, Communist China.

5. What is proposed here is a "trial run" -- an experiment in communications which might succeed or fail but which could prove worth a try. We should proceed now to develop a specific proposal to put to the Soviet Union.