



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE WASHINGTON, D. C. 20001

SYSTEMS ANALYSIS

August 13, 1971

(Strategic Programs)

MEMORANDUM FOR COLONEL FURLONG

SUBJECT: Strategic Command & Control Study

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Ray:

Attached is a copy of the Strategic Command and Control Paper prepared by my office for the DPRC Strategic Forces Review, now in progress. The purpose of this paper is to focus on command and control postures for alternative strategic force objectives so that a decision maker could determine the capability and cost implications of the alternatives. The paper has been coordinated at the staff level with the ODDR&E and the Joint Staff.

I have also attached for your information a copy of a paper on Flexible Response also being prepared for the DPRC Strategic Forces Review. The purpose of this paper is to address the role of flexible responses and limited strategic options in our strategic posture.

I would welcome any comments you may have on these papers.

With regard to Mr. Packard's C<sup>2</sup> plans, there are many of us in OSD who would like to help him to implement those plans, but don't know how. It appears we need direction from Mr. Packard and a key guy (or Working Group) to represent him on a day-to-day basis and to keep the work moving.

E. C. Aldridge, Jr.
Director
Strategic Defensive Division

Attachments:

Cy 20 Flexible Response Options dtd 20 July 1971

Cy 8 Strategic Command & Control & Surveillance dtd 12 Aug 1971

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## Flerible Response Options

#### I. The Problem

The Defense Program Review Committee (DPRC) has directed a comprehensive review of the U.S. strategic force posture and objectives with a view towards possible revision of the NSDM 16 sufficiency criteria. As part of this review, this paper analyzes the U.S. requirements, capabilities, and potential for greater flexibility in the employment of nuclear weapons. Particular attention is given to the concept of Limited Strategic Operations (LSO), which is defined to be the limited use of nuclear weapons in an effort to terminate a limited war or resolve a crisis short of general war without:

- -- significantly reducing U.S. or Soviet strategic forces;
- -- significantly altering the strategic muclear balance;
- -- signalling a change in the basic U.S. strategy of deterrence.

There are three factors which suggest the need for flexibility in the employment of muclear weapons: the current state of numerical parity between the United States and the USSR in strategic weapons, increased interest among U.S. planners in the war-engagement capabilities of U.S. strategic forces, and the unpredictability of the evolution of crises.

that it could use its strategic nuclear superiority over the USSR and the threat of a massive nuclear response to deter a broad range of hostile Soviet actions, including attacks on our allies. Regardless of one's views of the utility of strategic superiority, it is clear that the current state of parity carries with it the possibility that the Soviets might attack our allies — and perhaps even make less than allout nuclear strikes on the United States — while reserving nuclear weapons to threaten U.S. cities with the intent of forestalling a large U.S. nuclear strike. While this course of action clearly would entail large risks for the Soviet Union, its increased likelihood in an era of nuclear parity has stimulated interest in flaxible U.S. nuclear responses to provide options other than the very large strikes currently available in the Single Integrated Operational Flan (SIOP).

-- War-Engagement Capabilities. Through the Administration's on-going review of U.S. strategic programs, there has recently been greater attention given to the capabilities of U.S. forces to engage in a nuclear war. One of the effects of examining war-engagement capabilities has been to raise questions concerning U.S. requirements for limited nuclear strike options or ISO and for flexible responses for the purpose of early war termination.

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#### -- Umpredictability of Crisis Evolution.

The expectation that this plenomenon will continue to operate in future crises has contributed to the interest in the flexibility of U.S. plans for employing nuclear weapons.

The President has clearly indicated his desire for flexibility in our nuclear weapon employment cospabilities. In defining the broader political meaning of strategic sufficiency as the maintenance of forces adequate to prevent coercion of the United States and its allies, he goes on to say:

"I must not be -- and my successors must not be -limited to the indiscriminate mass destruction of
enemy civilians as the sole possible response to
challenges. This is especially so when that
response involves the likelihood of triggering
nuclear attacks on our own population. It would
be inconsistent with the political meaning of
sufficiency to base our force planning solely on
some finite -- and theoretical -- capacity to
inflict casualties presumed to be unacceptable
to the other side."\*

The President also states in the same report:

"We must insure that we have the forces and procedures that provide us with alternatives appropriate to the nature and the level of the provocation. This means having the plans and command and control capabilities necessary to enable us to select and carry out the appropriate response without necessarily having to resort to mass destruction."

\*House Bocument No. 92-53, "Message from the President of the United States Transmitting His Second Annual Review of United States Foreign Policy", February 25, 1971, p. 131.

\*\*Tbid., p. 133.



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Assessment of the U.S. capability for flexible nuclear responses must consider the characteristics of our strategic weapons, our command and control system, and our post-strike reconnaissance capabilities, as well as the flexibility inherent in our muclear weapons employment plans. Nevertheless, consideration of current employment plans is a useful starting point, since having suitable plans is a minimum condition for flexible nuclear responses.

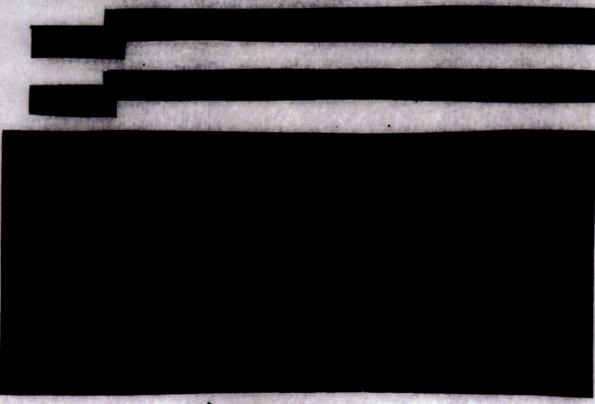
# A. Current Muclear Weapon Employment Plans

A review of current employment plans for U.S. muclear weapons includes . examination of the SIOP: operations plans, the contingency plans of U.S. theater commanders; and our current capability for ad hoc planning of nuclear strikes.

The SIOP .

The National Strategic Targeting and Attack Policy (NSTAP) provides guidance for the preparation of capabilities plans for employment of U.S. muclear offensive forces against the Soviet Union and other communist nations. The SIOP is the capabilities plan which integrates the employment of U.S. strategic forces and designated theater nuclear forces for preplanned attacks on targets for the purpose of accomplishing the NSTAP objectives, of which there are three:

-- Destruction of nuclear offensive threats to the United States and its allies, in order to limit damage.



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# NATO Muclear Operations Plan

NATO theater nuclear strike forces consist of Polaris and Pershing missiles. Vulcan medium bombers, and tactical strike aircraft committed to BACKUR and BACLAWY. These weapons are targeted in various preplanned strike programs which are coordinated with the SIOP. Although these plans could be executed independently of the SIOP, they would achieve their maximum effectiveness in coordinated execution with the SIOP. There are also regional On-Call Plans which consist of preplanned lists of potential targets which can be struck following execution of BACEUR's strike programs, based on availability of weapons and the course of the battle.

The strike options under the NATO muclear operations plans are intended to destroy

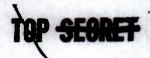
# Centingency Plans of U.S. Theater Commanders

U.S. unified and specified commanders, under the overall guidence of the Joint Chiefs of Staff, plan for the amployment of muclear weapons for tasks not incorporated in the SIOP nor in NATO muclear operations plans. These contingency plans provide for use of nuclear weapons in flest air defense, anti-submarine warfare, and tactical air and ground engagements. Although primarily using tactical air assets and defensive weapons, some contingency plan options provide for limited use of B-52s and Parshing missiles and for extremely limited use of SIBMs. Mone provide for use of ICENs outside of the SIOP.

# Ad Hoc Strike Planning Capability

A major revision of the SIOP in order to reflect changes in the status of U.S. strategic forces and in the target base requires six months. Hence, ad hoc strike planning would, of necessity, be limited to very small strikes under current procedures.

we do not have staffs dedicated to and trained for planning ad hoc strategic muclear strikes, we have never exercised our capabilities for such planning, and we have no systematic provisions for interface between croper planning staffs for the purpose the President and the LUNLI responses in a crisis. of providing ad hoc



#### B. Major Issues

The foregoing description of current U.S. employment plans shows that they primarily provide preplanmed and coordinated options for the use of large numbers of strategic nuclear and tactical nuclear weapons with the intent of defeating the Soviet Union, China, and other communist nations in a nuclear war

The NATO nuclear operation plans have the further drawback -- from the point of view of flexible response options -- that they cannot be executed without consultation with and concurrence of the NATO nations. The congingency plans of U.S. theater commanders have the potential for small flexible responses in a crisis, but these plans are currently unsuited for this purpose in that they largely involve tactical nuclear weapons, there is no systematic provision for direct interaction with the President in selecting contingency options, and they do not provide for strikes on the Soviet Union. While we have some capability for ad hoc nuclear strike planning, the targeting staffs are not organized nor trained for this type of operation.

Thus, it is clear that we do not currently have the flexibility called for by the President. Provision of this flexibility is not, however, simply a matter of modifying targeting staffs, plans, and procedures. We must also consider the objectives for flexible response options; the risks of having greater flexibility; and the adequacy of our current and programmed weapons, command and control, and recommaissance systems for the flexible employment of nuclear weapons. Accordingly, the following topics are examined in subsequent sections:

- --- Flexible response concepts and objectives.
- -- Soviet views on the limited use of nuclear weapons and the risks associated with greater flexibility.
  - -- Technical issues in planning for greater flexibility.
  - -- Alternative military postures for greater flexibility.
  - -- Summary of issues for decision.

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#### II. Flexible Response Concepts and Objectives

Our current nuclear weapon employment plans seek relative advantage in war outcome through the destruction

In contrast, the primary objective of flexible response options, and particularly of ISO, would be political to persuade the enemy to terminate hostile activities without causing him to expect that all-out muclear war is inevitable, but also without sacrificing vital U.S. interests. The intent would be to demonstrate resolve in a deep crisis or in the early phases of a nuclear exchange while also demonstrating restraint.

There are four important aspects to the concept of flexible nuclear responses:

- -- specific objectives;
- -- circumstances under which the United States might consider the limited use of nuclear weapons (scenarios):
  - -- the role of tactical muclear and conventional forces;
  - -- limited muclear strikes against China.

#### A. Specific Flexible Response Objectives

Two broad purposes would be served by having a capability for flexible nuclear strike options which bridge the gap between STOP execution and the use of general purpose forces:

- -- To link, through the limited use of strategic mclear weapons, local issues of conflict with the most vital national interests of the engaged powers.
- -- To provide appropriate responses to less than all-out nuclear attacks on the United States.

More specifically, flexible response options might be used to accomplish the following objectives:

- -- Halt conventional or nuclear attacks on U.S. allies by demonstrating a willingness to escalate to strategic muclear conflict, if necessry to safeguard allies.
- -- Aid in early termination or suspension of muclear conflict between the United States and the Soviet Union by showing an appropriate combination of restraint, resolve, and willingness to negotiate.
- -- Help deter attacks on or attempts to coerce the United States and its allies by broadening the range of credible counter-threats available to the United States in a crisis.
- -- Provide appropriate responses, including attacks-in-kind, to less than all-out Soviet nuclear attacks on the United States.





#### B. Scenarios

The limited use of nuclear weapons by the United States during a crisis or the early stages of military conflict clearly involves the risk of unwanted escalation. Hence, such options should be considered only in circumstances in which our vital national interests are really at stake and in which the risk of escalation is acceptable when compared against the other alternatives available to us.

Scenarios are useful in helping to create a framework for considering flexible response options, but it is a mistake to search for "credible scenarios" that rigorously define U.S. actions in a crisis. Most of history's real conflict scenarios were quite incredible a priori -- e.g., Pearl Barbor and the Cuban missile crisis. Scenarios cannot be used to prove a requirement for flexible response options or that a given option would succeed in achieving U.S. goals. They can only be used to sensitize decision-makers to new dimensions of strategic concern.

Inherent in the concept of flexibility is the assumption that we cannot predict in detail the circumstances under which we would consider the limited use of nuclear weapons, the number and types of weapons involved, and the specific targets attacked. It is possible, however, to identify at least three circumstances which could bring about the type of crisis in which ISO could be an effective U.S. action:

- -- The Soviets do not understand what constitutes vital U.S. interests and take hostile actions in the belief that we will not resort to the use of strategic nuclear weapons.
- U.S. national interests, but (possibly misreading our resolve) seek to coerce us by posing unacceptable choices designed to drive the United States to capitalation on a local issue.
- -- A crisis occurs in which, through Soviet design, Soviet miscalculation, or failures in U.S. diplomacy, the credibility of the U.S. muclear deterrent is called into serious question.

Any of the above circumstances, singly or in combination, could give rise to the following examplar scenarios in which the United States might consider limited strikes on the Soviet Union with strategic nuclear weapons, together with diplomatic initiatives (including hotline communications with the Soviet government), in order to bring hostilities to a temporary halt as a prelude to negotiations:

- -- A conventional war in Europe, with MATO apparently losing.
- -- A conventional war in Europe, with tactical muclear weapons being used in the battlefield, and KATO apparently losing.
- -- A conventional or tactical nuclear war in Europe, with the Warsaw Pact apparently losing. The Sovietslaunch (or threaten to launch) a limited strategic nuclear attack on U.S. military installations in CONUS.

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-- Protracted Soviet attacks on U.S. SSENs at sea which succeed in destroying a few U.S. SSENs. Such ASW actions might take place, for example, in connection with a U.S.-Soviet confrontation in Western Europe or in the Mediterranean area. They might also take place as a result of U.S. harassing efforts to keep Soviet Y-class SSENs from patrolling near our shores.

U.S. limited strategic nuclear attacks in such crises could include the following:

to show U.S. resolve to use miclear weapons;

to signal U.S. willingness to escalate from conventional or tactical muclear warfare to strategic muclear warfare;

to demonstrate the ease with which a modern nation can be crippled with a relatively small nuclear attack;

-- attacks which respond in kind to small Soviet muclear attacks, in order to demonstrate U.S. resolve to escalate a crisis to whatever level of muclear warfare is necessary to protect our interests, while at the same time showing U.S. restraint and determination to resort to large retaliatory strikes only when the enemy leaves us no other choice.

Targets for limited nuclear strikes would have to be selected with great care to ensure that the desired political signals would be conveyed to the Soviets and that the chance of Soviet misperceptions of U.S. intent would be kept low.

Other factors which bear on target selection include the U.S. capability for post-strike damage assessment and the weapon systems to be used in the attack.

# C. Role of Tactical Nuclear and Conventional Forces

The role of non-nuclear forces in flexible response options can be considered from two points of view:

-- Can LEO substitute for tactical nuclear and conventional forces?

-- Can tactical maclear forces play a role in flexible maclear responses?

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With regard to the first question, the limited and flexible use of nuclear weapons for purposes of early war termination and for control of slowly escalating crises must of necessity be coupled with negotiations to achieve U.S. goals. There is a strong likelihood that ISO could not restore the status quo ante and that the United States might have to recognize limited Soviet territorial and political gains. For this reason, ISO cannot be regarded as an effective substitute for strong tactical nuclear and conventional forces in Europe and Asia.

What role can tactical nuclear weapons play in flexible response options? This study did not examine requirements for greater flexibility in the battlefield employment of tactical nuclear weapons.

Furthermore, it can be argued that any use of miclear weapons would convey strong signals of U.S. resolve to the Soviet Union and that using tactical miclear weapons, rather than strategic miclear weapons, to convey these signals would reduce the risk of escalation to general miclear warfare.

There are, however, several reasons why we should not depend solely on tactical nuclear weapons for flexible response options and, perhaps, why we might not want to plan for any limited use of tactical nuclear weapons outside of the battle area, at least in conflicts with the USER.

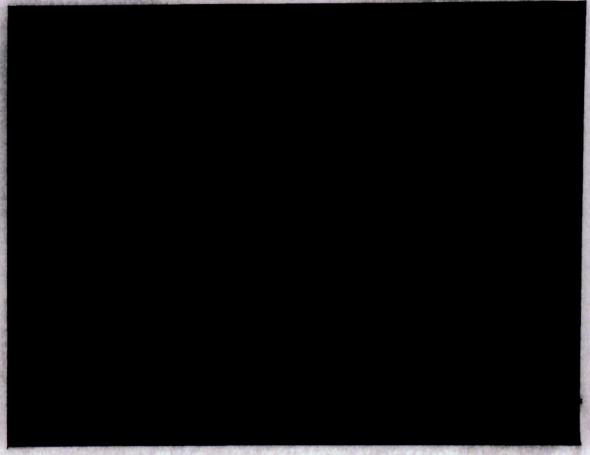
- -- Tactical nuclear weapons strikes against targets outside of the USER may not signal U.S. resolve with sufficient strength to achieve U.S. goals in a crisis.
- -- The United States and its allies might want to avoid the risk of protracted tactical nuclear exchanges, with widespread damage in Europe, in favor of the limited use of strategic nuclear weapons. Thus, one of the choices to be considered in a crisis would be to use IOS, rather than tactical nuclear responses.
- -- Tactical aircraft have significantly lower probability of penetrating air defenses in the USSR and successfully accomplishing their mission than do strategic bombers and ballistic missiles. This factor is particularly important for limited nuclear strikes, because mission success would be essential to achieving the political objectives of limited nuclear strikes.
- -- Tactical nuclear strikes would not provide a response-inkind to limited Soviet attacks on the United States with strategic nuclear weapons.
- -- The Soviets may not perceive U.S. tactical nuclear strikes as evidencing any more restraint than U.S. strategic nuclear strikes (see Section III.A and Annex A on Soviet views of flexible response options).

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D. Flexible Response Options Against China



# III. Risks Associated With Flexible Response Options

The success of limited nuclear strikes: depends critically on conveying political signals accurately to the Soviet leadership. To some extent the chance of Soviet misperceptions can be reduced through direct communications with the Soviet government via the hot line. But Soviet views on limited nuclear warfare and their capabilities for LSO -- to the extent we understand them -- must be carefully considered in assessing the risks associated with flexible nuclear response options.

# A. Soviet Views on and Capabilities for Limited Nuclear Warfare

Annex A gives judgments on Soviet views concerning limited muclear warfare and their capabilities for engaging in limited nuclear exchanges. The following summary of Soviet views represents a consensus of the DPRC agencies, based on Annex A and on other intelligence sources.

-- The Soviets recognize that there is substantial uncertainty about the initial circumstances which could lead to nuclear war between the United States and the USSR and seem to have made provisions for various preemptive and retaliatory strike options in their war plans.



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regarding strategic nuclear strikes, although the Soviets have apparently given serious consideration to the need for ad hoc decisions to meet such contingencies as accidental or unauthorized missile launches and provocative attacks by third countries.

-- The Soviets have long maintained that military conflict between the United States and the USER would rapidly escalate to general nuclear war even if it begain conventionally. Moreover, their force application concept and command and control structure provide for integration of what the United States would term conventional, tactical nuclear, and strategic nuclear forces into war plans for each theater of operation under the direct operational control of the General Staff.

-- The USSR has sensor systems adequate to distinguish a large nuclear attack from a limited attack.

while they understant and have the capability for the controlled application of military force and while their political leaders would not be bound to follow the publicized Soviet strategic doctrine, they apparently fear a surprise U.S. strategic attack and appear to be nearly unanimous in their belief that limited strategic conflict is unlikely to stay limited.

-- There is no evidence in Soviet military doctrine to suggest an interest in the limited use of Soviet nuclear weapons to coerce the United States and its allies, although they presumably have the military capability for such attacks.

In summary, there is a fundamental uncertainty concerning Soviet responses to limited U.S. nuclear strikes on the USSR. Any one of the following responses would be possible and there is no sound way to predict in advance of a crisis what the Soviet response might be. Furthermore, there may be no high confidence way to make such a prediction during a crisis.

- -- Initiate negotiations and cease from the hostile actions which led to a limited U.S. strike.
- -- Respond with carefully controlled, but limited, muclear strikes on the United States.
- -- Initiate a large, general nuclear exchange in an effort to achieve a favorable outcome in a nuclear war which the Soviets might regard as inevitable after a limited U.S. strike.

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### Summary of Risks

Analysis shows three classes of risks associated with flerible response options:

- -- those related to . . the U.S. deterrent posture before a orisis involving the use of molear weapons;
- -- those associated with U.S. actions during a crisis in which we use (or considered the use of) muclear weapons for limited strikes:
- -- those related to ' the U.S. deterrent posture after a crisis involving the limited use of muclear weapons.

# 1. Risks Before a Crisis

The primary risk before a crisis is that provision of flexible response options would reduce the effectiveness of the U.S. deterrent to miclear warfare. The argument is that if the United States had a range of flexible response options for the use of strategic muclear weapons -- particularly for 160 -- and if the Soviets were aware that the United States had this capability, the Soviets might conclude that the United States had abandoned its long-held and wellpublicised deterrent posture of "assured destruction". The current Soviet lead in ICHEs and overall strategic parity with the United States could reinferce such a Soviet conclusion and further lead them to believe that they were in a position of military superiority over the United States. A Strategic Aras Education (SAL) agreement opdifying this state of parity could further contribute to this Soviet interpretation of a U.S. flexible response posture.

The risk, in effect, is that a U.S. flexible response posture would be taken as "admission" that we would not respond to Soviet attacks or threats with a large-scale mclear attack, except in the case of a large nuclear attack on the United States. This would broaden the range of hostile actions the Soviets believed they could get by with. While there would presumably be no weakening of the deterrent against large, direct attacks on the United States, the Soviets could become more adventuresome and aggressive in theater areas, particularly in the Middle East and in Western Europe. There would, it is argued, be a decided weakening in the contribution made by U.S. muclear weapons in deterring conventional and nuclear attacks on MATO and our other allies.

On the other hand, it can be argued that their increased nuclear and conventional military strength has already made the Soviets more aggressive and that the state of mutual muclear deterrence between the Soviet Union and the United States has already weakened the effect of our strategic arsenal in deterring Soviet attacks on NATO and our other allies. The degree to which our extended deterrent has been weakened cannot be precisely measured, but supporters of flexible response options assert that the fact of its weakening makes it essential to have strategic muclear responses which can be used to unambiguously signal the U.S. commitment to its allies.

Moreover, all of the evidence concerning Soviet military doctrine argues against the view that the Soviets would interpret greater U.S. muclear flexibility as a weakening of our extended deterrent. Their doctrine holds that any military conflict between the United States and the USSR will rapidly escalate to general muclear war. This is not to say that the doctrine cannot change nor that the political leadership is bound to follow the military doctrine. One cannot, however, assert that flexible nuclear response options pose a high risk of weakening our extended deterrent and at the same time state that such options carry high risk of unwanted escalation.

### 2. Risks During a Crisis

There are four major risks associated with the limited use of strategic muclear weapons during a crisis:

- -- the availability of flexible response options may increase pressures for use of nuclear weapons;
- -- execution of limited strikes may result in unwanted escalation;
- -- the limited strike may not achieve its military objective;
- U.S. strike, simply extending the crisis and posing the question, "What do we do next?"

Increased Pressures for Use of Ruclear Weapons. If greater flexibility provided options for small nuclear strikes, there would undoubtedly be pressures to use these small strikes as an "easy way out" in a crisis. But, it should be noted that such pressures will exist during a deep crisis, whether or not we have pre-planned flexible response options. The issue is not whether to have options for limited use of nuclear weapons in contingencies — the capability for limited use of nuclear weapons exists.

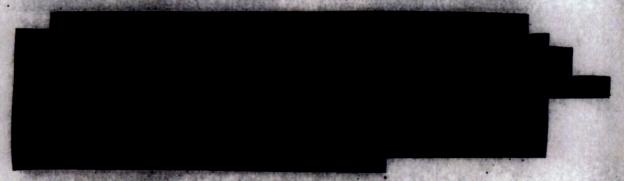
The issue is whether we should systematically plan for the use of such options.

Unwanted Escalation. Probably the most serious risk associated with the limited use of nuclear weapons during a crisis, in terms of the potential for catastrophe, is that it would trigger uncontrolled escaltion to general nuclear war. As we have seen, the available evidence concerning Soviet military doctrine suggests strongly -- but not conclusively -- that such would be the case. Implied by this risk is that we should consider execution of flexible response options only if we are faced with a direct challenge to our vital national interests and only if the consequences of other alternatives are even less platable than general nuclear war. Also implied is that we would take every precention to reduce the risk of unwanted escaltion, including direct communications with Soviet leaders via the hot-line and the strict avoidance of attacks which would lessen the control of the

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th: E0 13526 Records & Declass Div, WH Achievement of Military Objectives. Another risk is that the limited nuclear strike may not achieve its military objectives and thus place the United States at a political and pyschological disadvantage in subsequent moves during the crisis. This might possibly lead to increased Soviet threats and military actions, a lessening of allied confidence in the U.S. nuclear shield, and confusion and loss of resolve in the United States. At the minimum, we would probably be faced with the choice of moderating our demands in the crisis or executing a larger nuclear attack to offset the earlier failure.



What Mexif In analyzing flexible response options, we must consider the next U.S. move if the Soviets neither escalated nor negotiated after a U.S. limited nuclear strike. They might, for example, respond in kind or even make no military response, while seeking to turn world opinion against the United States. Our choices would be to continue to press for negotiations through diplomatic means, to continue with limited nuclear strikes, or to escalate to larger nuclear attacks. The last two choices would entail further erosion of the reserve of strategic weapons withheld for SIOP execution in the event the orisis escalated to general nuclear war.

Analysis prior to a crisis cannot resolve this dilemma. U.S. actions in the event of an indeterminate Soviet response to ISO must be considered by the President in weighing the risks and benefits of using nuclear weapons in a crisis. But this again argues for systematic prior planning in the event flexible response options are needed.

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#### 3. Risks After a Crisis

An assessment of risks associated with flexible response options must also consider the effect on the U.S. deterrent posture subsequent to a crisis. Suppose that the United States had executed a limited nuclear strike on the USSR and that this strike had resolved the crisis and resulted in a negotiated solution. Would there then be any fundamental difference in the credibility of the U.S. nuclear deterrent and in crisis stability?

#### There are two broad views:

-- The fact that one or both nations had actually used muclear weapons and had been directly faced with the prospect of general nuclear war would reinforce mutual deterrence, would cause both the United States and the Soviet Union to avoid any confrontation which could lead to the use of nuclear weapons, and would result in sincere and renewed efforts by both sides to further control strategic armaments.

-- Alternatively, there might be widespread interest in both nations in limited muclear strikes as an instrument of national policy, leading to the increased likelihood of further confrontations, less reluctance to consider using nuclear weapons, and a general reduction of stability in a crisis.

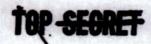
Refer analysis can provide little insight into attitudes and doctrines subsequent to a crisis which involved the limited use of maclear weapons. These attitudes would be strongly affected by the issues at stake, the results of negotiations, the damage resulting from the limited attack, and many other crisis-related factors. Postwar views profoundly affected and this is an essential factor to be considered during a crisis, if the use of nuclear weapons is under consideration.

# 4. Summary

In summary, there are many risks associated with the availability and use of systematically planned options and procedures for flexible nuclear responses. Most of these risks would also be incurred if we used limited nuclear strikes derived from current employment plans and procedures, but would be increased if there had been no prior efforts to provide plans, procedures, staffs, and data displays for flexible response purposes. Past crisis situation have demonstrated that among the courses of action considered by the President in a deep crisis will be the use of nuclear weapons. Thus, the principal judgment that must be made is whether the implementation of systematic procedures for flexible nuclear responses will reinforce our extended deterrent or reduce it. An essential part of this judgment involves an assessment of the viability of our extended deterrent now and in the future without systematic planning for flexible nuclear responses.



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### IV. Specific Flexible Response Issues

Given a decision to provide for greater flexibility in our plans and procedures for employment of strategic nuclear weapons, decisions are needed on the following specific issues (some, : of these decisions could be made by DOD and reviewed by the DFRC):

- -- Should improvements be made in the survivability of our command, communications, and surveillance control system?
- -- Should improvements be made in the survivability and responsiveness of our post-strike reconnaissance capability?
  - -- Should the accuracy of our missiles be improved?
- -- Should we have pre-planned strike packages for flexible responses or depend primarily on ad hoc strike planning?
- -- What should be the relation of flexible response options to the SIOP?
- -- What should be the U.S. declaratory policy with regard to flexible response options?

#### A. Survivability of Command, Control, Communications, and Surveillance Systems

The command and control system should provide for the following in connection with flexible response options:

- -- Warning of attacks on the United States.
- -- Assessment of attacks on the United States.
- -- Command posts for the President and his advisors, with staffs, displays, and computer capability adequate to permit the President to select appropriate options.
- -- Communications between the President and the military forces which provide for implementation of his orders and for monitoring the status of U.S. forces. Two-way communications are very desirable to ensure positive control of forces in a crisis.
- -- Systems to assess the results of U.S. strikes and provide this information to the President. Post-strike damage assessment is discussed in Section IV B and in Annex B (limited distribution).
- -- Communications between the President and the Soviet government, provided by the Washington-Moscow direct communications link (the "hot-line").

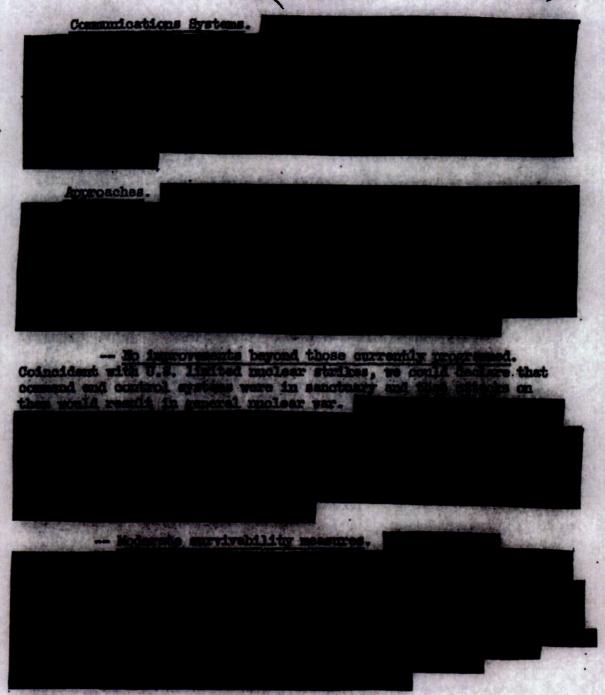


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Early Warning Sensors.

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-- Concerted survivability program. A vigorous and concerted program to explore all feasible technical approaches to improving command and control survivability would provide high confidence insurance against Chinese attacks and continuity in command and control over a range of Soviet attacks short of an all-out attack. This program would, however, cost at least twice as much as the current program and there would be substantial technical risk that it could not achieve all of its objectives.

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#### B. Post-Strike Damage Assessment

Rapid gathering and processing of intelligence information in connection with limited muclear strikes is essential to achieving the objectives of flexible response options. Presidential decisions which must be made during a confrontation involving the limited use of nuclear weapons -- a "shoot-look-shoot" war -- demand the timely provision of accurate and comprehensive intelligence data. The concept of a series of reciprocating nuclear strikes, punctuated by negotiations or dialogue, requires that the Bresident be apprised of the results of previous U.S. strikes and of any information which might indicate Soviet intentions for subsequent actions. With factual data on Soviet damage, the President could more accurately assess the merits and risks of alternative negotiating proposals, better evaluate options for further strikes, and more precisely distinguish Soviet bluffs from determined positions. In view of the inherent uncertainty concerning Soviet reactions to limited nuclear strikes, responsive and comprehensive intelligence is essential if the President is to use flexible responses to effectively exert pressures for a negotiated settlement.

Annex B (limited distribution) describes the capabilities and limitations of current, programmed, and potential systems for post-strike damage assessment. It is highly likely that limited mielear strikes will be controlled or closely directed by the President and the NCA, rather than by the theater commanders

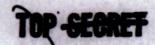
Indirect sensor data can contribute to post-strike damage assessment, but direct technical information will be essential for conduct of a low intensity strategic conflict. This implies that the intelligence collection requirements would be similar in quantity, quality, and type of information to peacetime intelligence operations. Recommaissance and intelligence collection systems in support of 180 must, therefore, be drawn from the entire national assets.

There are, however, three ways in which intelligence requirements for limited nuclear operations differ from peacetime intelligence activities: the requirements for timely provision of data, the control of intelligence resources, and the survivability of collection systems. Issues concerning each of these factors are discussed in detail in Appex B and are summarized below.

and indirect indications of success or failure of limited nuclear strikes within minutes of the planned strike times. But direct and more accurate assessment of damage can only be provided within one to two days of the strike. Programmed systems could reduce this time to less than a day under favorable conditions. Further improvements in damage assessment time could not be provided until late in the 1970s and would entail development programs costing several hundred million dollars.

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the specific requirements for intelligence are variable and cannot be predicted in advance. Response to Presidential information requirements during a crisis entails performing the normal intelligence functions of target selection, intelligence system tasking, collection and exploitation of data, all-source correlation and evaluation, and dissemination of intelligence, but on a drastically accelerated time scale. We currently do not have a single organization responsible for all of these activities. Consideration should be given to establishment of an all-source Analysis Center which could task intelligence resources and correlate, exploit, evaluate, display, and disseminate intelligence products during a crisis.

### C. Missile Accuracy

Some improvement in the accuracy of U.S. ballistic missiles may be needed to provide a sufficiently wide range of nuclear strike options for flexible responses. It is argued that, when all the factors bearing on target selection for limited nuclear strikes are considered, including the type of target necessary to convey the desired signals, Soviet defenses, requirements for post-strike damage assessment, and the type of wemon to be used, the President may find it necessary to strike

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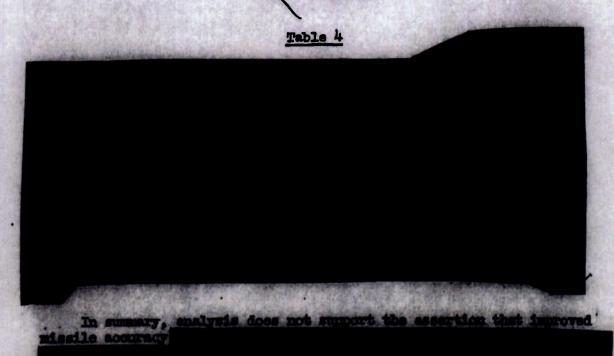
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## D. Pre-Planned vs. Ad Hoc Strike Planning

Implementation of plans and procedures for flexible response options would entail provision of suitable displays, data bases, and computer programs to permit direct interaction between the President and military planners during a crisis. The detailed structure of the system providing this interaction will depend on whether the selection of limited nuclear strikes during a crisis will be made from a pre-planned set of options or will be done primarily on an ad hoc basis.

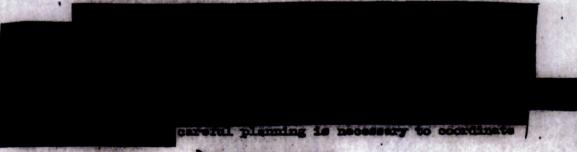
-- Pre-planned strike options would provide thoroughly coordinated matching of weapons to targets across a spectrum of attack sizes and target types, would coordinate each option with possible follow-on limited attacks or SIOP execution, would allow weapons parsonnel to be trained in execution of these options (and thus reduce the chances for mistakes in carrying out the President's directives), and could be prepared with minimum changes in current staffs and procedures. The major risk is that, because of the unpredictability of crisis situations, none of the options would be suitable during an actual crisis.

-- Ad hoc strike planning would match vespons to targets and work out the myriad of details for a mulear strike after receiving instructions from the President. This procedure would be more responsive to the President's needs in a crisis, as compared with pre-planned options, but would take longer to execute, would have higher risk that not all planning details were adequately attended to, and would require staffs and displays to aid the President in deciding on the major parameters of the strike.

# E. Relation of Flexible Response Options to the SIOP

Three issues arise in considering the relation between flexible response options and the SIOP: potential erosion of the SIOP, requirements for flexible response options with attack sizes larger than those of ISO, and the utility of a dedicated subset of strategic offensive forces for ISO.

#### 1. SIOP Erosions





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flexible response options with the SIOP. Determination of the upper bound on the size of flexible response options and of the precise relation of these options to the SIOP involves consideration of MSTAP objectives and SIOP planning details which are beyond the scope of this paper, but would be a necessary step in implementation of a flexible response capability.

### 2. Attack Options Larger than ISO

should be considered in connection with war termination objectives. War termination is a variant on the damage limiting objective that seeks to limit widespread destruction by controlling and terminating a maclear exchange before such widespread devastation occurs. As the term is used here, it differs from other objectives which seek to enforce these results by actual posture capabilities; a war-termination strategy depends on mutual restraint, together with the will and means to stop.

While the budgetary and posture demands are significantly less than for meeting "enforceable" objectives, there is the clear risk that such a strategy would not work, depending as it does on mutual agreement to stop. While the mechanics of such bargaining in the crisis and intrawar period are poorly understood, the issue is whether or not we can or should provide the option. Although the chance of success may even be low; the real question is the desirability of having an option that might work in some circumstances, compared to the situation that would obtain in those circumstances from not having one.

A war termination strategy is an implicit part of any flexible strategic response doctrine. It is difficult to identify plausible muclear war outbreak scenarios. If war does occur it is more likely to result from such things as gross miscalculation, unintended escalation (for example, triggered by actions of a third power), or runaway escalation. If war occurs for these reasons, our primary goal may be to stop it as quickly as possible, before it spreads to massive proportions.

# Attack Options

War termination options should have the following characteristics:

-- Secure capability to stop. Not only must attack options be provided that are consistent with war termination, there are control implications as well. There is a greater demand on secure, survivable command and control systems, at least under the range of limited exchanges. This is necessary not only to make continuing NCA control feasible, but to provide confidence at all schelons in such control. Otherwise, there would be legitimate pressures to pass control downward -- predelegating the release of subsequent strikes. Furthermore, attacks must be structured in time, with a clear end-point; straggling detonations could counteract negotiains for termination. Wespons released for attack, but not capable of detonating in the time period allowed -- i.e. delays to mechanical failures, or delays required to bring weapons

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-- Avoid unnecessary escalation. Retaliatory attacks should be appropriate in scale and effect to the initial attack. Much larger attacks could invite further responses to "even-up" (an eye for an eye) or could trigger an all-out exchange.

ministrated. The bristline permits the nature of the attack should be ministrated. The bristline permits the could be used to help proclude ministrappetation. However, neither side would be likely to rely on the other's word and sill make its own assessment. Ideally, we would like to examine our options as they might be seen by the Soviets and stimulate their evaluation of information as it might be delivered to their RGA.

Uncertainties

The primary difficulty arises because 'war termination' depends on mutual restraint and mutual agreement. Escalation is always present as the alternative and it is not self-limiting, at least not until all weapons have been expended. We have no way of knowing whether the Soviets have such options or objectives. However, the value of such options should be compared with the situation where they might have worked but were not available. We might learn something or even encourage the Soviets in this direction through some form of strategic dialogue.

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Boviet capabilities for launch on warning raise substantial difficulties. If the Soviets adopted a launch on warning doctrine, we would be very uncertain about the nature of their response -- it could be all out, even in response to a very selective U.S. first strike. Such considerations present a real asymmetry between flexible response as a first strike or second strike proposition. If the Soviets initiated a very selective first strike on the United States, the danger of an appropriate U.S. retaliatory response triggering on all out reaction could be much less. The Soviets would have already displayed restraint and would expect some appropriate form of retaliation. If the United States had, or the Soviets thought we had, a launch-onwarning doctrine, the same uncertainties would apply in reverse

The uncertainties about a selective first strike go beyond the launch-on-warning doctrine. If the Soviets had no options or doctrine for this kind of war, an all-out exchange could be triggered.

Finally, does flexible response and a war termination strategy reduce or enhance the likelihood of nuclear war? In judging this, one is striking a balance between three things:

- (a) The deterrence of nuclear war by the threat that all such wars are, or lead to, total war;
- (b) The deterrence of lesser forms of attack which might appear attractive due to U.S. inability to respond; and
  - (c) Actions to take if deterrance fails.

# 3. Dedicated Force

A dedicated subset of strategic offensive forces for flexible responses would have the following benefits:

- -- Special tests and maintenance procedures which might be too costly for force-wide use could be employed to ensure high reliability of individual wespons, reducing the chance of mission failure because of equipment malfunctions.
- -- Personnel manning this dedicated force could be specially trained in flexible response plans and procedures, reducing the risk of mission failure, accidental or premature launch, or employment on the wrong targets because of personnel errors.
- -- Flexible response options could be more easily coordinated with the SIOP if the weapons to be employed in these options were designated in advance. Conversely, the dedicated weapons could also be targeted in the SIOP, should the SIOP be executed before expenditure of the dedicated force.



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-- Special payloads configured for flexible responses to minimize collateral deaths from blast and fallout could be fitted on a dedicated force.

-- Systems for repid retargeting could be provided to amall dedicated force at much less cost than deploying such systems throughout all of the strategic offensive forces.

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A possible drawback to a dedicated force for flexible responses is that it would tend to make our flexible response posture more visible, if we decided to increase our strategic muclear flexibility, but not to announce this decision in our declaratory policy.

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### F. Declaratory Policy

If the United States adopts a policy of greater flexibility for employment of strategic miclear weapons, should this action become part of the U.S. declaratory policy?

Some assert that we should not publically announce a policy of greater flexibility, arguing that our capability and plans should only be revealed if such becomes necessary in a crisis. Reasons for not declaring a flexible response policy are as follows:

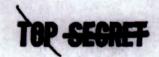
- -- The U.S. bargaining position in a crisis would be strengthened if the Soviets had no prior knowledge of our flexible response capabilities.
- -- Public announcement of a flexible response policy could appear to our allies as a retreat from "assured destruction" and provision of a less than adequate muclear shield.
- Declaration of a flexible response policy could stimulate a public debate concerning that policy which could create doubts in the minds of the Soviet leadership that we would actually use nuclear waspons under any circumstances short of all-out war, thus undermining the deterrent effect of flexible responses.
- result from adopting a flarible response policy are largely non-visible to the Congress and the public (e.g., changes in employment plans, command posts, staff procedures, and command and control systems); hence, it would not be difficult to implement flarible responses while not publicly announcing the policy.

Others favor declaration of a flexible response policy, for the following reasons:

- -- We have already declared such a policy, as evidenced by the quotations from the President's annual foreign policy statements cited earlier in this paper.
- -- Potentially adverse reactions by our allies and the Congress (which did not appear after publication of the two foreign policy statements) can be mitigated through consultation:
- -- A public debate, should it occur, would provide a forum for editors columnists, and Administration spokesmen to state the reasons which led to adoption of a flexible response policy and thus could enhance the U.S. extended deterrent.
- -- An undeclared flexible response policy which leaked to the press would be less desirable than a declared policy which was openly debated.



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-- A dedicated force for flexible response would be precluded unless we declared our flexible response policy.

# V. Alternative Flexible Response Postures

This study did not develop specific programs to provide U.S. flexible response capabilities. But; in order to indicate the costs and leadtimes for such improvements, we examined four flexible response postures:

- Posture I: Modest improvements. Changes in targeting procedures, command post displays and procedures, and communications would be emphasized, but there would be no major improvements in accuracy or post-strike damage assessment.
- -- Posture II: Modest improvements plus greater missile accuracy.
- -- Posture III: Modest improvements plus increase capabilities for post-strike damage assessment.
- -- Posture IV: Modest improvements plus greater missile accuracy and increased capabilities for post-strike damage assessment.

Illustrative elements for each posture, with their costs and leadtimes, are shown in Table 5.

# VI. Summary of Issues for Decision

There are two sets of issues requiring decisions: issues of policy and technical issues related to implementation of a flexible response policy.

#### A. Policy Issues

- -- Should we change the plans and procedures for employment of strategic nuclear weapons in order to provide flexible strategic nuclear responses on a smaller scale than the SIOP attack options?
- -- If we decide to make such changes, should our flexible response policy be publically declared?

#### B. Technical Issues

If we adopt a policy of greater flexibility in the use of strategic nuclear weapons, the following additional issues arise:

- Should command, control, surveillance, and communications systems be made more survivable, based on their role in flexible response options? If so, should moderate survivability improvements be pursued or should we seek maximum straighbility?

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Table 5

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Alternative Flerible Response Postures

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Posture

I. Modest Improvements to Current Forces b/

Changes in Command Post displays computers and staffs

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1975

1973

1978

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See Amex B for details.

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This posture would include some or all elements from Postures I, II, and III.

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No program

Engineering Development

No program

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- -- Should we begin programs to improve the survivability and the responsiveness of post-strike damage assessment systems for flexible responses?
- -- Should the accuracy of Fife ballistic missiles be improved for use in flexible responses? If so, which missiles?
- -- Should changes in targeting procedures for flexible response options emphasise pre-planned options or ad hoc strike planning?
- -- Should the United States have a dedicated subset of strategic offensive forces for flaxible response options? If so, how large should this force be and what types of weapon systems should be included?

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### Annez A

#### Soviet Views on and Capabilities for Iduited Muclear Warfare

The following is a summary of judgments by the constraint on Soviet views concerning limited nuclear warfare and their capabilities for engaging in limited nuclear exchanges.

A. Current Soviet Capabilities for Limited Strategic Nuclear Strikes

Flexibility in Soviet strategic forces, as in U.S. forces, depends upon a wide variety of capabilities -- retargeting, timing of launch, command and control, and so forth. Most Soviet 1986 and all SIME probably can be retargeted before launch.

With regard to launch timing, can be fired one at a time, in salve, or in directly as combination, launchings probably can be timed within seconds, if need be, to achieve a coordinated attack with other forces. With regard to command and control, the communication systems and command procedures used by the strategic forces enable Soviet leaders to control these forces tightly.

Thus, the bulk of the Soviet strategic areanal (i.e., 1096 force) has interest flegibility. But whether the decision-makers would seek to exploit that flegibility would depend on the circumstances -- which are inherently unknownie. Furthermore, the degree to which they could choose many many systems would depend almost entirely on how guidely the leadership could reach decisions.

#### B. Soviet Wer Plans

Soviet literature which is available on the subject of the possible nature of a process makes melecar war. The best of these doctrinal writings give only a vegas outline of what we might east the "Soviet State". For smalle, in 1967, an article strategic manage in which both the fast and West attached (evidently in order of priority) enemy muclear-missile targets as well as military-industrial and political centers. This general scenario is almost identical to one described in 1961-62 in reports

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have given serious consideration to the need for ad hoc decisions to meet such limited nuclear contingencies as accidental or unauthorised missile launches and provocative attacks by third countries. The Soviets apparently are concerned about taking any action in response exchange without first deliverating with the United States and presentably smong themselves.

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Although the main function of the Soviet Muclear Energy Detection System (SHERS) is to detect foreign nuclear detonations, the Soviet system probably could play a role in determining the location and occurrence of a nuclear detonation in the USER, primarily in remote areas. In any populated or military headquarters area, where concould probably ascertain guickly and without reliance on shere that a nuclear burst had occurred. Within a few hours the Soviets that have recommaissance teams in the area which could make a fairly rapid assessment of the extent of damage and of the total yield delivered.

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Amnex B

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