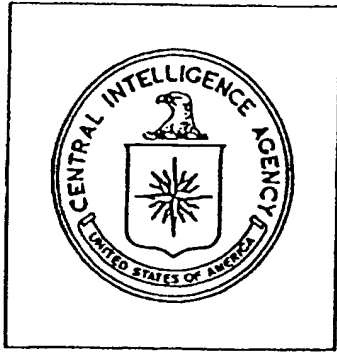


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*Soviet Nuclear Doctrine:*

*Concepts of Intercontinental and Theater War*

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RESEARCH PAPER

Date 12/21/93

HRP 93-3

Soviet Nuclear Doctrine:  
Concepts of Intercontinental and  
Theater War

Introduction

This paper was prepared in response to a request from the US Department of State for an exposition of Soviet nuclear doctrine as deduced from Soviet literature, statements, and actions over the past few years.

The paper seeks to answer principally the following questions: What purposes do the Soviets see their nuclear forces as serving? How do the Soviets envision using nuclear weapons? How do the Soviets see the relation between their intercontinental and theater forces? And how do the Soviets decide "how much is enough"?

This research paper was prepared in the Office of Strategic Research.

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### Summary of Conclusions

Four principal questions relating to Soviet nuclear war doctrine are treated in this paper. The conclusions of the paper on these and a number of subordinate questions are summarized below.

1. *What purposes do the Soviets see their nuclear forces as serving?*

The main objectives underlying Soviet strategic policy may be described in broad terms as similar to those of a decade ago: to protect the security of the homeland, to deter nuclear war but to wage war successfully should deterrence fail, to project an image of military strength commensurate with the position of a great world power, and to support foreign policy aims if only by checking strategic forces of potential opponents.

-- *What is the relative weight of such factors as deterrence, considerations of prestige or influence, and use of nuclear weapons in war?*

It is difficult to separate these factors and assign each an exact ranking of significance. The pattern of development, deployment, and operation of the strategic forces, however, suggests how the Soviets view the utility of these forces. (1) Deterrence is a key objective. The major effort has been on programs which assure the ability of these forces to absorb a US strike and still return a devastating blow. (2) The Soviets nevertheless plan for the possibility that deterrence may fail, although they do not contemplate launching a sudden first strike on the US or expect one on themselves. (3) Their strategic buildup over the past decade shows that they are unwilling to remain in a position of marked strategic inferiority relative to the US. They apparently consider that their larger policy aims would be prejudiced by such a position.

-- *What is the implication of the Soviets' forgoing an ABM defense as a result of the ABM Treaty?*

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Soviet agreement to this treaty probably reflects a desire to limit competition in an area where the US had significant technical advantages and stood to lengthen its lead. In this regard, the Soviets would believe that they gave up little and gained substantial benefits.

The ABM Treaty, however, introduces a new consideration into Soviet planning for aerospace defense: the potential effectiveness of the extensive Soviet air defense network is undermined in the absence of a complementary ABM defense. If the treaty remains in effect over the long term, Soviet air defenses will be susceptible to disruption by a precursor missile attack. This consideration may affect future air defense system procurement. It may have already done so, in view of the absence of new strategic air defense weapons systems at test ranges for the past several years, although the evidence is inconclusive at this point.

A second implication of the treaty is that the USSR has limited the use of active defenses to deter or counter third-country missile attacks outside of Moscow and has chosen to rely primarily on the deterring influence of a superior offensive arsenal.

2. *How do the Soviets decide how much is enough?*

The ultimate objectives and intentions underlying Soviet strategic arms programs will continue to be a subject of uncertainty, given a dynamic strategic environment characterized by continuing competition on both sides, each attempting to prevent the other from achieving a measurable advantage, and in the absence of arms control agreements sufficiently comprehensive to restrain that competition.

Soviet spokesmen have often stated in recent years that the USSR's basic aim is to maintain a condition of "equal security" in relation to the US. This concept is not capable of precise definition. Possession by the Soviets of an assured deterrent

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capability, even though clearly recognized by the US, is evidently not "enough" if the deterrent forces stand in marked quantitative inferiority to those of the US. Similarly, the lag behind the US in significant qualitative aspects of strategic weaponry, such as MIRV technology, is probably also unacceptable.

Even if the intention is only to strive to maintain a relationship of rough strategic equality with the US, Soviet arms programs are bound to be vigorous and demanding. This is in part because of existing asymmetries, which may appear to the Soviets to justify certain quantitative advantages for the USSR, for example in land-based ICBMs, to maintain "equal security." Ongoing US development and deployment programs are probably also seen as requirements for offsetting action by the USSR. The Soviets would like to have a margin of strategic advantage over the US in some form, but we do not know what particular weapon programs the Soviets would consider most likely to afford them a useful advantage over the US or how they might assess the risks and costs of such programs in view of possible US reactions.

*-- Is there any doctrinal or conceptual limit on force size or composition? Or are the limitations the result of such practical considerations as cost, technology, and estimates of US reaction?*

There is a growing body of evidence that Soviet decisions on force goals involve a complex interplay of many factors beyond rational and objective considerations of strategic needs. The political leadership has the final say on those matters it considers, but it operates in the presence of other influences, including competing policy positions, special interest groups, Kremlin politics, bureaucratic pressures, and technological and economic constraints. Decisions are worked out on an incremental basis, and choices are susceptible to change from one year to the next. The decisionmaking process itself is veiled in secrecy, and evidence is often lacking on the substance and influence of positions taken by key institutions and individuals.

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Consequently we do not know precisely what conceptual criteria may govern Soviet force size and composition. It is possible, however, to circumscribe in a rough way the range of choices available in the light of major factors that the Soviets must take into account in planning for the future of their strategic forces. These factors include the provisions of strategic arms limitation agreements and the manner in which these agreements alter or appear to alter the strategic, political, and economic conditions confronting the USSR; the leadership's sense of stability or change in its strategic relationship with the US, including interaction in research and development; the pace and scope of technological change; economic capabilities; and the Chinese military threat.

-- *What is the impact of SALT on Soviet strategic doctrine?*

The ABM Treaty reflects a change from Soviet doctrine emphasizing active air and missile defenses against all threats. Otherwise, there is no evidence available at present to indicate whether or how the strategic arms limitation agreements have affected Soviet strategic doctrine.

3. *How would the Soviets envision using nuclear weapons?*

-- *Do they see using them at all? For initiation, retaliation, preemption?*

There is good evidence that the Soviets do not consider a sudden first strike to be a workable strategy. The Soviets have not deployed counterforce weapons in sufficient numbers to make a first-strike damage limiting strategy feasible. At the same time, the Soviets evidently do not anticipate a sudden first strike by the US. Their propaganda continues to cite the threat of a US surprise attack, but the observed day-to-day readiness posture of their strategic forces indicates that the Soviets do not, in fact, expect such an attack.

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Excluding a sudden first-strike strategy, the Soviet leadership has considered three strategic options: preemption, launch-on-warning, and retaliation.

Preemption is often presented in Soviet military writings as a desirable strategic option, but these discussions fail to address such factors as the US early warning systems and massive retaliatory capabilities. Given the immense risks involved, the Soviets probably would not attempt to translate this theoretical concept into a practical option.

Launch-on-warning evidently has been considered as a strategic option, but it is rarely mentioned by the Soviets. The concept may be seen as having a certain psychological value in reinforcing deterrence, but as a policy it would present command and control problems. The Soviet leadership is unlikely to delegate the authority to launch a nuclear attack or to accept the unpredictable risks of accidental or unauthorized launch inherent in such a policy.

Retaliation is the oldest declared Soviet strategy and the one most frequently advocated by the top party and government officials. None of the Soviet statements about preemption and launch-on-warning have come from the upper levels of the civilian leadership. The Soviet strategic buildup over the past decade has made retaliation a thoroughly credible doctrine. The assumptions underlying the leadership's view of retaliation, as reflected in the Soviet position at SALT, are that the US and USSR possess more than enough nuclear weapons to bring about a world-wide catastrophe, that the side attacked first would retain a retaliatory force capable of annihilating the attackers's homeland, and that a war between the US and USSR would be disastrous for both.

*-- Do the Soviets see using nuclear weapons for devastation in retaliation or for military effect? What military effects would be valued most?*

Both counterforce and countervalue targets are incorporated in Soviet planning. The basic targets



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are identified as missile launch sites, nuclear weapons production and storage facilities, other military installations, systems for controlling and supporting strategic forces, and military-industrial and administrative centers. Explicit references to the destruction of enemy population, as such, are notably omitted from available Soviet listings of strategic targets. The list obviously implies, however, the direct targeting of major American cities and therefore massive civilian fatalities.

*-- Do the Soviets envision use of nuclear weapons all at once or in some escalatory fashion? Is there any evidence of Soviet thinking about war bargaining, i.e. efforts to use nuclear weapons to create circumstances for bargaining, de-escalation?*

In the context of intercontinental warfare, there is no indication in available materials that the Soviets accept the feasibility of limited strategic nuclear warfare or war bargaining. At least in public they have consistently rejected the possibility that either the US or the USSR would be able to exercise restraint, once nuclear weapons had been employed against its homeland. Despite these disclaimers, the Soviet strategic arsenal could support a strategy of controlled strategic attack, raising the possibility that such a contingency may be included in Soviet targeting and attack planning.

In the context of warfare in Europe, Soviet doctrine on escalation has been modified since the mid-Sixties. An earlier position that any war involving NATO and the Warsaw Pact would automatically escalate to theater-wide nuclear war has been altered to allow for an initial conventional phase. Soviet writings and Warsaw Pact exercises have paid increasing attention to the importance of having armed forces equipped and trained for conventional as well as nuclear tactical warfare. Current Pact planning for a war in Europe recognizes the possibility of both a conventional or nonnuclear phase and a nuclear strike phase. Pact planners apparently believe that successful conventional operations by the Pact would force NATO to resort to nuclear weapons, and they emphasize the importance of the timing of their initial use.

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Soviet military writers have given little attention to the concept of controlled nuclear war in Europe. They emphasize the decisiveness of an initial nuclear attack and the need for effective coordination. The first salvo of intermediate- and medium-range ballistic missiles by the Strategic Rocket Forces evidently would be the signal for nuclear strikes by other Warsaw Pact forces.

For the Soviet political leadership, a broader range of options is likely to exist than is evident in Pact exercises and documents. Authorization for the scale of fighting to be pursued, the use of nuclear weapons, and the scope of permitted nuclear operations would rest with the political leaders. Under actual combat conditions they could decide to employ nuclear forces in a more carefully controlled manner than indicated in military writings and exercises.

4. *How do the Soviets see the relation between their intercontinental and theater forces?*

*-- Is there any way of judging which the Soviets might believe more likely to be used? Is there any evidence of Soviet views as to coupling or decoupling?*

We do not have good evidence on how the Soviets view the possibility of an intercontinental exchange between the US and the USSR if theater nuclear warfare erupts in Europe. The Soviets would presumably prefer to avoid a level of combat that would involve massive strikes on their own country. Their willingness to escalate to global nuclear warfare might depend largely on what they expected the US response would be to events in Europe.

Until the mid-Sixties Soviet declaratory doctrine held that a war between NATO and the Warsaw Pact would automatically escalate to theater-wide nuclear war in Europe and possibly to global nuclear war. Some Soviet military writers have continued to express skepticism that a European conflict could be kept limited. At the same time, other Soviet military writings have

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paid increased attention to the possibilities of limiting a war in Europe. In view of the modification of their doctrine on escalation, Soviet planners may have become more willing to consider decoupling a war in Europe from a direct US-USSR intercontinental confrontation.

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## Discussion

### Basic Objectives and Strategic Concepts

The objectives underlying Soviet military policies may be described today as much the same as those of a decade ago: to protect the security of the homeland, to deter nuclear war but to wage war successfully should deterrence fail, to maintain hegemony over Eastern Europe, and to foster an image of strength in support of a strong foreign policy aimed at expanding Soviet influence.

The military policies that support these objectives, however, have shifted markedly. The policies of Khrushchev, who downgraded the importance of conventional forces and tried to buy a strategic nuclear deterrent cheaply, gave way in the mid-Sixties to more functional concepts of military power under Brezhnev and Kosygin. Soviet military policy was also influenced by fundamental changes in the way the USSR viewed its own power in relation to the other major countries of the world, by its estimate of the external threat, and by the impact of new technology on Soviet weaponry and on the capabilities of potential enemies.

In broad outline, the major trends in Soviet military policies over the past decade have been these:

- Expansion and improvement of strategic offensive and defensive forces to the point that the Soviets now regard themselves as having achieved rough strategic parity with the US.
- Continued maintenance of strong ground, air, and missile forces opposite NATO, but with increasing confidence that NATO does not pose an imminent military threat.
- Growing concern over the possibility of armed conflict with China, and a consequent strength-

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ening of military forces along the border since the mid-Sixties.

- Development of missile-equipped naval forces increasingly able to counter Western naval forces and to show the flag.

In the aftermath of the Cuban missile crisis in 1962 and the failure of Khrushchev's effort to improve the USSR's strategic position at one stroke, Soviet leaders saw the building of a significant deterrent force as their most pressing military requirement. Politically and ideologically hostile to the US, and thinking and behaving as rulers of a great power, they recognized that their strategic military forces were conspicuously inferior to those of their most dangerous rival, the US. It was evident to them that their small force of ICBMs, heavy bombers, and missile submarines was being grossly outnumbered by US missile and bomber deployment programs. Their response was to undertake a massive effort to redress this growing imbalance--to achieve at a minimum a relation of rough parity--by deploying large, survivable strategic attack forces and improving their strategic defenses.

In the decade to follow, the Soviets worked a dramatic improvement in their strategic posture relative to the US. US deployment programs leveled off in the mid- and late Sixties, and the Soviets began to catch up. The Soviets built a large number of ICBMs in order to match--and then to surpass--the number of US ICBMs, and also to increase the probability that many would survive an initial US attack. They built missile-launching submarines which are highly survivable when deployed, and they retained a manned bomber force as yet another option.

The way the Soviets have developed, deployed, and operated their strategic forces indicates how they probably view the utility of these forces:

They have shown by their effort over the last five years or so that they are unwilling to remain in a position of marked inferiority, and

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that they consider their larger policy aims to be prejudiced by such a position. They have stated explicitly that they will not accept less than "equal security." Whether they believe that their political goals in the world require a great deal more than that is uncertain.

- They consider deterrence the key objective for their strategic forces. The major effort has been on programs which assure the ability of these forces to absorb a US strike and still be able to return a devastating blow.
- They plan for the possibility that deterrence might fail, but they do not contemplate launching a sudden first strike on the US, nor do they expect one on themselves. They have not acquired forces with the necessary combination of accuracy, yield, and numbers to be effective in this role, and there is good evidence that they do not maintain their strategic forces in a state of constant alert.

#### Soviet Doctrine for Nuclear Warfare

##### Intercontinental Warfare

In an examination of Soviet concepts of intercontinental nuclear war, one of the critical questions is how the Soviets envision the start of such a war, and another is how they would use their strategic attack forces in the war.

First Strike. There is good evidence that the Soviets do not consider a sudden first strike to be a workable strategy. Over the years Soviet party and government officials have consistently maintained that the USSR would never be the first to launch a nuclear attack and that its strategic attack forces would be used only in retaliation. At SALT, Soviet

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spokesmen have asserted that the Soviet Union does not have a first-strike capability, and they proposed an agreement that neither side would initiate the use of nuclear weapons.

These statements might be discounted were it not for the physical evidence that the Soviets have not deployed counterforce weapons in sufficient numbers to make a first-strike strategy feasible. Only one weapon system, the SS-9 ICBM, has an accuracy and warhead yield sufficient to give it a high probability of knocking out US ICBMs. [

~~growth of the force is constrained by the strategic arms limitation agreements.~~ Further arms limitation agreements. The SS-9 force as presently deployed is not large enough to be decisive against the US Minuteman force, even in a surprise first strike. The other ICBMs and the submarine-launched ballistic missiles in the Soviet strategic arsenal do not have the necessary combination of accuracy and yield to be highly effective against hardened targets, and the 140 heavy bombers have little chance of catching any of the US attack force on the ground.

At the same time, the Soviets evidently do not anticipate a sudden first strike by the US. Although their propaganda continues to cite the threat of a US surprise attack, the observed day-to-day readiness postures of their strategic offensive and defensive forces indicate that the Soviets do not, in fact, expect such an attack to occur. None of the Soviet heavy bomber force, for example, is regularly on alert, and these bombers are clustered at five home bases. Similarly, about two-thirds of the Y-class missile submarines are normally in port at just two bases. At the ABM complexes around Moscow, only 30 to 40 of the 64 launchers are loaded. And at the soft ICBM sites, missiles are seldom observed on the pads. The Soviets would not maintain this kind of low--and highly vulnerable--readiness posture if they had real fears about a surprise attack by the US.

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One prominent line of reasoning in Soviet strategic writings has expressed the expectation that any major war with the West would be preceded by a buildup in political tensions, allowing time for Soviet forces to be brought up to appropriate readiness. Not all military writers have concurred, however, in the "period of rising tension" thesis. In June 1968 an article in the restricted circulation version of *Military Thought*, the chief theoretical journal of the Soviet General Staff, argued that the possibility of delivering a surprise attack had increased while detection capabilities had been decreasing. More importantly, the article suggested that rising political tension would not necessarily precede the initiation of nuclear war. It said that, for the purpose of misinformation and deceiving public opinion, the enemy might act to improve relations and, under cover of this maneuver, suddenly unleash a war.

Given either the generally accepted expectation of rising tension or the dissenting view of a possible deceptive improvement of relations, the question becomes what strategic options the Soviet leadership has considered regarding the use of their nuclear forces. In this regard, the Soviets have discussed three such options: preemption, launch-on-warning, and retaliation.

Preemption. Soviet military writings have frequently discussed the possibility of strategic preemption. Their descriptions of Western initiation of nuclear war are often followed by statements calling for the "forestalling" or "frustrating" of such an attack--beating the other side to the draw. The concept of preemption will probably continue to appear in Soviet military writings. Aside from a first-strike strategy, preemption offers the most effective--or least ineffective--way to use Soviet strategic forces for the traditional military objective of destroying the enemy's means of waging war.

This is not to say that preemption is very high on the scale of likelihood. If Soviet planners have done any realistic simulations of the outcome of a strategic nuclear exchange, and there is evidence

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that they have, they would almost certainly have concluded that even after an all-out Soviet preemptive attack the US could inflict enormous devastation on the Soviet Union. For example, in US simulations it has been found that SLBMs and alert bombers included in US programmed forces could alone kill nearly 40 percent of the total USSR population even after a first strike on the US strategic forces by the most advanced Soviet force.

Although preemption is presented in Soviet military writings as an advantageous strategic option, it fails to address such factors as the US early warning systems and retaliatory capabilities. The brunt of a Soviet preemptive strike--one designed to "forestall" a US attack--would necessarily fall on US ICBM launch sites and bomber bases. Yet, if US early warning systems functioned as intended, the Soviets could not be certain that their nuclear warheads would reach US targets before the US could launch a counterattack.

Given the immense risks involved, the leadership would need to be absolutely certain that the US was about to attack before ordering preemption. It is not known what kind of evidence the Kremlin leadership would think solid enough to warrant a preemptive attack. Agent sources have reported that the Soviets claim they are confident their intelligence network would provide strategic warning of a US surprise attack. In view of the retaliatory capabilities of the US and USSR, however, it is difficult to envision circumstances under which the political leaders would feel so confident of their opponent's motives and intentions that they would initiate general nuclear warfare.

Launch-on-Warning. Another strategic option that the Soviets apparently have considered is the concept of launch-on-warning--that is, launching an all-out attack when there is clear evidence that an enemy attack has already begun.

Veiled references to launch-on-warning have appeared in Soviet writings since the early Sixties but have become more specific over time. In 1970 two Soviet civilian spokesmen, the director of

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the USA Institute and the deputy director of the Institute of World Economics and International Relations, asserted in discussions with members of US research institutes that launch-on-warning is part of Soviet military doctrine. It is difficult, however, to judge how seriously this option is considered at the top decisionmaking level. As a concept with which to confront the US, it may be seen to have a certain psychological value in reinforcing deterrence. As a genuine policy, it would present command and control problems.

In October 1970, G. A. Trofimenko, a leading Soviet civilian writer on military affairs, noted in an unclassified Soviet journal that in launch-on-warning the usual process of decisionmaking would have to be set aside in favor of an automatic, instantaneous counterattack upon detection of incoming missiles. He went on to warn of the dangers of an accidental catastrophe which would, as he put it, "turn the gloomiest prophecies of military science fiction into sinister reality."

All the evidence on military decisionmaking in the Kremlin points to the preeminence of the civilian leadership and its firm control over nuclear weaponry. Furthermore, Soviet statements at SALT and elsewhere have shown that the possibility of accidental nuclear war is clearly a source of serious concern for Soviet leaders. It would be out of character for the Soviet leadership to delegate the authority to launch a nuclear attack or to accept the unpredictable risks of accidental or unauthorized launch inherent in a launch-on-warning policy.

None of the Soviet statements about either preemption or launch-on-warning has come from the upper levels of the civilian leadership. When Brezhnev and his Politburo colleagues talk about Soviet nuclear attack capabilities, it is in the context of what they term "retribution"--that is, retaliation.

Retaliation. Retaliation is the oldest declared Soviet strategy and the one most frequently advocated by the top party and government officials. In its

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initial form this strategy was apparently based on the assumptions that a massive nuclear surprise attack by the US was the least likely case, that such an attack most probably would come about by extreme provocation, and that the USSR could control the level of provocation and thus pull out of a situation that might lead to an attack by US strategic forces.

More recently, while the emphasis on retaliation has not changed, the Soviet strategic buildup during the late Sixties has made it a thoroughly credible Soviet doctrine. The current assumptions underlying the leadership's view of retaliation have been reflected in the official Soviet position at SALT. These assumptions are that the US and the USSR already possess more than enough nuclear weapons to bring about a world-wide catastrophe, that the side first subjected to attack would inevitably retain a retaliatory force capable of annihilating the attacker's homeland, and that a war between the two superpowers would be disastrous for both.

Targeting. There are numerous references over the years to indicate that the primary mission of Soviet strategic attack forces remains the traditional one of destroying the enemy's warmaking capability. Most of the evidence on Soviet targeting of strategic forces indicates that both counterforce and counter-value targets are incorporated in the planning. The Soviets have consistently identified the basic targets of their strategic attack forces as missile launch sites, nuclear weapons production and storage facilities, other military installations, and military-industrial and administrative centers. The importance of attacking the enemy's systems for controlling and supporting strategic forces is also frequently stressed.

Explicit references to the destruction of enemy population, as such, are notably omitted from Soviet listings of strategic targets. Attacks upon US military industry, as well as political and administrative centers, however, would obviously involve the direct targeting of major American cities and result in massive civilian fatalities.

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The evidence on Soviet deployment of air defenses indicates that similar priorities apparently have been used in deciding what locations to defend. A study of the SAM deployments reveals that the Soviets emphasize protection of military installations, military industry, and basic military and civilian administrative control centers, rather than population as such. Some sizable population centers have been left without local SAM defenses.

Command and Control. One question about Soviet targeting that is largely unanswerable at present is the degree of flexibility the Soviets would have in planning and executing a strike. That some flexibility exists is indicated by the observed ability to fire ICBMs on different azimuths and to different ranges. There are also clear indications that the Soviets devote considerable effort to the problem of controlling and coordinating their strategic attack forces and, once they are brought to peak readiness, minimizing the reaction time of those forces.

The Soviets have a highly developed communications system,

how quickly the Soviets could change from one target to another is unknown. Analysis of the characteristics of Soviet missile guidance indicates that, with the exception of the SS-11, Soviet

ICBMs are not adaptable to rapid retargeting. Retargeting an SS-11 possibly could be done in about 20 to 30 minutes. This is an estimate, however, and it may take much longer. If so, this would prevent the Soviets from adjusting the targeting plan for a large number of missiles immediately before launching a strike. There would be time to retarget the force in a period of gradually mounting international tensions.

We do not, however, have good evidence regarding the degree to which a strategic attack could be coordinated to fit rapidly changing contingencies, nor the degree to which Soviet choice would be limited to preprogrammed attack plans. In the midst of a crisis the civilian leaders would make the decisions. We do not know how these decisions might be constrained by prior planning and weapons system limitations. Nor do we have a good feel for the degree to which a strategic attack could be orchestrated to fit a particular contingency.

Limited Strategic Nuclear Warfare. Whatever flexibilities the Soviets may be building into their strategic attack forces, there is no indication in available doctrine that they accept the feasibility of limited strategic nuclear warfare. In their writings and statements on the subject, they have consistently rejected the possibility that either the US or the USSR would be able to exercise restraint once nuclear weapons had been employed against its homeland. Despite these disclaimers, the Soviet strategic arsenal could support a strategy of controlled strategic attack, raising the possibility that such a contingency may be included in Soviet targeting and attack planning.

#### Concepts for War in Europe

European Theater. During the late Fifties and early Sixties, Soviet military thinking held that a war between NATO and the Warsaw Pact would automatically escalate to theater-wide nuclear warfare and possibly to a global nuclear war. This doctrine was largely responsive to the Soviet expectation that NATO would launch a nuclear attack against the Soviet Union at the outset of a European conflict.

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The ground forces and tactical air forces which evolved from this doctrine were structured to be able to conduct theater-wide warfare in a nuclear environment. Nuclear strikes, rather than massed artillery and infantry, were to create gaps in NATO's defenses and destroy its reserves. Large tank forces and motorized rifle formations would move through these gaps and advance rapidly through Western Europe, bypassing or encircling any remaining NATO forces. This scenario continues to characterize the Soviet concept of warfare in Europe, should nuclear weapons be widely employed.

Since the mid-Sixties, however, Soviet doctrine on the escalation of a European conflict has been modified. The earlier position that any war involving the participation of NATO and the Warsaw Pact would escalate directly to theater-wide nuclear war has been altered to allow for a period of conventional conflict preceding nuclear hostilities. Soviet military writings have paid increased attention to the importance of having armed forces equipped and trained for conventional as well as tactical nuclear warfare. This recognition of the possibility of limiting war in Europe has also been evident in some Warsaw Pact exercises.

Various Pact exercises and classified documents indicate that current Pact planning for a war in Europe recognizes the possibility of both a conventional or nonnuclear phase and a nuclear strike phase.

Conventional Phase. The duration of the conventional phase, while termed "variable," is normally two or three days, but some documents have suggested that it could last up to 8 or 10 days. Despite the limited period involved, Pact planners evidently expect the conventional phase to play an important role. This period, according to some classified Pact documents, would be marked by attempts to improve political and strategic positions, including the mobilization of reserves and the reinforcement of troops.

The same documents also stress the importance of using the conventional phase to improve the Pact's

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nuclear position relative to NATO. Pact air forces are slated to be used as the principal means for an attack by conventional weapons on NATO nuclear forces in order to limit NATO's capability to escalate the conflict to nuclear war. Fire from conventional artillery and tank formations would be directed against NATO tactical nuclear capabilities.

The Soviets and their allies would almost certainly prefer to see any European conflict remain nonnuclear, and they would probably expect to have the advantage in such a conflict. They have evidently concluded, however, that successful conventional operations on their part would compel NATO to resort to nuclear weapons. Although a nonnuclear opening has been introduced into Pact exercises, this period has thus far been treated as a temporary phase of an escalating conflict.

Transition. Guided by the belief that NATO will be forced to introduce nuclear weapons, Warsaw Pact exercise scenarios and Soviet military writings emphasize the importance of the timing of the initial use of nuclear weapons. The significance assigned to the transition to nuclear warfare is evident in the emphasis placed on battlefield preemption.

One of the main precepts guiding Pact exercises since at least 1967 has been the preemption of NATO in the use of nuclear weapons.

There is, however, no good evidence regarding the precise criteria that would be used for determining that such a threat existed. Moreover, although preemption in the European theater appears to be the preferred option of Pact military planners, political authorization at the highest level would be necessary to turn the option into an operational strategy.

The Nuclear Strike. Once the nuclear threshold has been crossed, Pact exercises and Soviet military writings emphasize decisiveness in the initial attack and the need for effective coordination.

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Exercises and documents indicate that the initial nuclear strike would employ--in addition to medium- and intermediate-range ballistic missiles, medium bombers, and submarine-launched missiles--about 30 percent of the tactical nuclear missiles and bombs available to the forces in the forward area. Analysis of several documents suggests that Soviet planning allocates 900 to 1,200 tactical nuclear warheads and bombs to the ground forces and tactical air forces intended for use against NATO's Central Region. Of these, some 300 to 400 would be used in the initial massive strike to supplement the approximately 600 other nuclear strikes planned in the theater. It is not clear whether the Soviet plans call for a simultaneous strategic nuclear strike against targets in the US.

The nuclear forces presently available to the Pact do provide a limited capability to wage nuclear warfare on a scale short of theater-wide nuclear war. These forces include nuclear weapons for air delivery and tactical-range rockets and missiles. They do not include nuclear tube artillery and sub-kiloton warheads necessary for lower level nuclear conflict.

No evidence available to us indicates Pact military planning for controlled transitional steps from conventional warfare, through nuclear weapons of increasingly greater numbers or yield, to general nuclear war. For the political leadership, however, a broader range of options and possibilities is likely to exist than is evident in Pact documents and exercises. Authorization for the scale of fighting to be pursued, the use of nuclear weapons, and the scope of nuclear operations would rest with the political leaders. They could decide, under actual combat conditions, to employ nuclear forces in a more carefully controlled manner than indicated in military writings and exercises.

Linkage With Intercontinental War. We do not have good evidence on how the Soviets view the possibility of an intercontinental nuclear exchange between the US and the USSR if theater nuclear warfare erupted in Europe. Although Soviet writings on this question often stress the danger and likelihood that war in

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Europe would escalate to global nuclear war, the Soviets presumably would want to avoid a level of conflict that could lead to nuclear strikes on their own country, and therefore would want to keep the war limited to Europe. Their willingness to escalate to global nuclear war or to make a more limited response could depend largely on what they expected the US response would be to events in Europe.

#### The Chinese Theater

There is very little evidence on how the Soviets view the problem of armed conflict with China or what contingency planning they have done. Judgments in this area are based primarily on analysis of Soviet nuclear and conventional forces along the border and on what can be observed about Soviet exercises opposite China.

China's emerging nuclear attack capability has clearly become a factor of growing importance to Soviet military planners. The Soviets have improved their air defense near the border with China and have expanded the coverage of their ballistic missile early warning system to include the approaches from China.

Strategic Attack Plans. We have virtually no evidence concerning Soviet plans for strategic attack against China's interior. The Soviets are likely to have adopted the same combined counterforce and counter-value targeting evident in their plans for war against the West. Presumably some of their medium bombers and ICBMs are targeted against China, but the proportions are unknown.

In recent years, Long Range Aviation units have practiced deployment from the western USSR to airfields in all border areas. During this same period, however, all MRBM and IRBM sites in the Soviet far east were deactivated. These sites were close to the border and may have been considered too vulnerable. With the growing inventory of ICBMs, the Soviets probably felt less need for these older systems, and

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it appears that about one-fifth (190) of the SS-11 launchers, which were among the last to be constructed, could be targeted on China. Whether some Soviet ballistic missile submarines were targeted against China has not been determined. The areas where these submarines routinely patrol, however, suggest that they are not.

In the summer of 1969, when Sino-Soviet tensions were at a peak, unconfirmed reports alleged that the Soviets were contemplating a so-called "surgical strike" against China's nuclear and missile facilities. At one point a Soviet diplomat asked contacts in Washington what the US reaction would be to such a move. Whether this idea was given serious consideration or whether the Soviets were trying to put pressure on the Chinese through ominous hints has not been ascertained.

Since December 1972, Soviet officials on two different occasions have noted China's developing strategic nuclear capability and have suggested that the possibility of a "surgical" first strike against China has been removed as a Soviet policy option. In December the head of the Soviet External Relations Division at the UN noted during a discussion that the "splendid superiority" necessary for a Soviet disarming capability against China was rapidly receding if not already out of view. On 21 January 1973 a public lecturer in Leningrad stated that China had acquired a "second-strike" capability and had eliminated the threat of "surgical" air or land attacks on its missiles by relocating them in hardened silos farther from the border.

Tactical Nuclear Capabilities. Soviet forces along the Sino-Soviet border are capable of conducting tactical nuclear warfare against Chinese forces. Approximately 31 of the 39 Soviet divisions along the border have been identified as having FROG tactical rocket units, and there are three and possibly four brigades equipped with the Scud tactical missile systems. In addition, the Soviets have deployed longer range Scaleboard and Shaddock mobile missile systems

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with their ground forces in the area. In Soviet exercises near the border, the participation of FROG and Scud units has been detected in scenarios which show the Soviet forces repulsing attacks by the Chinese on Soviet territory.

#### Soviet Decisions on Force Goals

Soviet decisions on weapon systems and strategic concepts emerge from a complex process of interactions in which many groups and individuals become involved, and final decisions are the result of organizational and personal politics as well as objective considerations of strategic needs. Although the political leadership has the final say on those matters it considers, it operates in the presence of other influences, including competing policy positions, special interest groups, bureaucratic pressures, and technological and economic constraints. Moreover, decisions are worked out year by year on an incremental basis, and the choices that appear appropriate this year may look different next year. The process itself is veiled in secrecy, and evidence is often lacking on the substance and influence of positions taken by key institutions and individuals.

So far, we have been unable to determine precisely what conceptual criteria may govern Soviet force size and composition. It is possible, nevertheless, to circumscribe in a rough way the range of choices available in the light of certain major factors that Soviet planners and policymakers will have to take into account in planning for the future of their strategic forces.

#### Strategic Arms Limitation Accords

Soviet strategic planning will be affected not only by the specific provisions of the SAL agreements, but also by the manner in which these agreements alter--or appear to alter--the strategic, political, and economic conditions and opportunities confronting the USSR.

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The SAL accords have been publicly hailed in the USSR as a successful manifestation of the current Soviet policy of detente, and many of the top political leaders have identified themselves personally with the accords. Consequently there are incentives to avoid actions which, though not actually violating the agreements, might jeopardize them.

This is not to say that the Soviets would be inhibited from pursuing any permitted options they considered necessary in order to keep pace with the US. The leadership has a personal and political stake in ensuring that the USSR suffers no real or apparent erosion of its relative position, and it will want to maintain a strong bargaining position for the follow-on negotiations and to develop new options in the event that future talks break down.

#### Implications of the ABM Treaty

Soviet agreement to the recent ABM Treaty probably reflects a desire to limit competition in an area where the US had significant technical advantages and promised to lengthen an already commanding lead. The Soviets would believe that, relative to the US, they gave up little and benefited substantially. In other terms, however, the Soviets have paid a political price and may have introduced a significant new consideration into their force posture planning.

The Soviets are technically able to deploy an ABM system with substantial capabilities against threats from France, China, and England. This is in part the result of only limited progress in the ballistic missile offenses--numbers of missiles, the availability of penetration aids and multiple warheads--of these countries. By signing the ABM Treaty the USSR has limited the use of active defenses to deter or counter third-country missile attacks and has chosen to rely primarily on the deterring influence of a superior offensive arsenal. This is a change from traditional Soviet doctrine which had emphasized active air and missile defenses against all threats.

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The ABM Treaty also introduces a new consideration into Soviet planning for aerospace defense--the potential effectiveness of their extensive air defense network is undermined without a complementary ABM defense. Classified Soviet literature of the early Sixties shows that the Soviets anticipated the deployment of an ABM system to extend their defenses against all aspects of the aerospace threat. If the ABM Treaty remains in effect over the long term, Soviet air defenses will be susceptible to disruption by a precursor missile attack, a consideration which may affect future air defense system procurement.

It is too early, however, to determine the exact influence that the ABM Treaty provisions will exert on the scope and pace of future Soviet air defense programs. No new development programs for strategic air defense systems have been detected at test ranges for the past few years. This limits the opportunities for acquiring new weapons and could indicate that the Soviets are changing their traditional views toward active defense.

On the other hand, new air defense weapons may emerge from the extensive, but presently unidentified, R&D activity at Sary Shagan. In addition, there is a current procurement program for air defense which we estimate will include limited acquisition during 1973-1975 of the SU-15 Flagon-A and the MIG-25 Foxbat fighter interceptors. During 1973-1977 the Moscow ABM system will probably be expanded to the 100 launchers authorized in the ABM Treaty, and the air defense command is likely to press strongly for construction of the other 100-launcher complex permitted by the ABM Treaty to protect ICBMs. Conflicting Soviet statements during the latter sessions of SALT I indicate that construction of the second ABM site has been a disputed subject. What the final Soviet decision on this site will be remains uncertain.

#### The US-USSR Strategic Relationship

As a consequence of the SAL accords, and of the opportunities and risks they present, future strategic

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programing decisions will probably be more directly influenced than in the past by the Soviet leadership's sense of stability or change in its strategic relationship with the US.

The Soviet leadership probably has concluded that for the foreseeable future neither the US nor the USSR will be capable of acquiring a strategic advantage sufficient to ensure success in political confrontation, or a victory other than Pyrrhic in a nuclear war.

Soviet writers on military affairs, however, will probably continue to assert that the US is striving to obtain some relative advantage in terms of political-military leverage and actual warfighting capabilities. The US doctrine of strategic sufficiency and emphasis on MIRV programs have been interpreted in some Soviet writings as pointing in this direction. There are also those in the Soviet Union who argue that the US has long been striving for "strategic superiority." Their position is articulated in *First Strike*, a book published in 1971. It seeks to document the thesis that the US has historically tried to acquire a decisive first-strike capability against the USSR and has been frustrated only by the growing capabilities of Soviet forces.

At a minimum, the element of the Soviet military advocating development and deployment of counterforce weapons such as hard target MIRVs will probably seize on reports of US work in this field to press its case in policymaking councils. On the other hand, advocates of arms control might cite such reports as demonstrating the need for negotiating limitations on qualitative improvements in strategic weaponry. In any case, the prospect of improved counterforce capabilities for the US strategic arsenal is likely to influence Soviet planning.

Attempts to correlate specific Soviet strategic weapon programs with developments in US strategic forces have not produced conclusive results. Soviet strategic force planners have, however, evidently reacted at times to US strategic programs that were only in the planning stages when the key Soviet deci-

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sions were made. As an example, a likely explanation for the development of the multiple-warhead versions of the SS-9 and SS-11 ICBMs is that they were intended to penetrate the countrywide area defense ABM system which was initially proposed for the US prior to the decision to concentrate on defense of Minuteman fields.

There is no direct evidence available on how Soviet planners project US strategic forces for the remainder of the decade. At a minimum, however, they would certainly assume that the improvements presently programmed--and made public through congressional hearings and press reports--would be carried out. In addition, the Soviets would probably consider it prudent to allow for the possibility that toward the end of the decade the US will press beyond current force goals.

There is probably no unanimous view in the Kremlin as to how the strategic relationship should be measured. One senior member of the Soviet SALT delegation complained that some Soviet military men still tend to think as though they are counting "rifles and cannons" and pay too little attention to qualitative factors in the strategic equation. At the same time, there is evidence that the Soviets perform sophisticated war-gaming analysis in much the same way as the US does. Whatever the measures, the Soviets attach great importance to maintaining a position of "strategic equality" with the US and having it recognized by the US and other nations.

#### China as a Factor in Soviet Strategic Planning

Soviet leaders must not only consider how far they may wish to press their own programs lest they provoke countervailing programs in the US, but must also assess the present and future threat from China. Their massive deployment of theater forces to the border area over the last several years is a measure of Soviet concern with the Chinese threat. This concern, however, has thus far had little discernible effect upon Soviet strategic forces. (See pages 24 to 26.)

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The question of how the Soviets will respond to Chinese strategic developments introduces uncertainties concerning Soviet strategic policy and the future size and disposition of Soviet strategic forces. For many years to come, however, Soviet strategic planning is likely to be concerned primarily with the US arsenal, in terms both of the strategic threat it poses and the diplomatic and political leverage it affords.

#### Momentum and Interaction in Research and Development

Soviet military planners must deal with the practical choices available to them in terms of the weapons that can be developed and the feasibility of procuring and deploying them. As a result of the SAL accords, the main questions about the future of Soviet strategic forces will probably center more than ever on the pace and scope of technological change.

The rapidity of technological advances and their potential for providing new and improved weapon systems and capabilities have fueled a vigorous military research and development effort in both the US and the USSR. Moreover, every important new strategic weapon system is extremely complicated and expensive, and requires a long lead time from its inception to its eventual operational deployment. The technological contest between the USSR and the US is one of invention, development, testing, deployment, and intelligence, and above all one of anticipation: each side seeks to provide not so much against what its adversary has at the moment, but against what it may have 5 to 10 years hence. Technological rivalry takes on a life of its own, and there is inescapable pressure to give high priority to a vigorous development effort.

The very large Soviet effort in research and development will increase the technical options open to the Soviets in the future, which may in turn enable them better to anticipate or to react to developments in US forces. The Soviets are certainly aware that, although they have "caught up" in intercontinental attack delivery vehicles, their forces do not have

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the flexibility and capability of the US forces. Nor can the Soviets fully match US manufacturing technology and the capability to produce complex and sophisticated hardware systems in large volume. Over the next decade they will seek ways not only to counter US forces, but also to develop new capabilities of their own. The most important of these improvements are likely to be in the accuracy of missiles, in MIRVs, and in the survivability of land-based ICBMs.

While the number of options open to Soviet planners will increase, the full range of technical possibilities opened by research and development is unlikely to be exploited. Some lines of investigation may be pursued as a hedge against possible US developments, but not carried through to operational deployment. Moreover, as strategic weapon systems become ever more complicated and costly, the Soviets will be forced to choose from among the more promising, a necessity that will be reinforced by the demands of the economy and other military claimants.

#### Economic Capabilities and Constraints

One of the broad limitations on future Soviet arms programs is economic: the resources of the USSR are not unbounded, the civilian economy demands its share, one weapon competes with another for allocations, and intercontinental attack forces compete with strategic defense and general purpose forces. No precise limit, however, can be placed on what the Soviets would spend on their strategic forces if they were prepared to make the requisite sacrifices in other areas. For the most part, physical capacity does not constitute a constraint. The plant capacity of Soviet industry, existing or under construction, appears to be adequate to support a substantial expansion in defense output.

Economic considerations can, nevertheless, provide a guide, if only a rough one, to the defense burden which the Soviets could or would be willing to assume.

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Estimates of defense spending in various categories for the last 20 years reveal how rapidly the Soviets have expanded priority weapon programs and total defense spending. Past growth rates provide useful yardsticks for putting bounds on the likely pace and magnitude of future weapon programs. The Soviets would probably be unable, for example, to accelerate spending for intercontinental attack much beyond the rate of growth of the past five years without affecting other programs.

The desire to avoid a new round of increasing military expenditures, particularly those which might be required to counter the US deployment of new and more advanced systems, was probably one of the principal elements influencing the Soviets to enter into SALT. Also, the increasing technical complexity of the military forces, together with the growth of military research and development and space programs, has produced a rapid increase in requirements for highly trained technicians and managers and the most advanced equipment and materials. The Soviets almost certainly hope through arms control to realize some savings in terms of these high-quality physical and human resources--assets that are needed to modernize the civilian economy and boost productivity. The military's first claim on these scarce resources has contributed to the difficulties that the Soviets have experienced in introducing new technology into the civilian economy and, to some extent, to the decline in the productivity of new investment.

The perennial problem of resource allocation is likely to remain a major issue in deliberations on Soviet national policy in the next few years. Given the great size of the economy, however, even relatively low growth rates would increase available resources substantially. Although increases in military spending might slow future growth and modernization, the USSR would not likely be obliged, for purely economic reasons, to forgo any military programs its leaders saw as essential.

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"How Much Is Enough?"

Soviet spokesmen at SALT have often stated that the USSR's basic aim is to maintain a condition of "equal security" for themselves in relation to the US. Although the concept of equal security is not capable of precise definition, possession by the Soviets of an assured deterrent capability--even though clearly recognized by the US--is evidently not "enough" if the deterrent forces stand in marked quantitative inferiority to those of the US. Similarly, being behind the US in significant qualitative aspects of strategic weaponry, for example in MIRV technology, is probably also unacceptable. The Soviets have recognized at SALT that differences in geography, doctrine, and international commitments have led to certain asymmetries--such as the US deployment of forward-based systems and numerical superiority in heavy bombers--between US and Soviet forces. But they have also said that such asymmetries must not be allowed to give either side a strategic advantage.

Even if the Soviets' intention is only to strive to maintain a relationship of rough strategic equality with the US, their arms programs are bound to be vigorous and demanding. This is in part because of the existing asymmetries, which may appear to the Soviets to justify, for example, a quantitative advantage for the USSR in ICBMs to maintain a condition of "equal security." In their strategic planning the Soviets must not only take account of present US strategic forces, but must anticipate what the US can and may have in the future. In this respect, ongoing US development and deployment programs are probably seen as requirements for vigorous offsetting action by the USSR.

This is not to say that unilateral restraint by the US could halt Soviet arms programs. Slowdown or termination of US programs would, in all likelihood be interpreted by the Soviets as involuntary action, forced upon the US by internal economic, social, and political factors. A measurable degree of superiority, if perceived by the Soviets as attainable, might then be judged desirable.

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The Soviets would like to have a margin of strategic advantage over the US in some form, but we do not know what particular weapon programs the Soviets would consider most likely to afford them a useful advantage over the US or how they might assess the risks and costs of such programs in view of possible US reactions. The ultimate objectives and intentions underlying Soviet strategic arms programs will continue to be a subject of uncertainty, given a dynamic strategic environment characterized by continuing competition by each side to prevent the other from achieving a measurable advantage, and in the absence of arms control agreements sufficiently comprehensive to restrain that competition.

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