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SOVIET STRATEGIC AND TACTICAL STRATEGY
Volume I – Viability of the ABM Treaty in the 1980s – A
Note on the Issue

William T. Lee

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SUMMARY

- o The Soviets entered into SALT and negotiated the ABM Treaty because they were so far behind the United States in ABM technology that they could not compete. The Soviets much preferred no ABM defenses on either side (beyond tokens at two sites) than to let the United States gain a fearsome advantage.
- o Since SALT began the Soviets: (a) have not changed their military doctrine and strategy; (b) have continued to develop all types of strategic offensive and defensive (damage limiting) forces designed to fight and win a nuclear war; (c) have continued to deploy all types of such forces —except the prohibited ABM; and (d) have increased the defense burden in the Soviet economy from about 10 to about 18 percent of USSR GNP.
- o The relative improvement in Soviet military capabilities vis a vis the U.S. since SALT began has changed worldwide perceptions to the political advantage of the USSR. Nevertheless, the Soviet leaders are well aware that without ABM defenses they cannot achieve their long standing objective to fight and "win" a nuclear war no matter how much they improve their counterforce and air defense capabilities.
- o Investment in air defenses has continued undiminished since the ABM Treaty was signed. Substantial growth in air defense investment evidently is planned in the next few years as the Soviets deploy the SA-10, AWACs, advanced interceptors and continue to modernize the air defense ground environment.
- o Current and prospective trends in the development and deployment of advanced air defense systems and development of an advanced ABM technology correlate well with Soviet literature of the mid-1970s that indicated a rise in air defense priorities.
- o If present trends continue, the CPR probably will pose a serious strategic nuclear threat to the USSR in another decade or so if the USSR has no ABM defenses.
- o If, as is likely, in the next few years the Soviets develop an ABM system technically comparable to the U.S. Nike-X system of the late 1960s, then political and military pressures for nationwide deployment may prove irresistible by the mid-1980s.

PREFACE

This paper was prepared for Mr. Leon Sloss, Director, Nuclear Targeting Policy Review, OSD, and his staff.

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SECTION 1

INTRODUCTION

Historically few treaties have lasted "forever." The ABM Treaty may be no exception. There is a growing acknowledgement that the U.S. decision to deploy even a limited version of the Nike-X system was a necessary and perhaps even the sufficient condition for SALT.

Let us not forget that it was only after the Senate had voted, by a majority of one, for the Nixon ABM program that the Russians agreed to the opening of SALT. Indeed there might have been no SALT if America had unilaterally decided against ballistic missile defenses."(Ref 1)

Information now available from the General Staff journal Military Thought provides much insight into Soviet motivations for entering into the SALT process and the ABM Treaty. Analysis of likely Soviet motivations is treated elsewhere² but the essence is brief. To the Soviets, the combination of MIRV programs and ABM deployments would have given the United States a great military advantage over the USSR and hence would have increased the risk of a U.S. attack on the USSR. The Soviets were a few years behind in MIRVs but were about 15 years behind in ABM technology and could not compete. Hence their capabilities to deter a U.S. attack--they do not view deterrence as mutual--would be greatly reduced. Prohibiting large scale ABM deployments, therefore, was an urgent necessity.

Each superpower appears destined to enter the next decade with widely different perceptions of ABM defense. U.S. perceptions are dominated by the legacy of the late 1960s: ABM defenses are very expensive, ineffective, and undesirable strategically for both sides. As the Soviet threat to U.S. land-based ICBMs becomes less disputable, the United States could deploy hard-site defenses within the limits of the Treaty but even this is unlikely because of the prevalent U.S. negative perception of the military and strategic utility of ABM defenses.

Sometime in the next five years Soviet R&D efforts should achieve roughly the level of conventional ABM technology the United States had in the late 1960s. More advanced ABM technology probably will appear feasible in 10 to 15 years. Other factors that led the Soviets to enter into the SALT process in 1969 and to sign the ABM Treaty in 1972 already have changed in many respects.

Deployment of current generation Soviet ICBMs will give the USSR an effective counterforce capability against the United States for the first time. Soviet SLBMs now provide large secure reserve forces as well as a significant contribution to the initial exchange. Deployment of the SS-20 mobile IRBM will reduce the vulnerability of SRF forces, increase effectiveness against strategic targets in the Eurasian TVDs, and reduce collateral damage. Occupation of Europe in the campaign following the initial exchange will be more feasible militarily, and more rewarding politically and economically, because more European assets will be available to assist USSR recovery. Other changes will occur by the mid-1980s when the situation could, so to speak, become a whole new ball game.

SECTION 2

SOVIET MILITARY PROGRAM TRENDS

2-1 THE THRUST OF SOVIET MILITARY PROGRAMS SINCE 1969

During the late 1950s and through the 1960s the Soviets had attempted to acquire forces capable of fighting, winning, and surviving a nuclear war in accordance with their military doctrine and strategy worked out by the Party and military establishment respectively in the period 1953-60. As spelled out in articles published in the General Staff journal Military Thought during the 1960s, this meant acquiring strategic offensive and defensive forces that could destroy enemy nuclear delivery systems and weapons stocks on the ground and defend the USSR against surviving enemy air, missile, and space forces. The bottom line was to limit damage to the USSR while destroying or neutralizing enemy military forces and occupying Europe as intact as possible in order to speed USSR recovery.

By the late 1960s the Soviets had made considerable progress but were still far short of having the military capabilities required to meet their ambitious objectives. The question to be examined here is whether the Soviets have abandoned their prior doctrine and strategy, ceased to acquire weapons designed to fight and win a nuclear war while limiting damage to the USSR, and reduced the military burden on the economy since 1972. Unless they have done an about face on these issues, prospects for the long term viability of the ABM Treaty are not good.

2-2 TRENDS IN SOVIET WEAPONS PROGRAMS SINCE 1972

Development of the current generation of Soviet ICMBs—SS-16 through SS-19—was initiated circa 1966 and was part of the eighth FYP, 1966-70. These systems are now being deployed. Development of the SS-NX-17 and NX-18 SLBMs may have an equally long history and one of them probably will be deployed. Four new ICBMs and an advanced SLBM are in development.

The improvements in accuracy, and correspondingly lower yields, in these new systems provide military capabilities long sought but hitherto only partially achieved. Although not generally recognized, the Soviets deployed some 700 SS-4 and SS-5 IR/MRBMs to achieve a counterforce capability against NATO and U.S. bases on their Asian perimeter. Because most of the targets were soft, even these relatively inaccurate

IR/MRBMs did not require more than 50 to 500 KT to be effective against most NATO targets. As has been noted, the SS-20 will provide the Soviets with a much improved counterforce capability against NATO while reducing the collateral damage in such an attack.

Development and deployment of both the SS-9 and SS-11 as hard and soft target systems respectively was predicted in the early 1960s. In the mid-1960s, it was predicted, much against the conventional wisdom of the times, that the Soviets would develop new ICBMs with MIRVs for counterforce capabilities in the 1970s because it was not practical to deploy enough SS-9s to attack all the hard targets in the United States. Now it is generally, although not universally, conceded that Soviet ICBMs have acquired a counterforce capability against U.S. land-based ICBMs and that this capability will improve in the future even under the Treaty now being negotiated, unless the United States takes some expensive countermeasures. Press reports as of 12 January 1979 indicate that the United States may abandon land-based ICBMs altogether as a result of Soviet counterforce capabilities³ that were predicted in the mid-1960s.

Contrary to many expectations after the ABM Treaty was signed, the USSR has continued to develop and to deploy advanced air defense weapons systems. For the first time since World War II the Soviets have been able to provide their national air defense forces with an interceptor (Flogger) that has some low altitude capabilities with a limited look-down-shoot-down system. According to press reports, and the CIA, national air defense soon will receive its first new SAM system, the SA-10, in more than a decade. An AWACS and a version of Foxbat having full "look-down-shoot-down" capabilities are being developed. Retrofit of such a system to Flogger would hardly be surprising. Moreover, deployment of new interceptors and SAMs almost certainly is accompanied by advanced ground-based systems for warning, tracking, command, control and communications.

Clearly investment in Soviet strategic air defenses has not declined since the ABM Treaty was signed. Substantial growth in investment will be required to deploy the SA-10, AWACS, and advanced interceptors and to continue modernization of air defense ground environment.

How much effectiveness have the Soviets gained, or, more appropriately, can they gain against current and programmed U.S. bombers, SRAMs and cruise missiles?

That question is hard to answer quantitatively with confidence and precision in either the United States or the USSR. But the answer clearly is "some" no matter how much we debate the uncertainties of bomber and cruise missile attrition rates. The important points are: the Soviets are trying harder to solve their national air defense problems despite the Treaty prohibiting ABM defenses (beyond limited deployment at one site), because, in the Soviet view, even imperfect air defenses are worth the effort.

Renewed testing of an anti-satellite system has attracted public attention and the Soviets are reported to have some operational capability with their system.

Soviet civil defenses have been "rediscovered" by U.S. strategic analysts of diverse persuasions and by the U.S. intelligence community.⁴ Estimates of the (equivalent) cost of the Soviet program vary but they range from a few to several billion dollars annually while the most the United States has ever spent on civil defense in any one year is on the order of \$0.5 billion and currently is spending less than \$0.1 billion.*

The Soviet Navy continues to invest heavily in surface ships, submarines, and aircraft for strategic antisubmarine warfare (ASW). Because U.S. SSBNs are difficult to locate, Soviet strategic ASW forces remain relatively ineffective. Nevertheless, the Soviets have devoted an impressive and growing effort to the strategic ASW mission. They must believe it is going to pay off some day.

When SALT began in 1969 the USSR was about 15 years behind the United States in all basic components of ABM technology, except possibly large phased-array radars. They are still behind but are approaching the levels of ABM technology—radars, high acceleration missiles, computers—that the United States had achieved in 1969. By the early 1980s the USSR should have the capability to deploy a fairly effective defense against present and currently programmed U.S. ICBMs and SLBMs. Given the Soviet view of nuclear war and the military and political utility of defense, the prospects for growth in Chinese strategic forces if the present regime succeeds, even ABM defenses that would be only 50 percent effective against large U.S. attacks probably would look very attractive.

*This expenditure may increase in FY 1979 as a result of revised U.S. interest in civil defense.

More exotic ABM technologies are being developed. The United States made considerable progress in multiple warhead, mid-course intercept, and nonnuclear kill technologies that could be fielded in the 1980s. Optical technology for endo-atmospheric discrimination also is available. Space based laser systems are reaching the feasibility stage. Other advanced technologies for both ABM and air defenses will be developed in the next two decades if R&D efforts are sustained. The USSR probably lags the United States in all these advanced technologies but probably is not as far behind as was the case for more conventional ABM technologies in the 1960s. Certainly Soviet dedication to R&D on both conventional and advanced ABM technology appears unquestionable.

Articles on strategic defense published in Military Thought during the 1960s defined "air defense" as air, missile and space defense.⁵ Continuity in this definition has been observed. An authoritative book published after the Interim Agreement on offensive weapons and the ABM Treaty were signed, indicated a relative rise in strategic air defense priorities.⁶ Several articles and a major monograph published in the period 1973-1977 treated ABM defenses almost as if the Treaty did not exist and stressed the requirement for defenses against all types of delivery systems.⁷ All these statements correlate rather well with maintenance and modernization of existing PVO Strany forces (while the U.S. virtually dismantled its air defenses), with the design and development of the advanced air defense systems previously noted, development of a new ABM system, and with renewed testing of the Soviet antisatellite system.

It has been fashionable in some quarters to dismiss Soviet literature as irrelevant to the future of Soviet military programs. In 1967 when U.S. euphoria about Soviet acceptance of permanent inferiority in strategic forces was at its height, a Soviet author wrote that the eighth Five Year Plan (1966-70) provided for larger numbers of more advanced weapons and "for maintaining military superiority over imperialism in the field of the principal and decisive types of weapons, and first of all nuclear rocket weapons."⁸

2-3 DEFENSE EXPENDITURE TRENDS

When the SALT process began in 1969, the Soviets were expending about 12 percent of their GNP on defense. The conventional wisdom of the time put the share at 6 percent and expected outlays, at least for strategic forces, to decline if SALT agreements were negotiated. In fact, the defense share of Soviet GNP has been well

over 15 percent in the recent past and will rise to about 18 percent of Soviet GNP in 1980. Within the Soviet defense budget itself procurement of weapons has risen from about one-third of total defense expenditures in 1969 to about 50 percent (and still rising) at the present time. In order to make such an increase in defense spending possible, investment has been cut from about 32 percent of Soviet GNP in 1975 to about 28 percent (planned) in 1980, a reduction that appears to have no precedent in the USSR in peacetime since Stalin began forced industrialization in 1929. Trends in the allocation of USSR GNP by end use and in the structure of Soviet defense expenditures are shown in Figures 1 and 2 respectively. One aspect of the impact of rising procurement outlays on the Soviet investment program is shown in Figure 3.⁹ When producer durables grow more slowly than total output, the difference represents additional output of weaponry. (Consumer durables represent a small—about 10 percent in 1970—and fairly stable share of total output.)

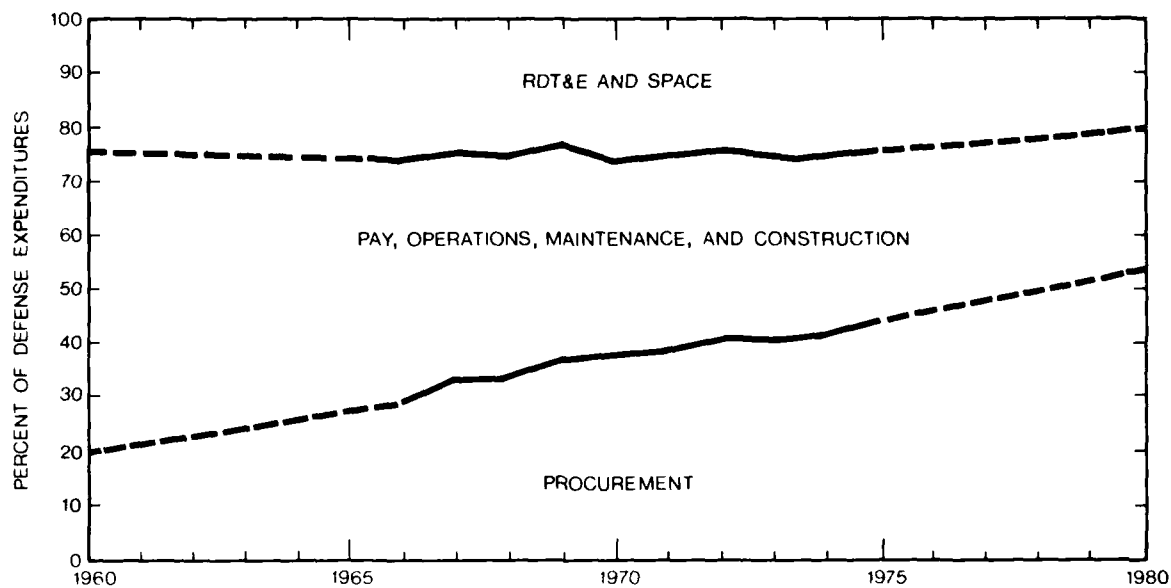


Figure 1. Structure of USSR defense expenditures.

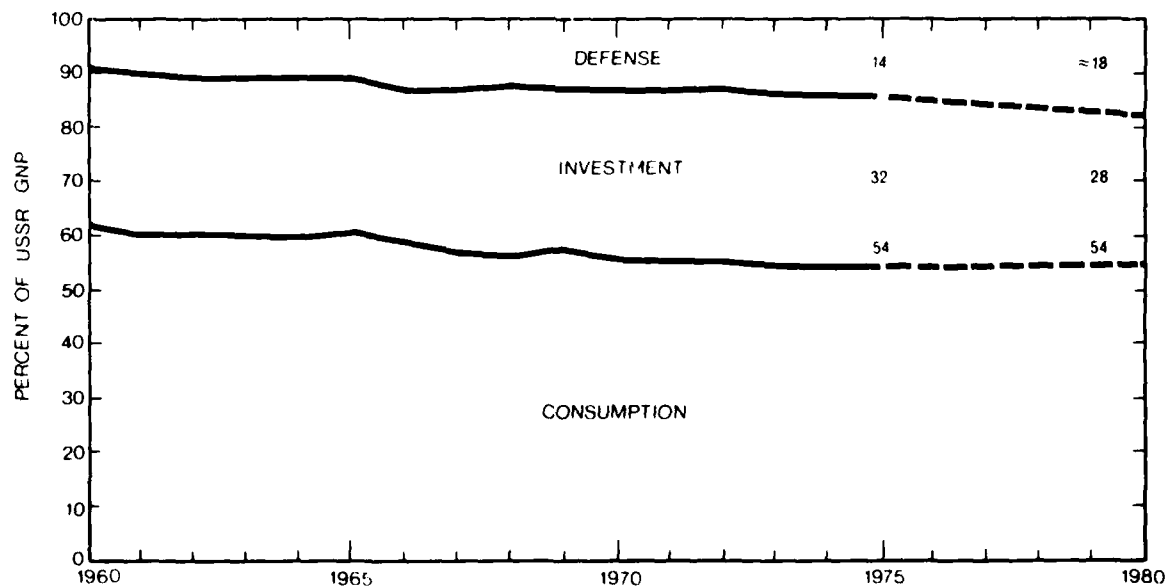


Figure 2. Structure of USSR GNP, 1960-1980.

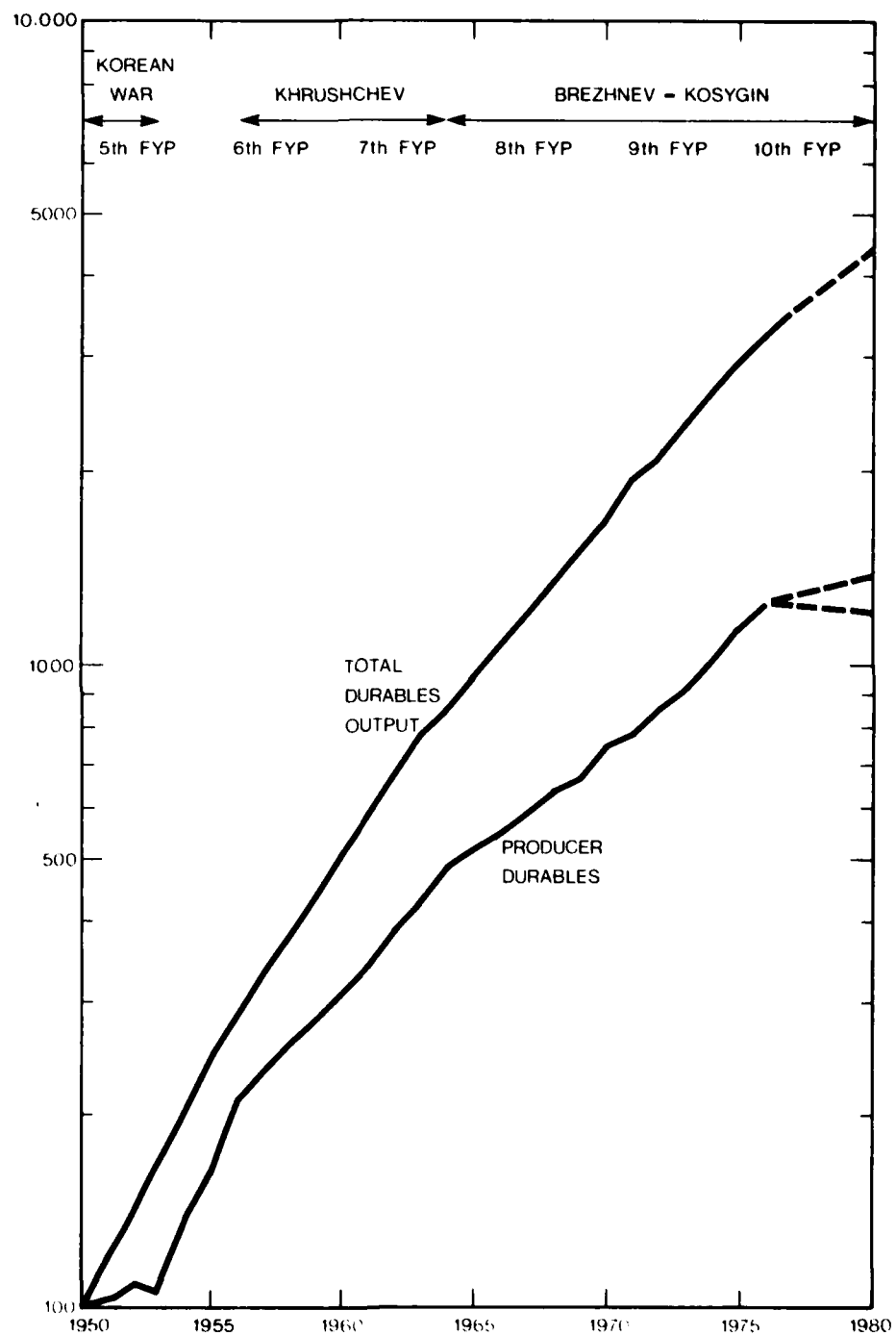


Figure 3. Comparison of rates of growth of producer durables and total durables output.

SECTION 3

DEVELOPMENTS IN SOVIET MILITARY DOCTRINE AND STRATEGY

The basic tenets of Soviet military doctrine and strategy were formulated during the axial period 1953-60 and published in unclassified literature beginning in 1961. Few modifications are apparent since that time. The doctrine was modified in 1964-65 to allow for a conventional phase in a war between the two superpower coalitions. About 1967 strategy was amended to include launch-on-warning as a response to a U.S. surprise attack.

From the beginning the Soviets have expected the war to continue beyond the initial exchange, most likely about 2 to 3 weeks. At the same time, they have been concerned about a more protracted conflict. Such concerns seem to have increased during the late 1960s but do not appear to have been associated with any change in the Soviet assessment that escalation is for all practical purposes inevitable in a conflict between the two superpower coalitions.

Since the publication in 1973 of the book edited by Gen. Col. Lomov (previously referenced), little has been said in available Soviet literature on questions of military doctrine and strategy.¹⁰ No changes or modifications appear to have been made and there seems to be no indication that any sort of major revision is underway. The objectives are unchanged: to fight and win the war, limit damage to the USSR, neutralize or destroy U.S. military capabilities, occupy Europe as intact as possible, and recover while "socialism" replaces "imperialism" throughout the world.

SECTION 4

THE CHINESE CONNECTION

Chinese regimes while Mao was alive posed a political, ideological, and diplomatic challenge to the USSR. They also posed enough of a military threat to justify considerable effort to build up Soviet ground and air forces along the Chinese border. Presumably the Strategic Rocket and Long Range Air Forces have been assigned a large number of nuclear targets in China. The Chinese strategic nuclear threat to the USSR is still small but no longer negligible.

Under the current regime the CPR apparently will continue to challenge the Soviets politically, ideologically and diplomatically. Indeed they may do so much more energetically than in the past. Most important for this paper, Chinese military capabilities in general, and strategic nuclear capabilities in particular, will expand rapidly in the next 10 to 15 years if the present regime stays in power and on its present course. On the other hand, Chinese nuclear missiles probably will be able to destroy a large portion of undefended Soviet industry by the late 1980s. On the other hand, very effective ABM defenses could be deployed against future CPR forces. But that would mean national deployments large enough to have some effectiveness against U.S. forces.

SECTION 5

SUMMARY OF USSR POLICY TRENDS

In summary:

- o The Soviets entered into SALT and negotiated the ABM Treaty because they were so far behind the United States in ABM technology that they could not compete. The Soviets much preferred no ABM defenses on either side (beyond token installations at two sites) than to let the United States gain a fearsome advantage.
- o Since SALT began the Soviets: (a) have not changed their military doctrine and strategy, (b) have continued to develop all types of strategic offensive and defensive forces designed to fight and win a nuclear war, (c) have continued to deploy all types of such forces—except the prohibited ABM, and (d) have increased the defense burden in the Soviet economy from about 10 to over 15 percent of USSR GNP.
- o While the relative improvement in Soviet military capabilities vis a vis the United States since SALT began has changed worldwide perceptions to the political advantage of the USSR, the Soviet leaders are well aware that their ability to limit damage to the USSR in the event of a war will remain far short of their objectives as long as they have no ABM defenses.
- o If present trends continue, the CPR probably will pose a serious strategic nuclear threat to the USSR in another decade or so if the USSR has no ABM defenses.
- o If as is likely, within the next few years the Soviets develop an ABM system technically comparable to the U.S. Nike-X system of the late 1960s, then political and military pressures for nationwide deployment may prove irresistible in the mid-1980s.

Clearly, the Soviets have continued to pursue the same war-fighting, damage-limiting policies since the ABM Treaty was signed. They have not followed the logic of the ABM Treaty by abandoning or at least reducing their effort on active and passive defenses, nor have they abandoned their efforts to acquire effective counterforce capabilities. Yet without ABM defenses most of this effort would be in vain if put to the test of nuclear war.

SECTION 6

IMPLICATIONS FOR U.S. FORCES

While the full implications of Soviet abrogation of the ABM Treaty would be a study in itself, a few observations may be offered here. First, the capabilities of programmed U.S. missile forces would be reduced by Soviet ABM deployments. The latter could be overcome by exhaustion but that would reduce damage to the USSR well below the undefended case, the degree of damage reduction being depending upon (ABM) battery effectiveness and the scale of deployment. Second, some changes in U.S. payloads would be required. One obvious response to a conventional (U.S. late-1960s type) Soviet ABM would be replacement of existing RVs with MARVs. But the latter would not counter any midcourse intercept component of Soviet ABM defenses. Additional countermeasures would be required. Third, some increases in currently programmed U.S. ballistic missile forces also probably would be required. Fourth, some significant adjustments in U.S. strategic missile force targeting probably would be necessary while hardware responses are in progress. All of this, of course, assumes that the United States will be able to negate Soviet counterforce threats to MM by some form of mobility or uncertainty about actual deployments.

As indicated previously, considerable improvements in Soviet air defenses are likely in the next 5 to 10 years. While cruise missiles will offset such improvements to some extent, Soviet air defenses in the 1980s probably will be much more competitive with the penetrators than in the previous three decades. Also as previously noted, Soviet strategic ASW programs are continuing and may not be ineffective forever. Both Soviet air defenses and ASW may require quantitative and qualitative changes in U.S. strategic aerodynamic and SLBM forces toward the end of the 1980s.

Finally, the United States could decide to respond to Soviet ABM deployment in kind. This might suggest changes in current U.S. ABM R&D programs and contingency planning for possible future production and deployment. Similar implications would follow for remaining U.S. air defenses and the civil defense program.

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