1991

MILITARY FORCES IN TRANSITION

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NOTICE

AS THIS REPORT GOES TO PRESS, THE LONG-TERM IMPLICATIONS OF THE FAILED COUP FOR THE MILITARY FORCES OF THE FORMER SOVIET UNION ARE NOT YET CLEAR. IT SEEMS APPARENT, HOWEVER, THAT THE DRAMATIC AND SUDDEN SHIFT OF POLITICAL POWER TO THE REPUBLICS AND THE EXTENSIVE PERSONNEL CHANGES IN THE MILITARY HIGH COMMAND WILL HAVE A SIGNIFICANT IMPACT ON THE FURTHER DEVELOPMENT OF SOVIET MILITARY POLICY. AS A RESULT, SOME OF THE ASSESSMENTS IN THIS PUBLICATION ARE SUBJECT TO GRADUAL OR EVEN SUDDEN CHANGE.

NEVERTHELESS, WE BELIEVE IT WORTHWHILE AT THIS CRUCIAL STAGE TO HAVE AN ACCOUNTING OF SOVIET MILITARY FORCES IN THE AFTERMATH OF THE COUP, AND THIS REPORT PROVIDES A BASIS FOR EVALUATING FURTHER CHANGES THAT COULD OCCUR IN THE WAKE OF THE COUP AND IN THE RESTRUCTURING OF THE SOVIET STATE. ADDITIONALLY, THE VERY NAME OF THE COUNTRY IS IN QUESTION. IN THIS REPORT, THE NAMES "USSR" AND "SOVIET UNION" MAY NEED TO BE READ AS THE "FORMER USSR" OR "FORMER SOVIET UNION."

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Preface

We will always remember the images of August 19-21, 1991 — Russian Republic President Boris Yeltsin atop a tank during the first hours of the Soviet coup declaring his defiance of the putsch, thousands of Moscow's citizens forming lines against the tanks that threatened to move against the Russian Parliament, and Soviet President Gorbachev returning to Moscow as the coup failed. But above all else, we will remember the triumph of democracy over the coup plotters, the statues of Lenin being pulled to the ground, and the streets filled with people celebrating the prospect of self-government. These events reflected what the world had witnessed in Prague, East Berlin, and other East European cities in 1989 and 1990 — the rejection of communism and the success of those seeking liberty.

It is difficult to escape a feeling of euphoria over these events and the collapse of the repressive institutions that controlled Soviet life for over 70 years. There are now many new opportunities for democratic growth in the former Soviet Union. However, even though the coup failed, many underlying political, interethnic, and economic problems remain. This enormously complex society stretches across 11 time zones, comprises over a hundred different ethnic groups, and has a population of 275 million. It has long suffered under an incompetent political system and endured the hardships and distortions of a centrally planned economy. Neither economic reforms to move this society toward a market system, nor political reform to establish effective institutions answerable to the people, will come about overnight.

Following the remarkable events of mid-August and the continuing unpredictable nature of every aspect of life in Russia and the other republics, we decided not to publish *Soviet Military Power* this year. That document gave readers a detailed discussion of current trends in the Soviet military, including the political and economic context in which Soviet forces operated. Because of the profound uncertainty on so many matters that have a direct impact on military and national security questions, we have purposely not discussed a variety of issues that would have been included in a 1991 edition of *Soviet Military Power*.

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Instead, *Military Forces in Transition* concentrates on the bare-bones facts of that country's armed forces. It is a snapshot of those capabilities in August 1991, with post-coup updates where we can provide them. We believe that the report provides as much information as possible, information certain to be the subject of policy debate. This detail can be valuable to both American and Soviet citizens, as well as to interested readers around the world. We have accordingly made a number of observations about how Soviet central authorities and the republics are laying the groundwork for reshaping military responsibilities in the aftermath of the coup.

The importance of such a document was brought home to me during my first official visit to the Soviet Union as Secretary of Defense in October 1990. I met with two committees of the USSR Supreme Soviet dealing with defense and international issues. The session itself was unprecedented. After I made a brief statement, we had a vigorous discussion about a wide range of military and security matters. I was surprised at the candor and openness of this discussion, given the past history of US-Soviet relations. I was even more surprised when a member of one committee rose to make a point and held up a document in support of his argument — the 1990 edition of *Soviet Military Power*. Another committee member told me that this document was the only reliable source on military procurement and spending practices in his own country. The committee members were particularly anxious to know about their government's

investment in nuclear weapons, an area that is covered in this report.

The Soviet empire was put together by conquest and held together by the coercive power of the Communist Party, Committee for State Security (KGB), and military. Since the failed coup, each of these institutions has been thrown into considerable disarray. One, the Communist Party, has been suspended or severely restricted. It should not surprise us, then, that the union itself is weakened and its future in doubt. Even the very name of the country is likely to be changed.

What happens during this transition period in Soviet history will have a major impact on US policy. This is a period of great uncertainty for both the former Soviet Union and the West. The former USSR remains a nuclear superpower in the midst of a revolution — a situation without parallel in history. The continuing existence of enormous military capabilities in a state which is in the throes of a revolution — and the accompanying potential for violence and chaos — presents a new kind of security challenge for the United States and its allies. The use of force to settle longstanding ethnic, territorial, and economic disputes is already evident in some republics. If such conflicts were to spread, if large numbers of refugees were to flee across borders, or if the confrontations were to involve the threat or use of weapons of mass destruction, local conflicts could quickly escalate to a global crisis.

Probably the only point upon which there is any agreement is that we simply do not know what the future has in store for the former Soviet Union. Still, there are five basic questions that define the nature of the crisis through which the former Soviet Union is going. How each is answered will determine what degree the former Soviet Union will need to be treated as a serious security challenge in the future.

First is the question of union itself. President Gorbachev and others are taking vigorous steps to salvage the union, and some republic leaders are working hard to produce a "common economic space." However, there are also powerful social and political forces at work pulling the former Soviet Union apart. The three Baltic states, seized by Stalin as part of a deal with Hitler, have regained their independence, and the other republics have adopted declarations of sovereignty or independence. Some are building their own military forces. Tensions between republics are growing, and interethnic strife has erupted with increasing regularity in Transcaucasia, Moldova, and Central Asia. Whether or not these various pressures will flare into widespread violence, and what impact such violence will have on the pace of reform in the former Soviet Union — as well as the security of its neighbors — are critical concerns.

The second is the issue of political power and authority. For some time now, lines of authority between the central government and the republics and within the republics have been weakened or severely disrupted. Executive authorities at all levels now encounter considerable difficulty in enforcing their decisions. Local councils need time to gain the experience and authority to guide policy or direct government bodies that are nominally subordinate to them, and the citizens themselves must resolve the terms of political and economic power. The daily ways and means of democratic government in a large diverse nation have yet to be learned and will take time to mature in the former Soviet Union.

The third question concerns the economic crisis in which the Soviets find themselves. According to official Soviet figures, the Soviet gross national product declined by 10 percent in the first half of this year, and the drop could be accelerating. There is a great concern about food and fuel supplies this winter, and hyperinflation remains a real possibility. What's more, even the best economic policies for the long term could exacerbate social unrest and economic dislocations in the short run, before yielding any benefits.

Fourth is the question of the allocation of resources to the Soviet military. For some time many people have recognized a basic contradiction between the Kremlin's declaratory reform program and continued high levels of military spending and production. On the one hand, the Soviet Union was changing the political character of its society and foreign policy under *glasnost* and *perestroika*. President Gorbachev ushered in unprecedented political reforms and cooperated in areas of international politics where for years there had been only friction and distrust. In recent years, the Soviets have struggled with rapidly deteriorating economic conditions, and there have been a host of efforts to take control of the economic slide.

On the other hand, despite political reforms and a severe economic recession, the former Soviet Union has continued to spend enormous sums on its military arsenal and maintain military production at levels that

far exceeded any possible defensive requirements. People asked the question: when a nation is facing extraordinary economic hardship and bankruptcy, why does it continue to spend 15-17 percent, and even as much as 33 percent according to some Soviet economists, of its gross national product on the military? We hope, especially in the wake of the failed coup, that the leadership in Russia and the other republics will answer that question with dramatic military spending cuts.

And finally, there is the question of the future of Soviet foreign policy. The Soviets have moved away from the doctrinaire international policies of the past and now play a more constructive role in world politics. Most remarkable was the Kremlin's posture during the democratic revolutions in Eastern and Central Europe, when Soviet forces made no effort to stem the movement toward independence from Moscow. Following Iraq's invasion of Kuwait, the Soviets supported international efforts to drive Iraqi forces out of Kuwait. Soviet diplomacy helped produce the Conventional Armed Forces in Europe (CFE) agreement as well as the Strategic Arms Reduction Talks (START) Treaty. Since the coup, the Soviet government has pledged to reduce its military presence in Cuba and has agreed to join with us in ending lethal assistance to the warring parties in Afghanistan.

Quite naturally, the new distribution of power within the former Soviet Union has raised questions regarding the future of its foreign policy. The United States has welcomed Soviet statements that arms control agreements and other Soviet international obligations will be honored.

The failed coup of August 19-21 was a tremendous victory for democratic reformers across the former Soviet Union. While there is renewed hope for a transition to self-government and a market economy, questions of union, political authority, economic revitalization, military reductions, and foreign relations will persist. Given the fluidity of the political situation, the terrible economic conditions, and the lack of a democratic tradition in Soviet society, many Soviet and Western observers assess that the risk of backsliding into old authoritarian ways remains.

Our aspirations for the former Soviet Union are similar to those enunciated by its reformers. While the ultimate relationship of the republics is for the people themselves to decide, it is important that any association be voluntary and that it be built on democratic institutions, the rule of law, and a market economy. We call for the safeguarding of human rights, based on full respect for the individual and including equal treatment of minorities, and urge respect for international law and obligations. We would like to see the country demilitarize its economy and society, and convert its enormous military production to civilian purposes, reallocating its resources for the good of its people and contributing to international stability.

There is much we can do to help this troubled country. We need to be sure, however, that what we do is consistent with our own security and long-term goals. Among all the uncertainty and unpredictability of political change in the former Soviet Union, one thing is clear: our own security is best guaranteed by a clear-eyed assessment of the global challenges that face us regardless of their origin.

For these reasons, we must look critically at how the political, economic, and social revolutions in the former Soviet Union influence its military capabilities. Soviet policies that affect those capabilities, such as spending and production levels, force levels, the pace of modernization and deployments, are the true indicators of military reform in the former Soviet Union.

The peoples of the former Soviet Union are at a turning point in their history. If the present crises lead to repression, anarchy, or civil war, the former Soviet Union and the world will face increased dangers. However, if the former Soviet Union avoids these dangers and continues along a democratic path to pursue policies that lead toward more peaceful relations and reduced military capabilities, the possibilities for the future are bright. Successful establishment of a democratic political system and a free market economy will provide even greater opportunity to build mutual security at significantly reduced force levels.

Dick Cheney
Secretary of Defense
September 1991

CHAPTER

I

The Soviet Military in Transition

GAMMA LIAISON

Military personnel participate in a rally celebrating Army Day, February 23, 1991. The target of considerable public criticism over the past year, the Soviet military now seeks to redefine its role and enhance its image in Soviet society.

INTRODUCTION

"This is the moment of truth in the revival of the prestige of the armed forces. We must not lose our bearing in this maelstrom." Minister of Defense Shaposhnikov

Like the rest of Soviet society, the Soviet military institution is undergoing a traumatic transformation. Taken off guard by the sudden and dramatic changes in the European geostrategic equation, smarting from the initial deleterious effects of Gorbachev's domestic reform program, and now changing over its senior leadership in the aftermath of the failed coup, the military is attempting to redefine its mission and restructure its forces for an uncertain future. As an institution whose status and capabilities depended heavily on the perception of an imminent Western military threat and the

support of an authoritarian government, the Soviet military is having a difficult time adapting to the political realities of the post-Cold War era. A large reduction in manpower, the withdrawal of its forces from Eastern Europe, constraints on its budget and resources, a sharp drop in its public standing, and now the challenge of a new center-republic relationship have plunged the military establishment into an unprecedented crisis of its own.

The abortive hardline coup accelerated the processes already under way to reform the Soviet military. Many of the obstacles to military reform — hardline elements in the Communist Party, the military, the security services, and the military-industrial complex — are no longer in positions of influence. However, physical changes to the forces themselves may be gradual because they are hostage to the political-economic crisis taking place.

Further contributing to the turmoil in an immediate sense is the extensive change under way in the make up of the Soviet High Command. The new Minister of Defense, Marshal of Aviation Yevgeniy Shaposhnikov, has announced that many of the senior leaders will be replaced. As of this writing, several senior officers have been replaced, including (in addition to the Minister of Defense and Chief of the General Staff), a First Deputy Minister of Defense, two of the five service commanders, three of the four fleet commanders, and three military district commanders, as well as a number of officers in key staff positions on the General Staff. Such a radical and sudden turnover in the High Command will send shock waves throughout the officer corps, and will likely result in significant changes to military policy.

This chapter looks at the Soviet military in a period of transition. It begins with a brief review of the traditional role and structure of the military from the end of World War II until the late 1980s, then discusses the more recent events and factors that have led to the institutional change that is occurring today. It looks at how the Soviets are reconsidering the fundamental elements of their military doctrine and strategy in terms of the perceived nature of a future war and the means necessary to wage war. The chapter reviews the changes to force structure and force deployment that are reshaping the armed forces. It then focuses on the sociological crisis in the military that impacts on the capability of the armed forces to wage war, and it addresses the draft military reform plan and its prospects for resolving the difficulties now facing the military leadership.

EVOLUTION OF SOVIET MILITARY DOCTRINE, STRATEGY, AND FORCE STRUCTURE

Institutional Traditions, 1945-late 1980s

To understand the current state of the Soviet military and the significance of the change that is taking place, it is necessary to first consider the traditional role and structure of this institution. Throughout the post-war era, military power has been the main basis for the USSR's claim to superpower status. The military's traditionally huge size of over 4 million soldiers, 200 plus divisions, 4 fleets, and a powerful arsenal of strategic nuclear weapons projected a tangible symbol of Soviet strength to the rest of the world, and ensured the Soviets would be a player in the major events that unfolded in the international arena. Its large presence in Eastern Europe served to maintain Soviet dominance over its wartime conquests and to secure a buffer zone between Soviet territory and what was perceived as the hostile West. The military also provided a convenient conduit for the spread of Soviet influence into the Third World through arms sales and military advisors.

Domestically, the military also played a significant role as a source of national pride and unity in a country of diverse nationalities and cultures. As a lasting and visible symbol of the Soviet Union's contribution to the heroic defeat of Nazi Germany, probably the single greatest event in the history of the Soviet state, the ubiquitous armed forces served to maintain a sense of unity and patriotism in a country plagued with an austere economy and difficult living conditions. Through mandatory conscription, the military was also viewed by the state as a means of assimilating the many diverse ethnic groups into a society largely dominated by Slavs. The military was largely exempted from the responsibility

of maintaining internal stability and law and order, the traditional domain of the Committee for State Security (KGB) and Ministry of Internal Affairs (MVD).

The Soviet armed forces placed their highest priority on being prepared to wage and win a war with the West, a war it viewed ideologically as the decisive clash between two opposing socioeconomic systems — communism and capitalism. Military doctrine assumed that the war would be waged on a global scale, in which the most decisive political and strategic goals would be pursued. While the North Atlantic Treaty Organization (NATO) was viewed as the principal threat, the Soviets believed that countries in the Far East, most prominently the People's Republic of China and Japan, might also join NATO in an anti-Soviet coalition. Military operations might be conducted around the entire periphery of the USSR, to include allied offensives launched against the USSR from Southwest Asia.

The importance of the armed forces to the Soviet political leadership for all of the above political and military reasons ensured that they would enjoy absolute priority in the allocation of the nation's resources, despite the excessive cost to Soviet society. This meant not only allocating a disproportionate share of the national budget for the military — estimated between 15 and 17 percent of the gross national product (GNP), and by some Soviet economists, as high as 33 percent — but also giving the military first priority on natural resources and on the application of Soviet technological developments. Content with its privileged domestic position and enjoying great influence over the military policymaking process, the military leadership focused largely on matching and, if possible, exceeding the collective military capabilities of its perceived enemies in the West and East.

Events and Factors Affecting Change

Since the mid-to-late 1980s, a number of seminal events and critical factors have precipitated a gradual reevaluation of Soviet security needs and altered the standing of the military in Soviet society (see inset). Factors such as the Chernobyl incident, the conclusion of landmark arms agreements, the revolution in Eastern Europe, and the Persian Gulf War have had a significant impact on the development of Soviet military doctrine and strategy. National economic decline has reduced the flow of resources to the military and contributed to increased personal hardships. A revised national security decisionmaking process has decentralized the formulation of military policy. The legacy of Afghanistan and the use of military force to suppress ethnic unrest have lowered the public image of the military and contributed to a growing crisis in the ranks.

The reevaluation of security needs continues against the backdrop of tremendous uncertainty over the future of the nation itself. In particular, the instability of the Soviet economy and the continuing debate over the division of defense responsibilities between the

Key Events and Factors Affecting Change

- **Chernobyl: The 1986 nuclear power plant explosion dramatized the potential devastating effect of conventional strikes on nuclear and chemical facilities inside the USSR and tempered the somewhat cavalier attitude among some in the military about the "winnability" of nuclear war.**
- **Afghanistan War: The Soviet military's inability to achieve its political objectives taught the leadership the limits of military power and undermined public support in the USSR for power projection.**
- **Arms Agreements: Progress in both conventional and strategic arms limitations reduced the perceived military threat from the West.**
- **Economic Decline: Increased public and leadership awareness of the tremendous burden of military spending on the Soviet economy has generated growing pressure for military spending cuts.**
- **Revolution in Eastern Europe: The demise of communist governments and the dissolution of the Warsaw Pact deprived the USSR of a buffer zone with the West, reducing the USSR's ability to conduct conventional offensive operations against the West.**
- **Republic Challenges: Republic demands for autonomy and (in some cases) independence pose a growing threat to the centralized armed forces.**
- **Changes in the National Security Decisionmaking Process: Increased legislative and public influence in the military decisionmaking process is confronting the military with a more diverse and less accommodating array of decisionmakers.**
- **Persian Gulf War: The success of coalition military operations in the Gulf War against Soviet trained and equipped Iraqi forces is prompting the Soviet military to reassess the state of its military technology and doctrine.**

TASS/SOVFOTO

Shown here is a demonstration for Ukrainian independence in Kiev, October 1, 1990. Increased pressure for republic autonomy is resulting in changes in the security relationship between the center and the republics.

all-union government and the republics render long-term military planning difficult at best. Nevertheless, a number of profound changes are now occurring in the Soviet military that portend a quantitatively reduced force. Military leaders have also stressed the need for higher quality soldiers and high-tech weaponry. While the introduction of volunteer service may upgrade the caliber of personnel, the ability to achieve a technological upgrade of the force will be tempered by the state of the economy.

Changes to Military Doctrine and Strategy

Overview

The failed coup and the resulting changes it has fostered in the political make up of the country will force the entire subject of military doctrine to be revisited. Central to military doctrine is the definition of the threat. Clearly the threat cannot be defined until a new union treaty establishes the actual borders of the Soviet state and clarifies the status of the republics. Marshal Shaposhnikov has stated that there is no external threat to the Soviet Union. If this is in fact the consensus of the political and military establishment, then Soviet military planning assumptions that have been in effect for the past 45 years are no longer valid and must be completely revised.

Over the past year, prior to the coup, there have been a number of indications that military doctrine had already come under review due to the collective impact of the factors cited above. The remainder of this section discusses this doctrinal review, which may offer some insight into where the Soviets are headed even after the failed coup.

As defined by Soviet sources, military doctrine is the state-approved system of views on the essence, goals, and character of a future war; on the preparation of the armed forces and the country for war; and on the means of conducting war. It consists of a political element,

which reflects the political goals of the state as well as the economic, social, and legal means of achieving the goals of a future war; and a military-technical aspect, which involves the technical equipping of the armed forces, their preparation for war, and the determination of the means of conducting military operations and the war itself. Closely connected with doctrine is military strategy, which concerns planning and conducting strategic operations of war. Together, Soviet military doctrine and strategy form the blueprint for the conduct of war and equipping and structuring the Soviet armed forces.

The geostrategic changes that have occurred in Europe and the rapid development of high-technology weaponry and command, control, communications, and intelligence (C^3I) capabilities, as vividly demonstrated in the Gulf War, have prompted an ongoing reassessment by the Soviet military of the 1987 military doctrine. The basis of the 1987 doctrine was said to be war prevention, and its principal tenets included a defensive orientation and reducing and restructuring forces according to the principle of reasonable sufficiency. The political leadership sought through this doctrine to reduce the defense burden on the economy and, by giving the Soviet military a less menacing appearance to the West, to slow the costly arms race and reap the potential dividends of a less hostile foreign policy. The principal tenets of the political aspect of the 1987 doctrine remained unquestioned in the 1990 draft Ministry of Defense (MOD) doctrine and have been reaffirmed by the post-coup military leadership. These include:

- Prevention of war as the principal function of the armed forces;
- A pledge not to initiate military actions against any state;
- A pledge never to be the first to employ nuclear weapons; and
- A rejection of the concept of quantitative superiority of forces.

On the military-technical side, however, major questions have arisen as to the nature of future wars, the means by which they would be waged, and the type of military strategy necessary to achieve victory. These questions are being addressed in a wide-ranging debate, the answers to which will have a profound impact on the future structure of the Soviet armed forces.

Concepts of Future War

The Soviets are looking at what they call an "air-space war" as the war of the future. Such a war would begin not on the ground but from air and space. Powerful massed strikes of advanced conventional munitions, primarily long-range air- and sea-launched cruise missiles, would be conducted against military and economic targets throughout the entire depth of an opponent's territory. Such weapons, according to Soviet sources, concede nothing to nuclear weapons in terms of effectiveness. In addition to these weapons, weapons based on new principles of destruction, such as directed energy (laser, particle beam, or high-power microwave), hypervelocity, and other exotic technologies, may also be employed. Wide use in a future war would be made of space-based systems for reconnaissance, communications, and meteorological services. Victory would be achieved not by occupation of enemy territory with ground forces, as in the past, but by destroying important strategic military targets, retaliatory systems, and national economic potential. Such destruction is viewed as sufficient to bring down the enemy's political system. Victory can be achieved in the initial period of war through the decisive factor of surprise. While the origins of the concept of the air-space war clearly can be found in the arguments by Marshal Ogarkov in the early 1980s, the Gulf War is seen by some as essentially the prototype of such a war.

This view of future warfare is apparently not shared by all in the Soviet military. In May, a roundtable of high-level Soviet officials specializing in tank production and armored warfare concluded that the lessons of Operation DESERT STORM were not necessarily applicable to future warfare and stated emphatically that most combat tasks cannot be accomplished without the large-scale use of ground forces.

Resolving the question of the most likely nature of a future war will influence the future structure of Soviet military forces. Whereas Soviet doctrine has traditionally emphasized the role of huge ground formations, supported by air and naval forces, the adoption of the new view of war would likely lead to a diminution of the role of ground forces and an enhanced mission for the high-tech services — air, missile, and naval forces. Priority would likely shift to the development of the latest high-tech weaponry for these services and could involve further reductions in the ground forces. The extent to which the Soviets can develop and field the technology for an air-space war, however, is questionable given the poor state of the Soviet economy.

Offense versus Defense

Over the past year, a number of Soviet military theorists have called into question the wisdom of the

defensive orientation of the 1987 military doctrine. A catalyst for discussion was the publication of a draft document on doctrine in a special issue of the journal *Military Thought* in late 1990. This draft stated that Soviet military forces would be employed, at least initially, in a principally defensive posture along the Soviet border. Troops of the border districts and fleets would form the first strategic echelon, and the troops of internal districts would comprise a strategic reserve. The draft specifically precluded a preemptive strike and noted that initial military operations would be exclusively defensive, designed to repel the aggressor. Subsequent operations were to be determined "by the nature of the enemy's military operations and would depend on the means and methods of warfare which he is using."

A continued emphasis on the defense, particularly in the wake of the Gulf War, where offensive operations were clearly decisive, was seen by these theorists as too rigid and dogmatic for the future. Some, such as Major General Vorobyev, argued that it is simply unrealistic to specify in advance how an enemy's aggression will be repelled. Excessive emphasis on the defense, he claimed, will cede the strategic initiative to the enemy, leading to consequences similar to those in 1941. Vorobyev advocated a policy of "adequate response," in which the Soviet side would choose and employ those forms and methods of conducting an operation which best conform to the existing situation and ensure the achievement of decisive superiority over the enemy. Marshal Losik, former Chief of Armored Troops, argued that defense must be conducted actively and include elements of offense as vital ingredients. Major General Slipchenko stated that once attacked, the Soviet side maintains the right to choose and implement those forms of combat which are most effective, and emphasized that "defensive doctrine is not the same as defensive strategy."

The redeployment of Soviet forces inside the USSR, the prospect of further withdrawals from peripheral republics to the Russian Republic, and the large-scale reduction in force now taking place have made the question of offense versus defense much less critical than in the past. Nevertheless, with the lessons of the Gulf War still fresh in their minds, the Soviets appear to be seeking some doctrinal flexibility for the employment of forces at the start of war. Such flexibility is critical to success in the air-space war scenario. Despite these doctrinal discussions, given the recent course of events and geostrategic change that has occurred, it seems doubtful that the spirit of the offense as it existed in Soviet strategy through the mid-1980s can be fully resurrected.

Conclusion

It is not yet certain to what extent the existing military doctrine and strategy ultimately will be revised. Elements of the Soviet military will push hard for the development of advanced conventional weaponry that will correspond to the requirements inherent in the military's vision of future war. The new Chief of the General Staff, General Lobov, appears to be a clear advocate of such development. Writing in a February 1990 *Military Thought* article, he stated that "it is necessary to ensure not only equality with the probable enemy, but also superiority over him in qualitative development of arms and military equipment." Soviet capability to develop emerging technologies and field high-tech weaponry and C^3I will be affected, however, by the will of the political leadership to lower the resource priority of the military, given the questionable capacity of the Soviet economy to sustain this costly development, and by the willingness of the republics to contribute to the defense budget.

Changes in Force Structure and Deployment

The Soviets are in the midst of a comprehensive restructuring of their armed forces. This restructuring initially envisioned a reduction in force of over 1 million soldiers, the redeployment of the remaining 15 divisions in the groups of forces in Eastern Europe to the western USSR, and the potential reorganization of the military services as well as the entire system of command and control. This restructuring stems from reductions called for in the Conventional Armed Forces in Europe (CFE) and Strategic Arms Reduction Talks (START) agreements, the withdrawal of forces from Eastern Europe, and the realization by the political leadership that the Soviet economy can no longer support such an enormous military burden. Of paramount significance is the fact that the reductions and redeployments, as well as growing republic assertiveness on military issues, have virtually eliminated the Soviet potential to conduct sustained conventional offensive operations against NATO without prolonged and visible mobilization.

The manpower reductions, which had originally been the result of economic imperatives and the stated aim of transitioning to a force increasingly based on quality as opposed to quantity, have now received added emphasis from republic leaders. An initial unilateral reduction of 500,000, as pledged by Gorbachev in 1988, was announced as being complete this spring. Soviet sources claim that this reduction brought the total size of the armed forces to just under four million. A further

reduction to between 3.0 and 3.2 million was scheduled to be completed by 1995. Recently, some central and republic military leaders have discussed military reductions to levels as low as 1.5 to 2.0 million men.

Among the services, plans call for the Strategic Rocket Forces to be reduced by more than 30 percent, the Air Defense Forces by 18-20 percent, the Ground Troops by 10-12 percent, and the Air Force by 6-8 percent. Total reductions planned for the Navy, if any, have not been published. These reductions are apparently the first since Khrushchev cut the military by 1.2 million in the early 1960s. If and when completed, the armed forces will have been reduced to their lowest level in 30 years. Further cuts appear likely in the aftermath of the coup.

In addition to reducing the overall size of the force, the manner in which Soviet forces are deployed is also changing. By 1994, all Soviet forces currently located in East-Central Europe and Mongolia are to be withdrawn to the USSR and either redeployed or disbanded. Some Soviet units are now withdrawing from the newly independent Baltic countries. Some republics are now negotiating with the center over the status of forces on their territory. Some 37 tank or motorized rifle divisions have been disbanded since 1989. Within the Atlantic-to-the-Urals (ATTU) region, over 25 divisions have been deactivated in the past two years. As of June 1991, significant amounts of equipment, including over 16,000 tanks, at least 11,000 armored combat vehicles, and 22,000 treaty-limited artillery pieces, have been moved east of the Urals. Of this equipment, the Soviets have pledged to destroy or convert at least 6,000 tanks, 1,500 armored combat vehicles, and 7,000 artillery pieces; the remainder will either go into storage or upgrade existing units.

Any regeneration of forces would require a substantial and lengthy period of mobilization that

TASS/SOVFOTO

Soviet T-80 tanks awaiting transit back to the USSR from the German port on Rugen Island.

would be highly detectable by the West. Barring a decision by the political leadership to risk detection and its political and military consequences, it appears that the restructuring of forces now under way will lock the military into a largely defensive posture in the western USSR, perhaps the most significant change in the past 45 years.

CRISIS IN THE RANKS

How residual Soviet forces are structured and resourced is a major issue facing the central government and republic leaders. Several factors will affect Soviet policies and decisions, including ongoing restructuring plans, crisis in the ranks, declining respect for the armed forces, republic challenges to the military, draft evasion, declining quality and morale of conscripts, demoralized officer corps, and military reform.

The Soviet military is now confronted by immense pressure from reformist republic and center officials to reduce defense spending and achieve more rapid force reductions. At the same time, it is confronted internally with a severe and unprecedented crisis in its own ranks. The changes set in motion by Gorbachev's reforms and other recent developments have had a profoundly disturbing impact on the Soviet armed forces. The military's role in Soviet society has changed from that of a privileged elite to an institution under siege. Once the favorite son of the command economy, its budget has been shrinking in real terms and is likely to face even deeper cuts. Once the object of media adulation, it is now a target of growing resentment and criticism. Soviet officers, once respected and rewarded, face an uncertain future of force cuts, declining living standards, and in some regions, a hostile and dangerous citizenry. These developments have exacerbated existing systemic weaknesses in the military and plunged the armed forces into a period of growing turmoil.

Because the military is not homogeneous, reaction to these developments varies widely from group to group. Most affected is the Soviet officer corps, which is suffering from acute professional and personal apprehension. The officer corps, however, now has represented within its ranks the entire political spectrum from traditionalist to radical reformist. Conscripts, who make up the majority of uniformed personnel, have been less affected from the standpoint of career interests or living standards, but the growing unpopularity of military service has greatly affected the viability of the draft system.

Declining Public Respect for the Armed Forces

The prestige and public standing of the military is now at the lowest point since the end of World War II. Soviet society's traditional gratitude to the Red Army for saving the country from destruction in World War II has passed with the older generation and is being replaced by the "Afghanistan syndrome" and memories of military brutality in suppressing domestic unrest in Tbilisi, Baku, and the former Baltic republics.

An especially painful public reminder of declining public respect for the Soviet military is the dramatic increase in crime against servicemen and their families. According to a report presented to the Supreme Soviet's Committee on Defense and State Security, 42 officers died in 1989 at the hands of civilians. In the first quarter of 1990, 21 officers were killed by criminals and 189 sustained injuries. Due to the severity of the attacks, in late 1990 local military commanders were granted unprecedented authority to use deadly force as necessary to protect servicemen and their garrisons from attack. Officers were authorized to carry weapons for self-defense.

This decline in military prestige is reflected by the major changes in the way the military is treated in the media. Before *glasnost*, the state-controlled press generally did not criticize the military. Indeed, the media promoted pro-military values, glorified the military's historical role, and extolled the virtues of military service. The media's emphasis on patriotic duty helped instill in draft-age males a sense of inevitability about military service which fostered at least a resigned acceptance of the draft. Now, by contrast, the military finds itself rebuked publicly by the media, the Supreme Soviet, and the general public.

A favorite target for media criticism is the abuse and poor service conditions suffered by draftees, in particular the hazing of younger conscripts by those with more time in service, known as *dedovshchina*. Allegations that 15,000 soldiers died over the past five years from hazing, suicide, and negligence, roughly the same total as those killed in Afghanistan, created a sensation that led to the formation of a national mothers' organization seeking to protect their children, and in protests at the door of the MOD building in central Moscow. The armed forces have also been condemned for the vast resources they consume and for extravagant privileges accorded senior officers at a time when the national standard of living is plummeting.

The impact on Soviet society of the military's general

unwillingness to participate in the coup is not yet clear. It appears that initially its status has been neither enhanced nor degraded. However, measures announced by the new military leadership in the wake of the failed coup — a gradual transition to a mixed volunteer/conscript force, the right of republics to draft citizens for service within the republic, and a reduction in service obligation from 24 to 18 months — may serve to gradually improve the standing of the military in Soviet society.

Republic Challenges to the Military

A crucial challenge facing the military is the USSR's rapid shift toward a more decentralized state structure. This development is threatening the very basis of the centrally controlled armed forces. Control of military policy and forces has emerged as a key issue in the negotiations between Moscow and the republics, including the Russian Republic. Republics are demanding a major role in shaping military programs; some have already begun to develop their own military formations.

The republic challenge to the military has increased significantly in the wake of the failed coup. With the Russian Republic as a precedent, several other republics have formed their own ministries of defense and are creating their own armed forces. The largest of these is Ukraine, which has decided to establish its own military forces and has appointed a defense minister.

Republic challenges to the central government's economic policies will increase pressure to reduce military expenditures. Many republics are demanding greater economic decisionmaking authority and fuller control over their own resources. The Russian Republic, for instance, is seeking control over defense industries located in Russia. Republic leaders also oppose the central government's current spending priorities, charging that military spending must be drastically reduced. Reform-minded republic leaderships advocate channeling more resources toward economic development and are averse to maintaining current high levels of military expenditure. As republics press harder for greater economic decisionmaking authority, pressure to reduce military expenditures has increased sharply.

Draft Evasion

One effect of these trends has been growing opposition to the draft among conscription-age youth. One series of studies revealed that the percentage of draftees who "did not desire to serve" increased from 1 percent in 1973, to 7 percent in 1979, to 18 percent in 1989-90. Another series of polls revealed that only 12 percent of conscripts polled in 1990 reported a positive attitude toward military service, compared with 78 percent in 1975.

Draft evasion, which emerged as a growing problem during the fall 1989 draft, has now become a major factor shaping the Soviet military reform process. About 650,000-750,000 young men are drafted each spring and fall through a network of regional military commissariats that are jointly responsible to both the Defense Ministry and the local government. Once a routine procedure, the conscription process is producing growing conflict between Defense Ministry officials determined to meet their draft quotas and increasingly fractious local and republic officials.

Over the past year, the draft has become increasingly unpopular. While draft dodging in the fall of 1989 affected about 1 percent of those called to service, by the spring 1990 draft that number had increased to 3-5 percent. By January 1, 1991, over 20 percent of those called to service had failed to report for duty.

Draft evasion of this level threatens the viability of the entire manning system and seriously erodes the state's credibility by demonstrating its inability to enforce its own laws. Moreover, the ongoing conflict between the Defense Ministry and regional leaders over the draft has exacerbated the already high civil-military tensions in Moldova, some areas of Ukraine, and the Caucasus.

Declining Quality and Morale of Conscripts

Those conscripts who do show up for service tend to be of lower quality than earlier draftees. This is partly due to the reinstatement of the educational draft deferment. In the spring of 1989, the political leadership — over the strong objection of Defense Ministry leaders — bowed to public pressure and reinstated the student deferment provision that had been gradually phased out in the 1980s as the supply of draftees declined. In July 1989, despite public opposition from Defense Minister Yazov, the deferment was applied retroactively to those students already drafted. This decision allows college-bound youth to postpone and often avoid service entirely, lowering the quality of the draft contingent. At the same time, the proportion of draftees with prior criminal records has risen alarmingly.

In addition, a growing proportion of the draft pool is being drawn from ethnic groups with limited fluency in

Russian (the command language). The decreasing supply of Russian-fluent conscripts is occurring at the same time demand for fluency is growing because of the greater complexity of weapons systems and resulting increase in the requirement for technical training. This problem has a potentially deleterious effect on combat capability, enhancing the attractiveness of a professional military in which volunteers without the requisite language ability could be filtered out.

Morale within the conscript contingent has deteriorated, particularly among draftees from regions involved in interethnic conflict or separatism. This is reflected in significant increases in desertion rates, undermining unit cohesion, effectiveness, and reliability in those units where such draftees are assigned. Low morale, reflected in lawlessness and ethnic strife, is also a serious problem in some units withdrawn from Eastern Europe. In the Western Group of Forces in Germany, over 200 soldiers have reportedly sought political asylum.

Further contributing to this morale problem are shortages of food and clothing. Food shortages are now affecting Soviet military units throughout the USSR and those remaining in Eastern Europe. According to Lieutenant General Litvinov, First Deputy Chief of Rear Services, the military is experiencing shortages of meat, butter, fruit, and vegetables. Conditions have become so bad that the members of a Strategic Rocket Forces unit in the Urals reportedly threatened to desert because of inadequate food. Some 70 men went absent without leave from a ground forces garrison in the Caucasus to travel to Moscow to protest food shortages. Shortages of clothing also exist. General Arkhipov, Chief of Rear Services, admitted that industry failed to deliver some 10 million rubles' worth of uniforms to the military in 1990. He specifically noted shortages of uniform jackets, overalls, underwear, trousers, boots, overcoats, and shirts. These shortages reflect the general problems of the Soviet economy and the downgraded status of the military under Gorbachev.

A Demoralized Officer Corps

Morale within the officer corps has been even more adversely affected by the crisis gripping the country and the uncertainty surrounding the armed forces' future. Officer living standards have declined precipitously over the last few years. The Defense Ministry estimates a shortfall of over 200,000 housing units. Many of the families of military professionals withdrawn from Eastern Europe are living in hostels, prefabricated barracks, or tents. In some cases, conscripts live together on one floor of a barracks, and officers and their families live on the other floor. Although Germany has promised approximately $5 billion to assist specifically in housing construction, this program will yield only about 36,000 apartments; it will represent only one step toward addressing the plight of the 200,000 families that currently lack housing.

Not surprisingly, MOD officials and disenchanted Soviet officers allege that salaries and the quality of life for military professionals are far below the levels of comparable civilian jobs. According to one radical military reformer, the average family income for military professionals is now 30 percent lower than that of blue-collar workers.

Moreover, many of the officers released from the military as part of the unilateral force cuts have few opportunities for employment in the civilian sector and face great difficulties finding housing. As a result, resentment is growing among the officers directly affected by the cuts and those who fear that they will be next.

Military Reform — The Search for Solutions

The turmoil affecting the military, exacerbated by the political changes in the post-coup period, has added urgency to the problem of reforming the armed forces. Although the General Staff is trying to assure that military thinking guides the military reform process so that they can develop the force structure they believe is needed for the future, economic and political realities may weigh against these considerations.

The military reform debate originally focused on two competing proposals for military reform, both initiated by Moscow-based officials. The more radical version of reform was developed by a group of mid- and lower-level officers in the Supreme Soviet. This plan envisioned transition to an all-volunteer system within four to five years, the establishment of territorial units in the ground forces and a territorially based reserve (with dual subordination to the center and the republics), and a substantial increase in republic participation in defense decisionmaking.

The Defense Ministry proposal (introduced early last year) was predictably more conservative. Although it contained some concessions to the demands of the more radical military reformers, it envisioned a gradual phase-in of more modest changes. The latest version of the MOD proposal, published last November, incorporates additional concessions to reformers.

The failed coup has given new impetus to the question of military reform. As a result of the failed coup, a new generation of officers more receptive to genuine reform is now at the helm of the military establishment. Additionally, the accelerated devolution of political power from the center to the republics has given the latter a much greater say in the development of military policy. It appears that many of the proposals of the more radical plan, once anathema to the Ministry of Defense, have been largely adopted by the new High Command.

Perhaps the most significant change is the emergence of an enhanced role for the republics in determining national military policy and in providing for their own defense. Marshal Shaposhnikov has stated that the republics will have a new role in "implementing military policy, drawing up the defense budget, training reserves, and organizing conscription." General Lobov has called for the creation of republic defense ministries and republic armies which would be components of a confederation force. According to Lobov, 60 percent of a republic's draftees would be retained in the republican army, the remainder would go to the union army. While many details have yet to be worked out, the center's acquiescence to the republics' demand for their own national forces should considerably ease the antimilitary sentiment in the outlying republics and potentially reduce the conscription shortfalls.

Another significant change is the apparent willingness of the new military leadership to gradually transition to a more professional force. Shaposhnikov has indicated that the draft must be retained for the present, but that the term of service should be reduced from 24 to 18 months and student deferments should be permitted. He favors ultimately relying on a combined principle of drafting, in which a part of the force would be volunteers and a part conscripts. Lobov has taken a slightly more radical position, stating he favors a professional army and is working to end the draft altogether. If implemented, the transition to a more professional force may increase the overall quality of the Soviet military.

CONCLUSION

The Soviet military is now confronted with a number of staggering uncertainties. With the era of Cold War confrontation at an end and the threat of superpower confrontation greatly diminished, its immediate task is to attempt to preserve an all-union armed forces in the midst of the competing claims by the republics to dismantle significant components. As republic military forces are now a reality, center and republic leaders must determine what their size will be and what, if any, contribution they will make to all-union defense. Will they play a role in a unified defense plan, or will they essentially function as heavily armed police forces? The disposition of military garrisons, airfields, ports, training areas, and equipment depots in the republics will have to be resolved. Provisions will have to be made for further withdrawals from the republics, and additional scarce resources will have to be found to cover the expenses involved.

The military High Command faces a number of other pressing problems on the home front as well. It must try to find remedies to the growing problem of feeding, housing, and clothing its forces, a problem exacerbated by the ongoing withdrawal of its huge occupying armies from Eastern Europe. The military leadership must also determine how to deal with the current unpopularity of military service and the problem of draft resistance, and how it will attract, train, and motivate a higher quality of conscript who can operate the increasingly technical weaponry of the future.

The leadership will have to determine the likely nature of future external threats to the Soviet state, and within the confines of economic and political restraints, structure its remaining forces to meet these threats. If the West is still perceived as the most likely potential adversary, should the basis of Soviet military might remain a strategic nuclear deterrent and large but technologically unsophisticated ground forces, or should it attempt to transition to a greater emphasis on high-tech missile weaponry and C^3I capabilities to be able to fight the air-space war? If the latter, how will the military muster sufficient economic resources to sustain such development? If it cannot, should it forego a large conventional capability and rely on an exclusively nuclear deterrent?

The future of the military is inextricably linked to the outcome of the current political and economic crisis gripping Soviet society. The state of the economy will be a critical determinant of the level and quality of resources available for the military. A political resolution of center-periphery relations, in the form of the Union Treaty, status of forces agreements, and other political arrangements, will determine the future participation of the republics in providing manpower for an all-union military, as well as basing rights and economic support for all-union forces stationed in those republics. The military will undoubtedly attempt to weigh in heavily on economic and political decisions.

Minister of Defense
Marshal of Aviation
Yevgeniy Shaposhnikov

Chief of General Staff
General of the Army
Vladimir N. Lobov

TASS/SOVFOTO

Minister of Defense
Russian Republic
Army General
Konstantin Kobets

New senior military leaders are committed to reform, but they will face a number of difficulties in transforming the Soviet military establishment. Marshal Shaposhnikov is the first aviation officer to head the Defense Ministry, ending the tradition of army generals in this post. Army General Lobov, a former commander of the Warsaw Pact Combined Staff, has been touted in official Soviet media as one of the first genuine reformers in the military. These leaders will initially replace senior military leaders who supported the coup. The next significant hurdle for the central military leadership will be negotiating arrangements concerning force structure and organization with republic leaders, in which Army General Kobets, as the Russian Defense Minister, will undoubtedly play a significant role.

However, it is unlikely that the military will again enjoy its priority of yesteryear.

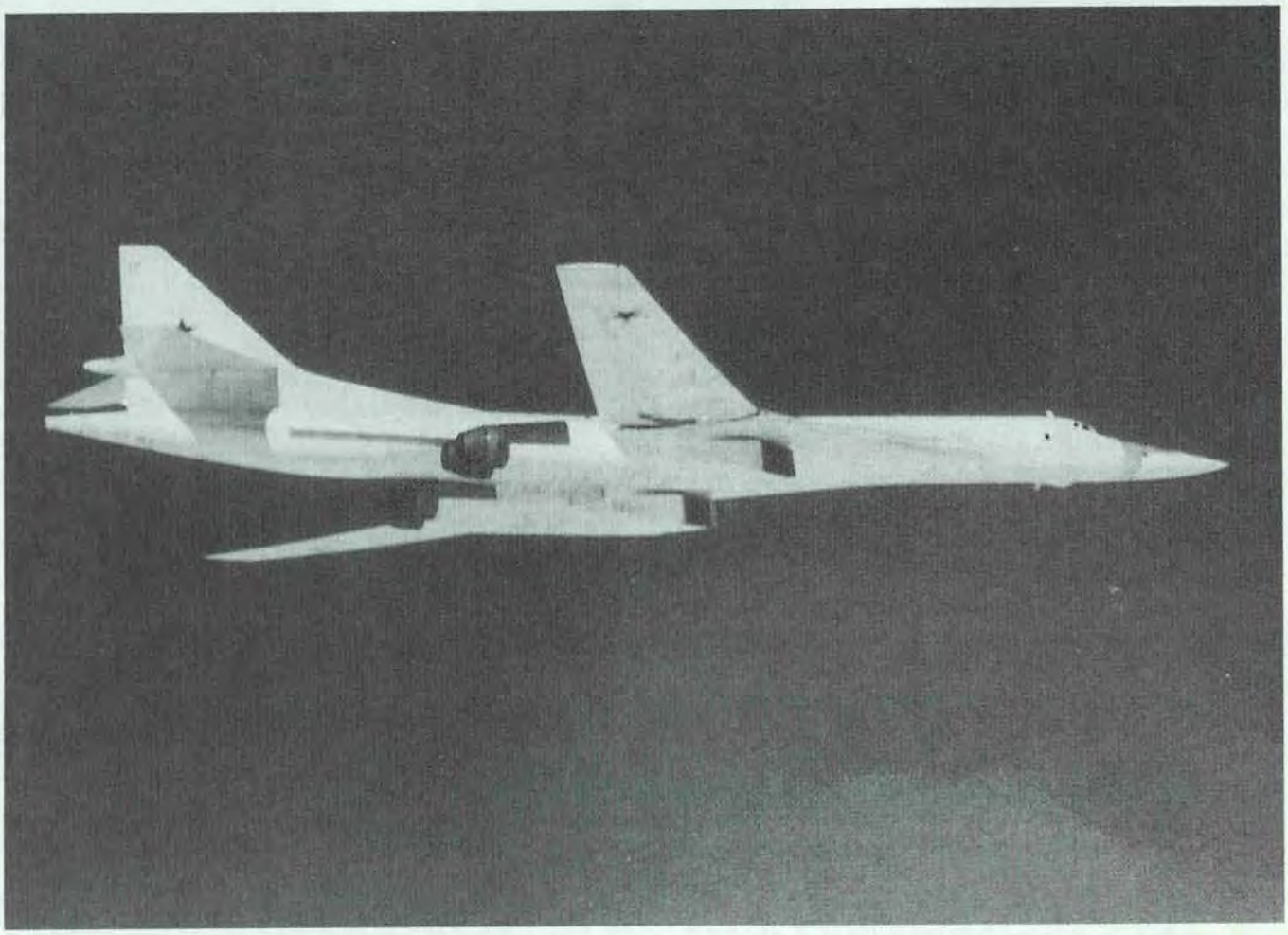
The extent to which genuine military reform is implemented will have a major impact on future military capability. The large projected force cuts and reorganization of services, branches, and military districts will serve to streamline the force.

As this report is published, the Soviet military continues in transition. The ultimate size, shape, and overall capability of the future force cannot at this time be predicted with any certainty due to the instability not only in the military but also in Soviet society. It appears that the force is headed toward a significant reduction in size. Its potential to project conventional power beyond its borders will be considerably less than in the past, although its general purpose force structure remains the largest in Europe. Its strategic nuclear capabilities will continue to pose a formidable threat. ■

CHAPTER

II

Economic Factors Affecting the Soviet Military



The modernization of Soviet strategic forces, including production of the Tu-160 Blackjack bomber, has shown only modest declines, despite the poor state of the Soviet economy.

INTRODUCTION

Where the hopes of Soviet economic reform and progress once rested in the unsupportive hands of Communist Party and military leaders, the post-coup leadership appears prepared to embrace market principles. It also appears that the once privileged and dominant position of the defense sector in the Soviet economy will be displaced by increasing republic influence over economic decisions. While the abandonment of half-measures that gestured toward reform but did little to alter the system is clearly an important sign, the implementation of market principles, while promising an eventual solution, will be difficult in the short term.

This chapter examines the state of the Soviet economy as it entered the period of political change marked

by the August coup. While little is known about how the plans and programs of the Soviet military will eventually be affected by new political and economic realities, this chapter provides a basis for assessing future changes.

THE SOVIET ECONOMIC CHALLENGE

The USSR entered a severe economic recession in 1990. Serious regional shortfalls in food and consumer goods are only one reflection of the economic downturn. According to former Prime Minister Valentin Pavlov, speaking in early 1991, industrial production is on the threshold of "such losses in half a year that we will attain the level of devastation as in the period of the Civil War." Pavlov went on to state that the railroads are "half ruined," the telephone system is on the "verge of breakdown," and the water and heating systems are "barely functioning."

Reasons for the economy's poor condition are multifaceted. Decades of investment priorities skewed to promoting the rapid build-up of military power stripped the economy of the resources necessary to ensure a broad, modernized economic infrastructure that could support both civilian and military requirements. Gorbachev's confusing and at times contradictory attempts at reform accelerated the economy's decline by relaxing central controls without decisively establishing market mechanisms. Delay and indecision over how fast to institute market reforms led by late 1990 to the widespread recognition, even by reformers, that the time had passed for a rapid shift to a market economy. In 1990, the economists Yavlinskiy and Shatalin drafted a radical plan to transition the Soviet economy from a centrally planned command model to one based on free markets in only 500 days. Concluding that the radical economic reform would precipitate economic collapse, render the central government largely irrelevant, and lead to the break up of the union, conservatives in the party and government retrenched, forced the defeat of the radical 500-Day economic reform program, and stymied many of the potentially beneficial market-oriented aspects of reform. In the aftermath of the failed August coup, the Soviet leadership has accepted the need to marketize the economy.

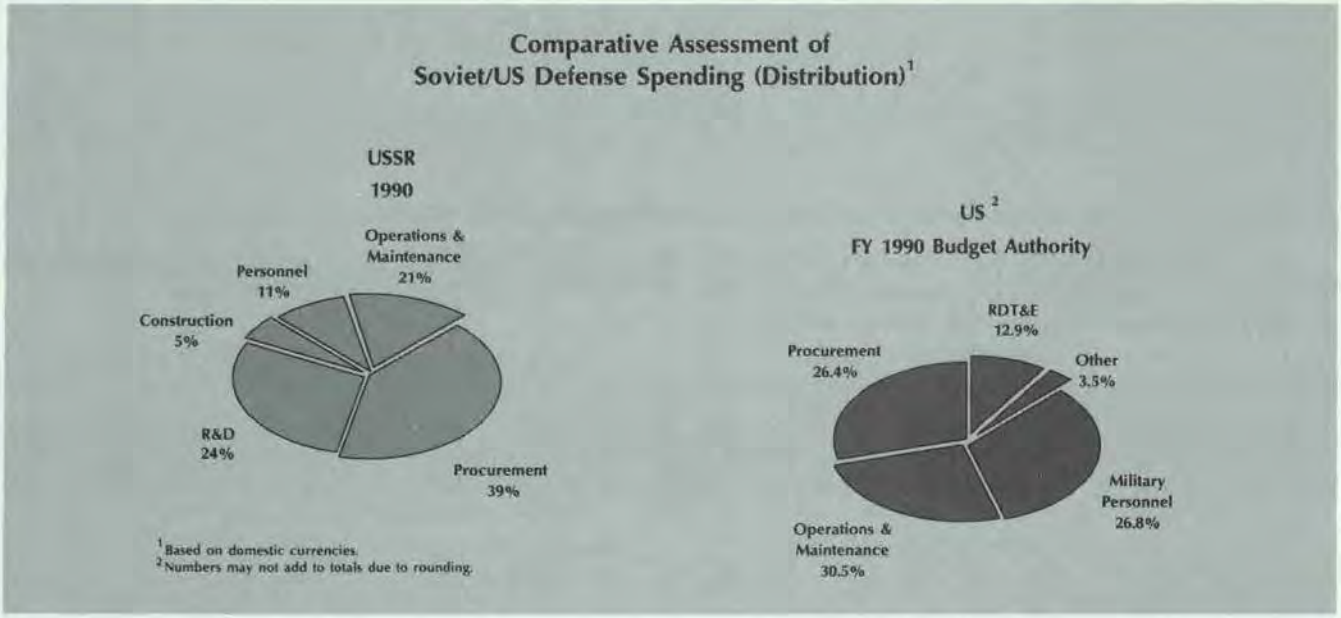
SOVIET MILITARY SPENDING

Soviet military expenditures fell about 6 percent in real terms in 1990, according to Western estimates. In comparison with 1988, military outlays were down about 12 percent. Weapon procurement expenditures, which account for about half of total Soviet military spending, bore the bulk of the reduction, falling about 10 percent in 1989 and a further 10 percent in 1990. The largest reductions over the two-year period were concentrated in general purpose forces, especially in ground force equipment. Spending on military research and development (R&D), the subject of considerable uncertainty, also apparently fell in 1990.

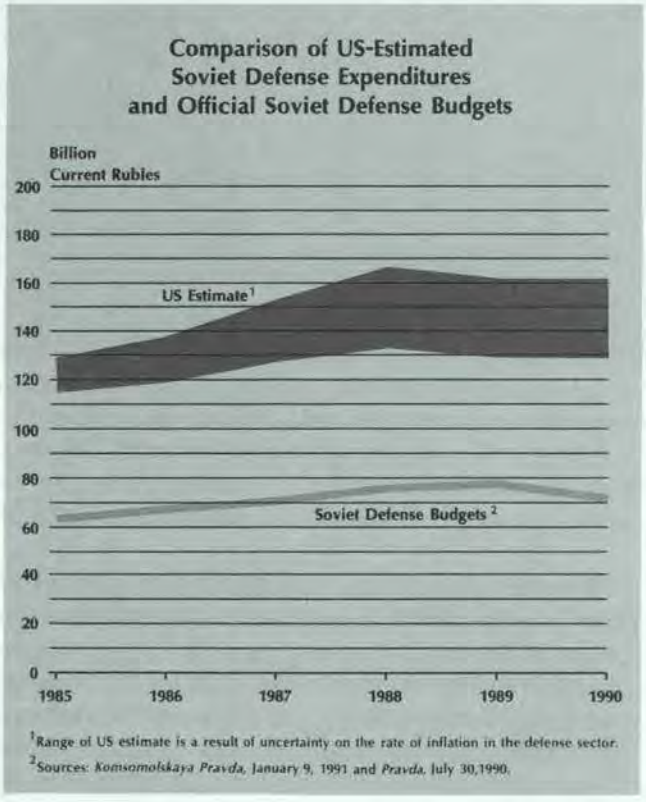
In 1989, the Soviets began publishing a new accounting of military expenditures that they claim fully accords with the United Nations standardized format used by some 35-40 reporting countries. While certainly a positive step forward in military openness, the new Soviet defense budget continued to understate the true level of defense spending. Discrepancies in the budget included failure to reflect subsidies to the prices paid by the Ministry of Defense for weapons, equipment, and research and development work and exclusion of military-related activities performed by civilian organizations. Western estimates, as well as some independent estimates by domestic Soviet critics, place 1989-90 Soviet defense spending at about twice the level of officially claimed defense budgets.

Continuing the policy of greater openness in military spending begun in 1989, the Soviet leadership released a defense budget for 1991 (96.6 billion rubles) that is considerably larger than the 1990 budget (71 billion rubles). Soviet officials claimed that while the large nominal increase reflects more realistic prices, in real terms spending will decrease by about 10 percent.

Despite reflecting more realistic prices, the 1991 defense budget failed to improve on the more complete, but still flawed accounting methodology employed since 1989. Wholesale price increases for raw materials and energy that were instituted in January 1991 affected the entire Soviet economy and raised prices in both defense and the rest of the economy. If the percentage



increase in prices for defense goods differs little from the percentage increase for the economy as a whole, then no change in the defense burden will result from the price adjustment. These price adjustments did not remove the preferential subsidies accorded to the military that result when plants shift some military production costs over to civilian products or when ministries reallocate profits among plants to cover loss-making activities. Additionally, some military-related spending continues to be paid for by civilian organizations. The Ministry of Defense (MOD) published in November 1990, draft five-year budget projections for the periods 1991-95 and 1996-2000 that called for increased defense spending over this period. However, the new reform-minded leadership is unlikely to respect these projections, and officials in the center and the republics are calling for significant reductions in military spending.

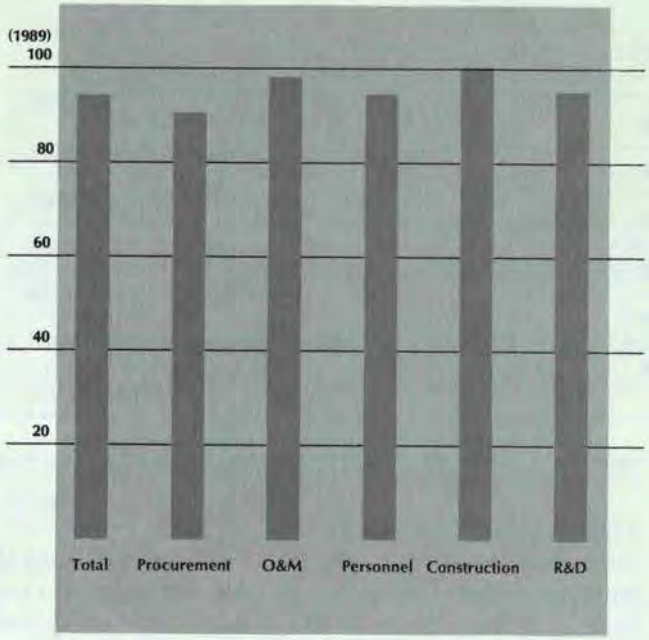


The Battle over the 1991 Defense Budget

In November 1990, the Ministry of Defense proposed a 1991 defense budget of 103.8 billion rubles. The Council of Ministers reduced the MOD submission to 98.6 billion rubles. In January 1991, the Supreme Soviet, over the objection of its Committee on Defense and State Security, shaved an additional 2 billion rubles from the defense budget and approved a budget of 96.6 billion rubles for 1991.

The approved defense budget for 1990 was 70.9 billion rubles. Soviet officials claim that the increased budget of 96.6 billion rubles for 1991 reflects increases in prices and that measured in real terms the 1991 budget represents a 10 percent decline from 1990. Soviet budget figures remain significantly below what the US government estimates Soviet military spending to be, and the Soviets have not made available information that would help in assessing their claim about the 1991 budget declining in real terms.

Estimated Soviet Defense Expenditures: 1990 as a Percentage of 1989



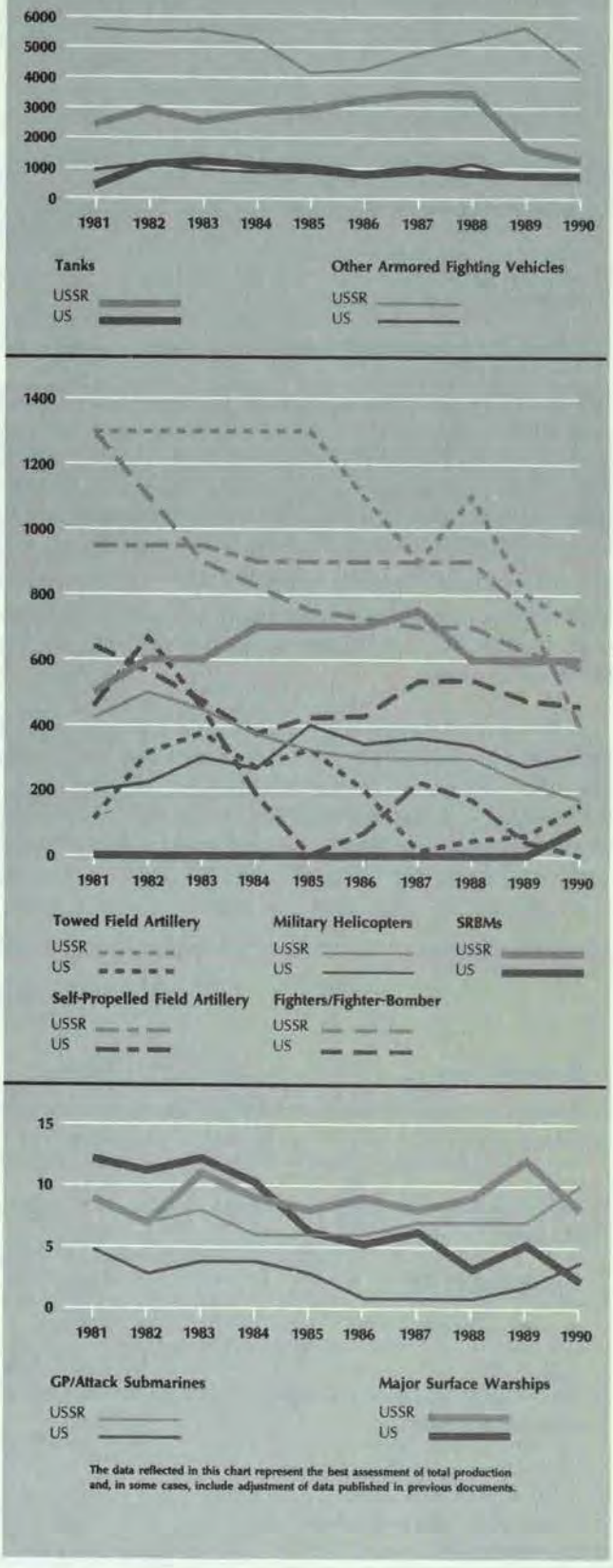
MILITARY PRODUCTION

Soviet military materiel output in 1990 continued the downward trend first evident in 1989 following Gorbachev's January announcement of plans to undertake significant cutbacks. Since then, overall production of materiel has, on average, declined 10-20 percent with few exceptions. During 1989 and 1990, changes in output have ranged from the complete cessation of the production of some types of materiel to, in very few cases, increases in output. The largest cuts continue to be in theater weaponry with reductions near 30 percent. Except for Intermediate-Range Nuclear Forces (INF) Treaty-limited items, the overall decline in missile systems has been not more than 10 percent.

At the same time, the number of new models of weapons and materiel reaching series production has dropped to the lowest level in decades, possibly reflecting a Soviet reluctance to expend the resources required to tool up for a new model if it is not sufficiently advanced over its predecessor. Even after these extensive cutbacks, Soviet military materiel production remains the world's largest. Soviet 1990 output continued to surpass US output in most categories of materiel.

The reduction in military materiel production in 1989-90 probably achieved the unilateral cutback in military production of 19.5 percent announced by President Gorbachev in January 1989. However, it is unclear whether the Soviets have attained their announced goal.

Military Production, 1981-1990: USSR/US



The data reflected in this chart represent the best assessment of total production and, in some cases, include adjustment of data published in previous documents.

Production of Ground Forces Materiel: USSR and US[1]

Equipment Type	USSR 1988	US 1988	USSR 1989	US 1989	USSR 1990	US 1990
Tanks	3,500	784	1,700	720	1,300	718
Other Armored Fighting Vehicles	5,250	1,109	5,700	659	4,400	627
Towed Field Artillery	1,100	47	800	62	700	155
Self-Propelled Field Artillery	900	170	750	41	400	0
Multiple Rocket Launchers	500	48	300	47	250	49
Self-Propelled Antiaircraft Artillery	100	0	100	0	100	0

[1] Total military production, including exports

As of September 1991

The Soviet plan appears to have been that the bulk of the military production cutbacks would be accomplished by the end of 1990. However, additional cuts in the procurement of theater weaponry could have been intended as part of the announced 19.5 percent reduction.

Ground Forces

The deepest cuts continue to be in the production of materiel for ground forces. Output in 1990 was down from the previous year in every category except antiaircraft artillery, which has remained constant. The overall number of ground force weapons made annually since 1988 has declined by nearly 40 percent, with tank output dropping by more than 60 percent and self-propelled artillery and multiple-round rocket launcher output being cut in half. Substantial cuts have also been made in the manufacture of towed artillery and military helicopters. The overall decline reflects, in part, actual reductions in the production of modern systems, not merely the decline or elimination of older programs. Much of the downturn has been achieved by paring down the numbers of individual models made each year, although some cuts have been accomplished in part by stopping the production of older systems. In some of these cases, new models have entered production as replacements for older weapons. While Soviet production of ground forces equipment has declined, the production levels

Missile Production: USSR and US[1]

Equipment Type	USSR 1988	US 1988	USSR 1989	US 1989	USSR 1990	US 1990
ICBMs	150	12	140	9	125	14
SLBMs	75	0	75	16	65	82
SRBMs	600	0	600	0	600	86
Long-Range SLCMs[2]	175	199[3]	175	394[3]	175	391[3]
Short-Range SLCMs[2]	1,100	497[3]	1,100	228[3]	1,000	311[3]
ABMs	15	—	35	—	20	—
SAMs (Nonportable)	15,000	2,986	14,200	3,581	13,000	2,840

[1] Total military production, including exports

[2] SLCMs divided at 600 kilometers

[3] Data adjusted to reflect new information

As of September 1991

Production of Aircraft: USSR and US[1]

Equipment Type	USSR 1988	US 1988	USSR 1989	US 1989	USSR 1990	US 1990
Bombers	45	22	40	0	40	0
Fighters/Fighter-Bombers	700	534	625	473	575	456
Antisubmarine Warfare (ASW) Fixed-Wing	5	6	3	9	1	5
AWACS	5	8	5	7	2	11
Military Helicopters	300	337	225[2]	273	175	307

[1] Total military production, including exports
[2] Data adjusted to reflect new information
As of September 1991

still exceed those of the United States in almost all categories.

Missile Forces

The number of missiles produced annually has declined only a third as much — not more than 10 percent — as ground force materiel, except for those systems covered by the INF Treaty. The rate of production for most missile systems, including air- and sea-launched long-range cruise missiles, short-range ballistic missiles (SRBMs), and tactical surface-to-air missiles (SAMs), has been fairly stable over the last two to three years. Output of strategic offensive systems has been reasonably stable since 1988. The SS-18, SS-24, and SS-25 intercontinental ballistic missiles (ICBMs) and the SS-N-20 and SS-N-23 submarine-launched ballistic missiles (SLBMs) remain in production (although the Soviets have stated that SS-24 production will end shortly), with improved versions of some ICBM and SLBM systems in development. While output of strategic SAMs declined with the phaseout of older models, newer model output remains steady. Antiballistic missile output has increased since 1988. Output of short-range sea-launched cruise missiles decreased slightly as several older systems approached the end of their production runs.

Air Forces

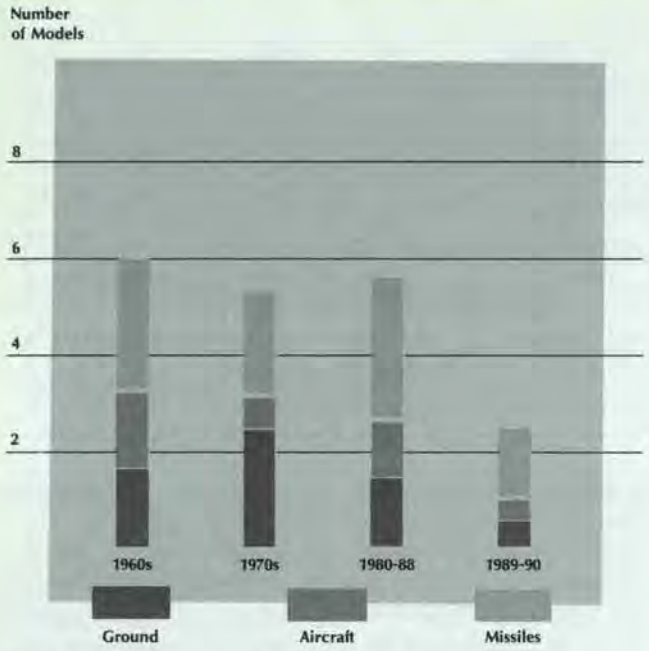
Soviet production of almost every category of military aircraft has been cut by about 25 percent since 1988. Bomber output has declined only slightly, corresponding to a decline in production of the Bear H.

Production of Naval Ships: USSR and US[1]

Equipment Type	USSR 1988	US 1988	USSR 1989	US 1989	USSR 1990	US 1990
Ballistic Missile Submarines	1	1	2	1	1	1
General Purpose/Attack Submarines	7	2[2]	7	3[2]	10	5
Other Submarines	1	0	0	0	1	0
Aircraft Carriers	0	0	1	0	0	1
Cruisers	1	3	1	4[2]	0	1
Destroyers	3	0	3	0	1	0
Frigates and Corvettes[3]	5	0	7	1	7	1

[1] Total military production, including exports
[2] Data adjusted to reflect new information
[3] Includes paramilitary ships
As of September 1991

Soviet Military Production Trends



The bars show the annual average number of new start-ups of serial production for major models of ground force materiel, aircraft, and missiles. The post-1985 decline became even more pronounced in 1990 than in 1989.

Output of the Backfire and the long-range Blackjack has remained essentially constant. Fighter and fighter-bomber production again declined in 1990, down about 10 percent from 1989, nearly 20 percent from 1988, and 55 percent from the 1981 decade high of 1,300 aircraft. The Fitter fighter program probably was canceled, and Fencer production was cut back in 1990. Output of the Frogfoot close-air-support aircraft was also reduced in 1990 as Soviet requirements were met and an export market failed to materialize. Force capabilities will not be adversely affected by these reductions due to the large number of fighters in service and the improved capabilities of these new models. Moreover, production of support aircraft such as the Mainstay airborne warning and control system (AWACS) fell. Helicopter output has declined by over 20 percent from 1989 and 40 percent since 1988. Output of almost every model was reduced in 1990. However, output of the most current attack, transport, and specialized helicopters is adequate to maintain the size and mix of army aviation. Older model Hind, Hip, and Hook are being replaced with more recent variants or by the Mi-26 Halo transport helicopter.

Naval Forces

Naval ship production has also been affected by changes within the USSR. According to the Soviets, cuts are being made in naval procurement which to date impact primarily on cruiser programs. Additional decreases are expected, however, in submarine production and other categories of naval production. In 1990, 20 major surface warships and combat submarines were produced, which compares with an average of 18 units in the past 10 years. However, with the launch of the fourth Slava-class cruiser, there are no cruisers on any Soviet building ways for the first time in over 30 years. The largest of 8 surface warships completed in 1990 was the 13th Sovremennyy-class guided missile destroyer. The other seven included the first new frigate, the Neustrashimyy, as well as a Krivak III-class frigate and Grisha V-class corvettes. Production of a Delta IV-class nuclear-powered ballistic missile submarine (SSBN) continued strategic submarine modernization. Antiship and antisubmarine warfare capabilities were strengthened by production of additional Victor III-, Sierra-, Kilo-, and Akula-class attack boats and Oscar II-class cruise missile submarines.

THE INDUSTRIAL BASE

The heart of any developed economy, in particular the Soviet Union's, which has always emphasized heavy industry, is its industrial base. The Soviets have traditionally relied on the strength of their industrial sector to provide the necessary resources for their armed forces and sufficient production for exports. The present condition of the Soviet economy can be directly attributed to the continued deterioration of basic industries, such as metallurgy and energy, and the transportation and distribution network. In these sectors, longstanding priority given to developing production and technology has enabled the Soviets to become the world's largest ferrous and nonferrous metals producer and a significant exporter of oil and natural gas. However, much of the Soviet's industrial infrastructure is obsolete and inefficient, and causes significant environmental damage. The drying up of the Aral Sea due to misguided economic policies that were grossly negligent of the environment is one of the more extreme examples of this problem. The relative downturn of these sectors against other nations' industries is due in large part to the structural weaknesses of the Soviet economy.

Reductions in Soviet metals production for the military have left the Soviets with a significant excess in several key metallurgical plants, such as those that produce aluminum. By bartering and selling this excess production, the Soviets have been able to acquire much needed Western technology and equipment to greatly enhance the performance of important sectors of the aluminum industry. If this trend continues, it is

The reverberations of the explosion of unit No. 4 at the Chernobyl nuclear power plant on April 26, 1986, continue to be felt in Soviet energy, economic, and military planning. Soviet realization of the inherent danger of the Chernobyl-type reactor led to the shutdown and cancellation of similar reactors. In addition, the Chernobyl accident gave rise to a strong antinuclear movement which has caused a near moratorium on new nuclear plant construction. The disruption in the nuclear power industry also has disrupted the electric system, particularly in the western USSR. Probably the most profound psychological effect of the Chernobyl accident has been on political and military leaders. Moscow's initial reluctance to acknowledge the severity of the accident and the potential for radiation to reach neighboring countries also contrasted with President Gorbachev's promise of greater cooperation and openness.

possible the Soviets eventually will be able to upgrade a significant portion of their obsolete production equipment to compete in global markets.

In another important basic industry, the Soviet Union remains the world's largest producer of oil and natural gas. It ranks first among the major industrial nations in both oil and gas reserves. Increased extraction costs have led to increases in overall energy costs, although domestic production is still more economical for the Soviets than importation. Efforts at energy substitution have been generally successful as the use of natural gas has supplanted oil as the main energy source, which has improved efficiency and reduced pollution.

The limits of the Soviet oil industry were effectively demonstrated in late 1990 and early 1991 as oil production from the Persian Gulf was reduced and world oil prices rose from $25 a barrel to over $40. Although the Soviets reaped some benefit from these increased prices, they were unable to substantially increase exports due to unanticipated increases in domestic demand, system problems, and seasonal stock building. The Soviets also face serious problems with their nuclear power industry. The strength of the antinuclear movement, fostered by the Chernobyl accident, has resulted in a moratorium on nuclear power plant construction and the stagnation of the once powerful nuclear power industry. Soviet planners will be forced to make compromises among competing claimants for diminishing investment resources, including the energy industries and other critical investment areas, such as agriculture, housing, medicine, transportation, and defense.

Conversion

Throughout 1989 and much of 1990, the government debated two approaches to conversion. Advocated largely by reformers, one approach targeted large cuts in military production and the conversion and removal of a majority of defense plants from the defense industry ministries. Incorporated in the 500-Day economic reform program, this approach was defeated with Gorbachev's rejection of the program in the fall of 1990.

Gorbachev chose instead a plan devised by the military-industrial complex: the Ministry of Defense, the Military-Industrial Commission of the Council of Ministers, and the defense sections of the former State Planning Committee (Gosplan). This effectively put those organizations with the least interest in conversion in charge of developing and implementing the program. The result has been that, while cuts in military production have occurred, the defense sector management has tried to maintain as much military production capacity as possible. In large part, the military-industrial complex has acted to preserve weapon production capabilities by simply slowing, idling, or mothballing

Selected Economic Indicators, 1989[1]

	% of USSR Territory	% of USSR Population	% of USSR National Output	% of USSR Industrial Output	% of USSR Agricultural Output	% of USSR Meat Output	% of USSR Consumer Output	% of USSR Oil Production	% of USSR Electricity Production[2]
Russia	76	51	61.1	61.9	47.0	50.1	52.7	90.9	62.5
Ukraine	3	18	16.2	16.7	22.6	21.3	18.0	0.9	17.2
Byelorussia	1	4	4.2	4.0	5.8	6.8	5.0	0.3	2.2
Moldova	<1	2	1.2	1.0	2.3	3.3	1.9	—	1.0
Kazakhstan	12	6	4.3	2.5	6.5	7.3	3.2	4.2	5.2
Uzbekistan	2	7	3.3	2.3	4.7	2.7	2.9	0.4	3.3
Kirghizia	1	2	0.8	0.6	1.3	3.1	0.9	0.03	0.9
Tajikistan	1	2	0.8	0.5	1.0	—	0.7	0.04	0.9
Turkmenistan	2	1	0.7	0.4	1.2	—	0.4	1.0	0.8
Georgia	<1	2	1.6	1.4	1.2	0.2	1.7	0.03	0.9
Azerbaijan	<1	2	1.7	1.7	1.6	—	1.5	2.2	1.4
Armenia	<1	0.9	1.2	0.5	—	1.3	—	—	0.7
Latvia[3]	<1	1	1.1	1.1	1.4	1.9	1.9	—	0.3
Lithuania[3]	<1	1	1.4	1.1	2.2	1.8	2.1	—	1.7
Estonia[3]	<1	1	0.6	0.6	0.8	—	1.0	—	1.0

[1] Percentages may not add to 100 due to rounding.
[2] 1988
[3] The Baltic countries, now independent, are shown for comparison purposes only.
Sources: *Narodnoye khozyaystvo* SSSR v 1989
PlanEcon Report, Volume VII

military production lines, while boosting production of new and established civilian goods using excess floor space and released resources.

According to Soviet statements over the past year, conversion was to affect over 400 defense industry plants and some 100 civilian plants that produce military products. At least 200 military R&D organizations were said to be designing equipment and products needed in the civilian economy. Officials from many organizations have been actively pursuing Western management expertise and joint venture arrangements to assist civil production and gain hard currency. However, this represents a small fraction of the thousands of plants and research organizations in the Soviet Union engaged in military production and military R&D.

Soviet statements in the first half of the year have indicated that only six defense plants are to be completely converted; all others are to shift some proportion of their output away from military goods. Three of the six enterprises slated for full conversion, a shipyard and two ground force equipment facilities, are only minor military producers that already have higher civilian than military output. Two shipyards that have long built both naval and merchant ships also are to stop producing for the Navy, according to the Soviets. Numerous other facilities (shipyards, aviation plants, electronics factories, and a tank repair plant) have announced plans to convert to civilian production while continuing some military production.

Republic officials now openly advocate large defense spending reductions, particularly in weapons procurement, while acknowledging the need to direct more funds toward improved living conditions in the military. In 1990, reform economists Yavlinskiy and Shatalin drafted the radical 500-Day economic reform program, calling for the 50-70 percent cuts in weapon production in 1991. They are now drafting economic plans that most likely will drive defense spending policy over the next five years.

THE TECHNOLOGICAL BALANCE

While the Soviets lag the United States in overall technology, they have been investing heavily in research of air-breathing propulsion, biotechnology materials and processes, composite materials, data fusion, passive sensors, photonics, and signal processing. Furthermore, they match the United States in high-energy density materials and hypervelocity projectiles. Soviet work on the use of tungsten alloys for kinetic energy penetrators is well advanced, and they could have

certain advantages over US technology in terms of armor penetration. The Soviets have a strong technological position in the development of high-power sources for electromagnetic or electrothermal guns and in some theoretical aspects of penetration mechanics.

Although the Soviet computer science community can produce software for advanced computers, the application of software technology continues to be an area of serious deficiency. Computer-to-computer networking is rare except in high-priority applications. The situation is exacerbated by the poor quality of public telecommunications and by poor communication among science and technology professionals. The Soviets have historically followed the United States by 10 or more years in computer systems, and there is no indication this will change.

Soviet researchers have mastered numerous theoretical techniques for the automated production of software. Institutes and plants supporting military R&D and production are likely to be the first to assimilate these new techniques. The Soviets are severely hampered by lack of capability for quantity production of high-speed digital components and assemblies. Thus, their strengths are largely in theory, research, and prototyping.

The Soviet Union significantly trails the United States in machine intelligence and robotics. Soviet scientists do have a good theoretical understanding of the area and show creativity in applying the technology to selected space and military efforts. Soviet R&D on artificial intelligence, under the auspices of the Academy of Sciences of the USSR, includes work on machine vision and machine learning. The value of machine intelligence to battlefield operations as well as to the domestic economy has been recognized by the Soviet government.

The Soviet Union has maintained an active laser remote sensing program for a number of years. The Soviet approach to laser radar technology has been advanced and innovative. Presentations by Soviet researchers have even suggested the use of nonlinear photorefractive materials for high-resolution remote imaging. Even though Soviet thinking on laser radar technology appears advanced, their relevant technology base is well behind current US capabilities.

The Soviet Union has developed high-average-power, repetitive-pulsed-power technology far more extensively than has the United States. The Soviets are

Relative Technology Level in Deployed Military Systems[1]: USSR/US

DEPLOYED SYSTEMS	US SUPERIOR	US/USSR EQUAL	USSR SUPERIOR
STRATEGIC			
ICBMs		■	
SSBNs	■		
SLBMs	■		
Bombers	■		
SAMs			■
Ballistic Missile Defense			■
Antisatellite			■
Cruise Missiles	■		
TACTICAL			
Land Forces			
SAMs (Including naval)		■	
Tanks		■	
Artillery		■	
Infantry Combat Vehicles		■	
Antitank Guided Missiles		■	
Attack Helicopters	■		
Chemical Warfare			■
Biological Warfare [2]			■
Air Forces			
Fighter/Attack and Interceptor Aircraft	■		
Air-to-Air Missiles	■		

DEPLOYED SYSTEMS	US SUPERIOR	US/USSR EQUAL	USSR SUPERIOR
Air-to-Surface Munitions	■		
Airlift Aircraft	■		
Naval Forces			
SSNs	■		
Torpedoes		■	
Sea-Based Aircraft	■		
Surface Combatants	■		
Naval Cruise Missiles		■	
Mines		■	
C^3I			
Communications	■		
ECM/ECCM	■		
Early Warning	■		
Surveillance and Reconnaissance	■		
Training Simulators	■		

Relative comparisons of deployed technology levels shown depict overall average standing; countries may be superior, equal, or inferior in subsystems of a specific technology in a deployed military system.

[1] These are comparisons of system technology levels only, and are not necessarily a measure of effectiveness. The comparisons are not dependent on scenario, tactics, quantity, training, or other operational factors. Systems farther than one year from IOC are not considered.

[2] The United States has no deployed biological warfare systems.

As of September 1991

the current leaders in this field and may be in other key technology areas, particularly gaseous switching and inductive energy storage.

The Soviet Union has an extensive program in biotechnology research concentrated in a relatively small number of R&D centers located primarily in Moscow, Pushkino, Novosibirsk, and St. Petersburg. Although only a few Soviet researchers are believed to be performing research at the level of their counterparts in the West and Japan, others are not far behind. Moreover, in at least one important area, biotechnological research in space, the Soviets hold an advantage based on their long-term space station activity.

The United States and its Coordinating Committee for Multilateral Export Controls (COCOM) allies agreed in May 1991 to implement a new core list of dual-use goods and technologies with significant military applications. This reflected a consensus on the part of COCOM members that export control regimes needed to be adapted to the rapidly changing political and military environment brought about by the collapse of communist governments in Eastern Europe and changes in the nature of the threat posed by the Soviet Union.

CONCLUSION

As the role of the republics, particularly Russia, in political and economic decisionmaking evolves and the command economy is replaced by market mechanisms, the resources available to the military will be significantly reduced. Since the coup, new pressures on the military-industrial establishment may reduce both development and production further and faster. Little detailed information is yet available, but it appears that several key establishments may be closed or greatly reduced in activity. ■

CHAPTER

III

Soviet Strategic Forces

TASS/SOVFOTO

These Soviet road-mobile SS-25 ICBMs were displayed in the November 1990 parade commemorating the 1917 Bolshevik revolution. The Soviets are moving to a more mobile and survivable ICBM force. Defense Minister Shaposhnikov has announced the cancellation of the November 1991 parade.

INTRODUCTION

Soviet strategic forces remain the backbone of Soviet military might and, by their very existence, will continue to pose an immediate threat to the United States and its allies, even as the Soviet Union goes through a period of transition. Soviet defensive and space forces similarly contribute to the effectiveness of their strategic capabilities. This chapter focuses on those forces.

VIEW OF STRATEGIC NUCLEAR WAR

The Soviets traditionally viewed nuclear war as arising from a conventional conflict in Europe between NATO and the Warsaw Pact. As such a war was considered the decisive conflict between two opposing sociopolitical systems, with the future of the world hanging in the balance, the Soviets assumed that the losing side in such a war would escalate to the use of nuclear weapons when faced with the imminent

prospect of strategic defeat. Soviet doctrine assumed that any use of nuclear weapons, even the small-scale use of tactical weapons, would rapidly lead to strategic intercontinental nuclear strikes on a massive scale against Eurasia and North America. While clearly viewing such an exchange as catastrophic, particularly in the wake of the Chernobyl tragedy, Soviet doctrine accepted the potential for a protracted nuclear conflict. Soviet strategic nuclear arsenals as well as strategic defenses were postured to implement this doctrine.

The Soviets recognize that, with the dissolution of the Warsaw Pact, the revolutions in Eastern Europe, and the demise of communist ideology in the Soviet Union, the likelihood of war with the West is now remote. As a result, the ideological foundation and rationale for the traditional doctrinal view of strategic nuclear war are no longer valid. In the wake of the failed coup, and with significant political change under way in the USSR, the evolving views of Soviet leaders on the military utility of strategic arsenals, or the scenarios under which they might be employed, are not yet apparent.

NUCLEAR FORCES

Traditional Soviet thinking on nuclear war placed priority on seizing and maintaining the initiative in conflict, particularly in a global nuclear exchange. The tasks of strategic offensive and defensive forces were to limit damage to the Soviet Union by destroying missiles and bombers before they could destroy Soviet territory. This approach defined the Soviets' thinking on strategic doctrine and force structure. An important aspect of this approach included a significant commitment to developing and fielding modernized systems; five new ballistic missiles are currently under development. While it is too early to determine how the structure and organization of the Soviet nuclear arsenal will be affected by recent political developments, future incremental changes are possible particularly as the republics exert greater influence.

Soviet political authorities and the General Staff have placed a high premium on ensuring tight central control over nuclear forces as well as a comprehensive system of safeguards to ensure their physical security. They have both stated and demonstrated their intent to ensure the security of those systems. The future control and disposition of nuclear forces are key issues in ongoing negotiations between center and republic authorities.

Strategic Nuclear Missions and Operations

Soviet strategic capabilities are optimized to attack a broad spectrum of global nuclear, conventional military, political, administrative, industrial, and economic targets according to an integrated strike plan. Soviet strategic nuclear forces are postured to respond to the most stressful contingencies and to operate under a variety of circumstances. Traditional Soviet employment strategy showed a preference for preempting an enemy nuclear strike and emphasized strategic intelligence collection and processing to gain warning of enemy intentions to conduct a nuclear attack. Enormous sums were spent on the deployment of heavy intercontinental ballistic missiles (ICBMs) for this purpose. The Soviets also foresaw having to launch their strategic missiles while under attack, when they would execute their strike in response to warning from their missile attack warning system of launch detection satellites, over-the-horizon radars, and large phased-array radars (LPARs). This system can provide up to 30 minutes warning of an enemy ballistic missile attack.

The Soviets structured their strategic forces and operational plans to continue operations in the protracted phase of a nuclear conflict. The longheld belief that a nuclear war might be protracted spurred Soviet emphasis on nuclear weapon system survivability and sustainability. Some silo launchers could be reloaded, and provisions have been made for the decontamination of those launchers. Plans for the survival of necessary equipment and personnel have been developed. Resupply systems are available to reload ballistic missile submarines in protected waters. Survivability and sustainability also appear to have been key reasons for the development of the mobile ICBM force.

Strategic Rocket Forces (SRF)

The mobile and silo-based ICBMs of the Strategic Rocket Forces (SRF) constitute the main strike force of

Soviet strategic nuclear forces. Despite the increasing number of warheads currently planned to be carried by bombers in the next decade, nearly half of Soviet strategic weapons will be carried on ICBMs through the 1990s. About a third of Soviet missile warheads allowed under the Strategic Arms Reduction Talks (START) Treaty could be deployed on heavy ICBMs. With their large number of warheads, quick reaction time, and high accuracy, they will fulfill the most important targeting requirements in any strategic nuclear strike.

Location of Strategic Forces[1]

Republic	ICBMs	Strategic Bombers	Ballistic Missile Submarines
Armenia	0	0	0
Azerbaijan	0	0	0
Byelorussia	72	0	0
Georgia	0	0	0
Kazakhstan	104	0	0
Kirghizia	0	0	0
Moldova	0	0	0
Russia	1,035	70	59
Tajikistan	0	0	0
Turkmenistan	0	0	0
Ukraine	176	30	0
Uzbekistan	0	0	0

[1] There are no strategic forces located in the newly independent Baltic states.

The Soviet ICBM modernization program has four elements: modernization of the SS-18 heavy ICBM, deployment of the road-mobile SS-25, the corresponding removal of older missile systems, and the development of follow-on mobile ICBM systems. In addition, the Soviets have completed deployment of the rail-mobile SS-24 and the silo-based SS-24 Mod 2. A central feature of the modernization program is the emphasis on survivability through the infusion of mobility into the force structure. However, silo-based ICBMs will account for approximately two-thirds of ICBM warheads according to existing plans. The removal of older missiles will create a more consolidated force by reducing the number of ICBM missile types from the seven currently deployed to just four or five by the late 1990s. Soviet anticipation of the START Treaty apparently influenced the scope and pace of their SRF modernization program. Recent changes in political and military leadership may lead to a reevaluation of the modernization effort. In any case, the Soviets are permitted to maintain adequate weapons under START constraints to cover current and future anticipated target sets.

Silo conversion is under way to replace older variants of the SS-18, the bulwark of the SRF hard-target-kill capability, with the substantially more capable versions (the SS-18 Mod 5, equipped with 10 multiple independently-targetable reentry vehicles (MIRVs), and the single warhead Mod 6). The improved lethality of the SS-18 Mod 5 offsets the START requirement to reduce heavy ICBMs by 50 percent. Assessed improvements in the Mod 5's accuracy and warhead yield give each reentry vehicle almost double the capability of those of the Mod 4 against US ICBM silos, which the United

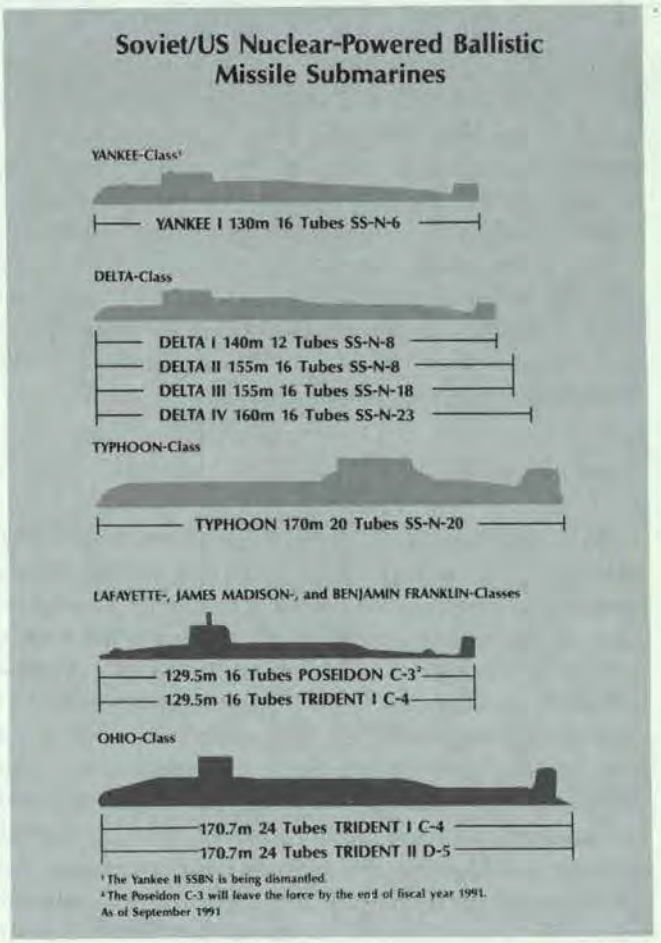
States will substantially reduce under START.

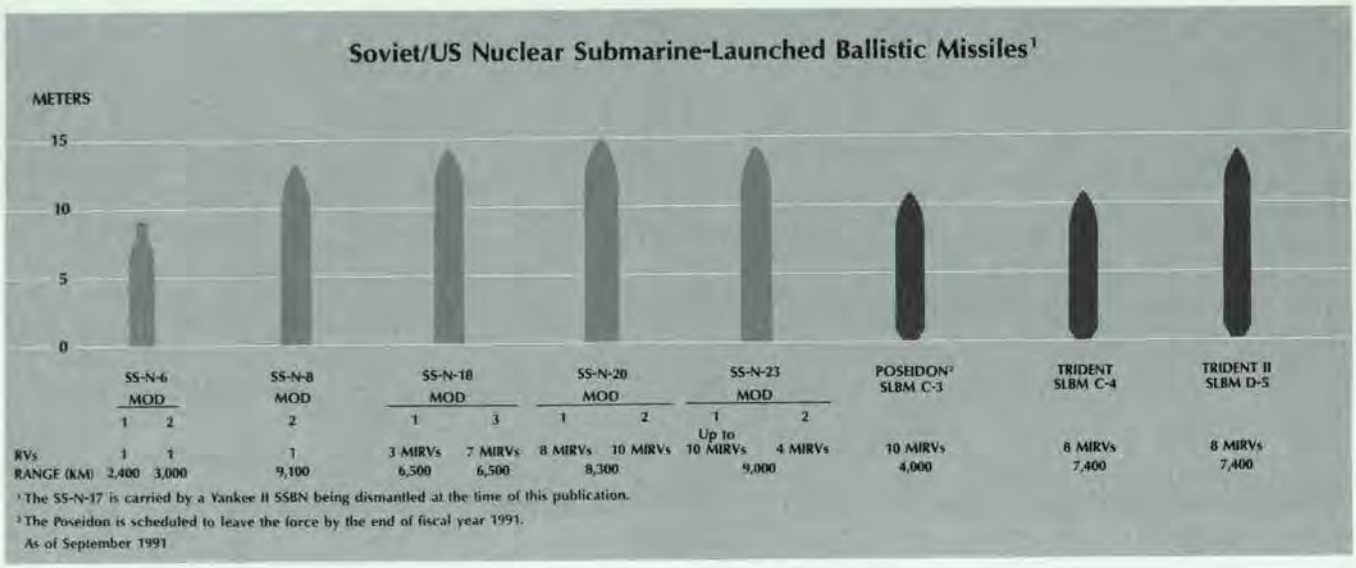
The Soviets have completed conversion of some SS-19 silos for the new SS-24 Mod 2 system. The SS-24 is a solid-propellant system intended for use against soft or semihardened targets. Deployment of the rail-mobile SS-24 Mod 1 is complete. The Soviets currently have three garrisons for this system that has the capability to roam over 145,000 kilometers of track in the Soviet rail network. Most remaining SS-19 silos are likely to be destroyed as part of the START Treaty.

The Soviets have converted many bases for the road-mobile SS-20 intermediate-range ballistic missile (IRBM), eliminated under terms of the Intermediate-Range Nuclear Forces (INF) Treaty, to bases for the road-mobile SS-25 ICBM. Since 1985, the Soviets have deployed nearly 350 mobile ICBMs. The Soviets continue to drawdown older silo-based systems as part of their program of strategic force modernization and in preparation for meeting the limits imposed by the START Treaty. SS-11, SS-13, and SS-17 silos are being eliminated from the force as they deploy the road-mobile SS-25 and rail and silo-based SS-24s. Thus, the Soviets have streamlined their ICBM force and increased the share of mobile systems. With the new ICBM systems currently being deployed and in development, the Soviets have the flexibility to adjust their force composition over the next few years. However, in the wake of the failed August coup, Soviet strategic force structure and modernization programs may be affected.

Strategic Aviation Forces

Although comprising the smallest component of the Soviet strategic nuclear forces, the bombers of long-range aviation (LRA) will carry a large percentage of Soviet weapons under START, and will perform a significant role in Soviet nuclear force planning. Launched simultaneously with the main strike by the ICBM and submarine-launched ballistic missile (SLBM) force, the bombers of LRA would reach their missile release points many hours after





the first ICBMs and SLBMs have impacted.

Modern air-launched cruise missiles (ALCMs) have been emphasized as obsolete bombers such as the Bear A and Bear B have been removed from the operational inventory. New construction of Tu-95 Bear Hs has brought the total operational inventory to over 80 at three main operating bases. Construction of the Tu-160 Blackjack, a high-altitude supersonic bomber, also continued in 1990, with a total operational fleet of about 16 based at the sole operating base at Priluki, Ukraine. Production and deployment of this aircraft, however, have proceeded at a slower pace than had been anticipated. Finally, the ongoing addition of Il-78 Midas tankers to the bomber force reflects the role of air-to-air refueling in Soviet LRA bomber operations. The tankers are also required to support forward air defense operations because there are not sufficient tankers to fulfill forward defense mission requirements.

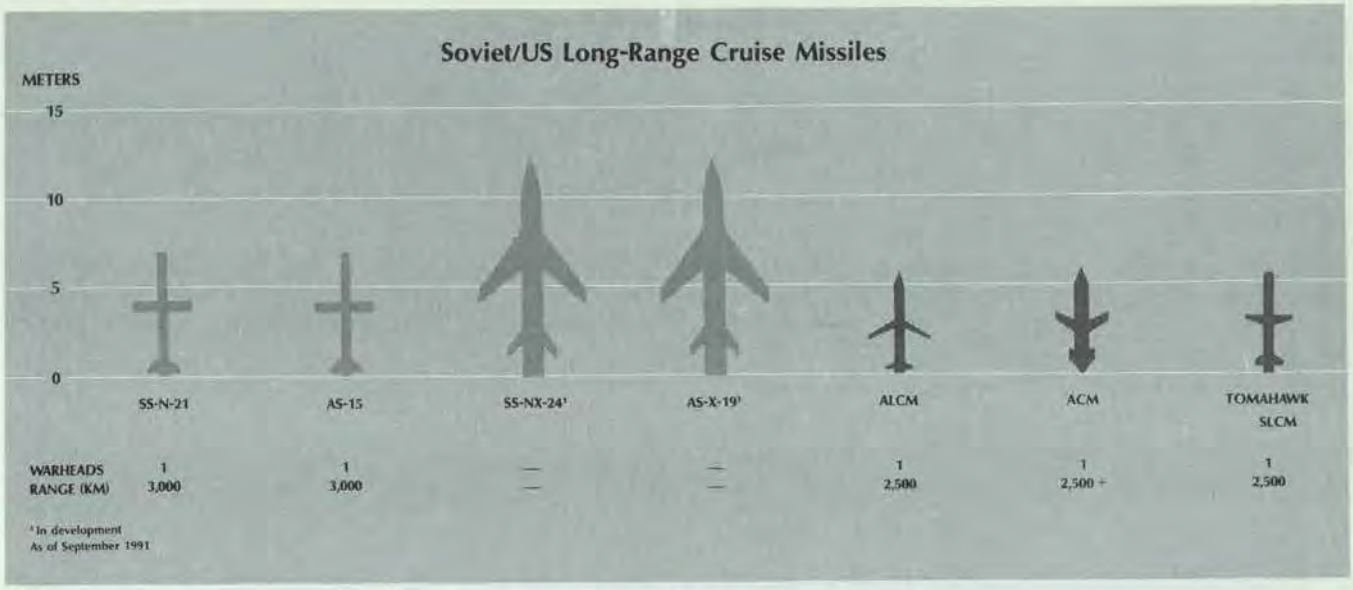
Strategic Sea Based Forces

Ballistic missile submarines have been fully integrated into overall Soviet strategic nuclear force operations since the mid-1970s. Their long-range missiles, mobility, and stealth provide the Soviets with a survivable force able to launch their missiles from protected waters near the USSR. Based in the Soviet Northern and Pacific Ocean Fleets, it currently consists of 59 total nuclear-powered ballistic missile submarines (SSBNs) with 912 SLBM launchers. Improved and redundant communications, coupled with increased acoustic quieting of more modern submarines, and the development of an SSBN "bastion defense" concept (combined arms defense covering SSBN patrol areas in Soviet coastal waters), have increased Soviet confidence in the survivability of the SSBN force and its ability to respond quickly and effectively to launch commands. From their bastion areas, Delta- and Typhoon-class SSBNs can strike a wide range of intercontinental and theater targets. Improvements in overall capabilities have enhanced the effectiveness of the SLBM force against hardened targets. However, as with ICBM modernization programs, SSBN and SLBM modernization may also be affected as the reform-minded leadership seeks to reduce military spending.

In 1990, the seventh unit of the Delta IV-class became operational. A new liquid-fueled SLBM is believed to be under development. The first unit of the 25,000-ton Typhoon-class is undergoing overhaul and modernization. The Soviets continue to dismantle the older Yankee I-class SSBNs, only 10 out of an original 34 remain in the active inventory. The single Yankee II-class SSBN armed with the SS-N-17 SLBM is being dismantled.

Land-Attack Cruise Missiles

The Soviet Union currently has two long-range land-attack cruise missiles in its operational inventory: the air-launched AS-15 Kent and the submarine-launched SS-N-21 Sampson. These systems add important new capabilities to Soviet strike options. The AS-15 has developed into the primary weapon system for Soviet LRA. Its stand-off attack capability (maximum range 3,500 kilometers) and accuracy make it the logical weapon of choice for a modernized post-START Soviet intercontinental bomber force. Although the SS-N-21 probably could be launched from a variety of platforms,



to include the Yankee Notch-, Akula-, Victor III-, and Sierra-class nuclear powered attack submarines (SSNs), the first two classes are assessed to be the primary weapon carriers.

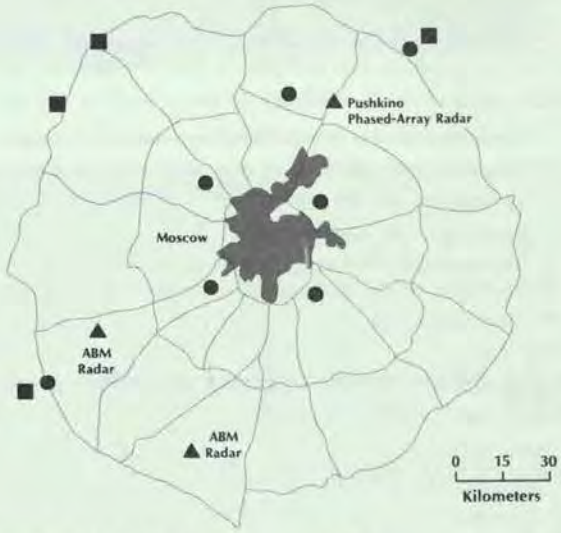
The AS-X-19 Koala ALCM and the similar SS-NX-24 Scorpion submarine-launched cruise missile (SLCM), both still in the research and development (R&D) phase, represent Soviet attempts to further refine their cruise missile technology. The status of the SS-NX-24 program is very much in doubt. AS-X-19s have been linked with Bear H heavy bombers; however, Bear Hs can only carry two AS-X-19s, and the missile's future role in the bomber force is uncertain.

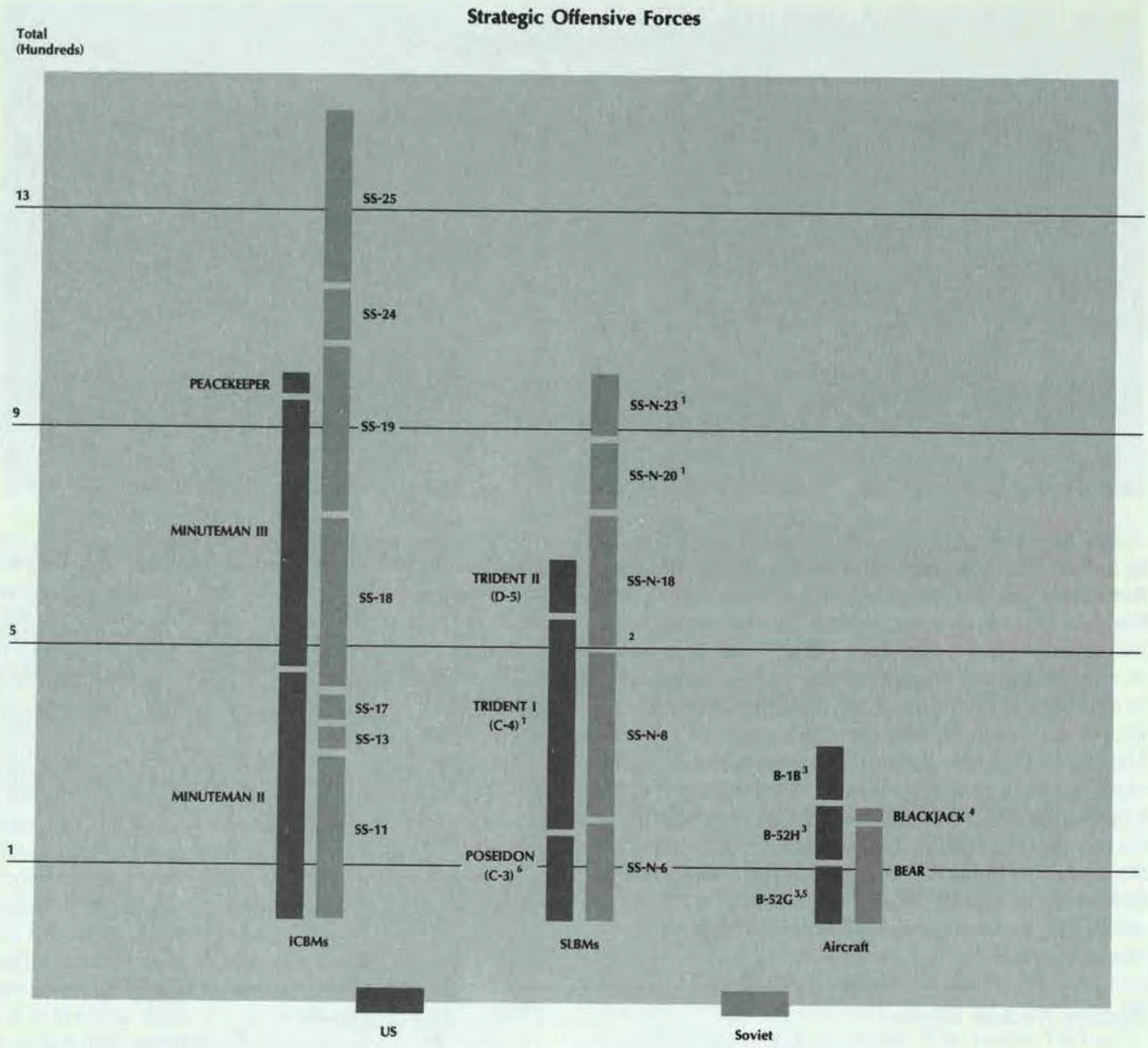
Theater Nuclear Forces

The Soviets' intermediate-range nuclear systems — the road-transportable SS-4 Sandal medium-range ballistic missile (MRBM) and road-mobile SS-20 Saber IRBM — were eliminated under the terms of the INF Treaty by June 1, 1991. The destruction of 1,846 Soviet missiles and 825 launchers under the INF Treaty completed the first elimination of several complete classes of nuclear weapons: intermediate-range and shorter-range ballistic missiles and ground-launched cruise missiles.

Even with these eliminations, the Soviets retain the ability to meet effectively their theater targeting requirements. Former SS-20 targets can be covered by existing nuclear-capable aircraft as well as ICBMs and SLBMs. The Backfire bomber is believed to be the Soviets' principal theater nuclear-armed bomber. The Soviets have produced approximately 30 of these aircraft a year since 1977. These aircraft are assigned to the Soviet Air Force and Soviet Naval Aviation. The SS-11 and SS-19 ICBMs will be able to provide target coverage through the mid-1990s, with SS-25s potentially available as well. Virtually all SLBMs can also be used against theater targets from current patrol areas. Long-range sea- and air-launched cruise missiles are also capable of

Moscow Ballistic Missile Defense





[1] Includes SLBMs potentially carried on Trident, Typhoon, and Delta-IV submarines on builders trials and sea trials.

[2] Dismantlement of the Yankee-II SSBN (12 SS-N-17 launch tubes) was in progress at the time of publication.

[3] Aircraft numbers reflect total active inventory.

[4] Blackjack figure is the operational number.

[5] The B-52G bombers include aircraft that are assigned conventional missions.

[6] The Poseidon (C-3) is scheduled to leave the Force by the end of Fiscal Year 1991.

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being used in a theater targeting role as are long-range aircraft such as the Backfire.

STRATEGIC DEFENSE

Missions and Objectives

The scope of Soviet active and passive defense capabilities and the variety of weapons fielded and in development illustrate their commitment to strategic defense programs at least through this date.

Active Defenses

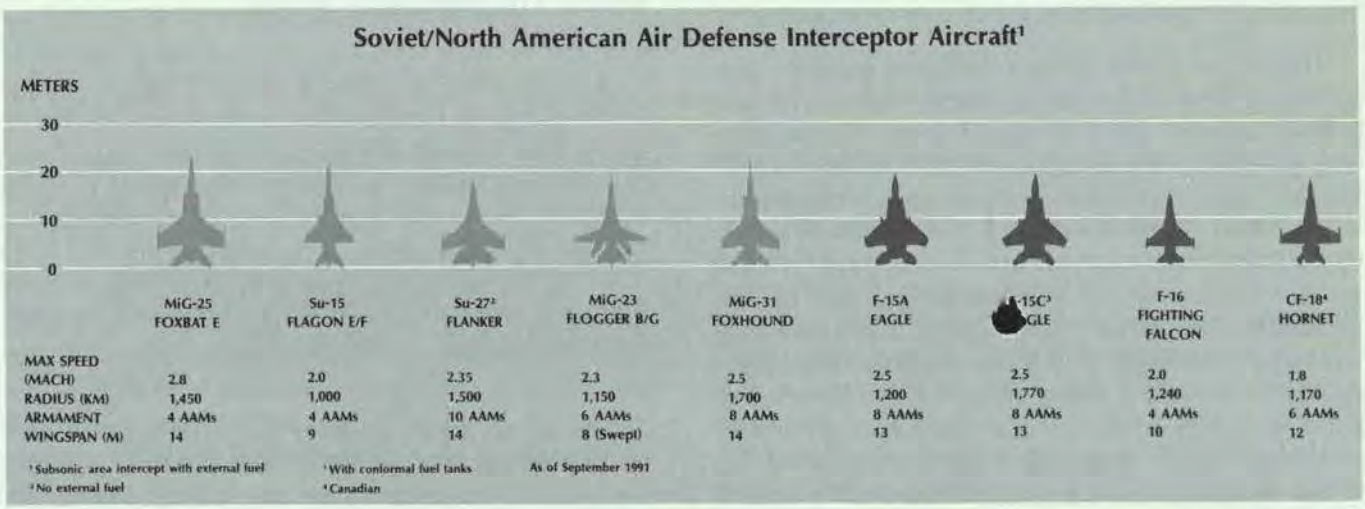
Soviet investment in active defenses is represented by the maintenance and continued modernization of

their antiballistic missile (ABM) system around Moscow, a system of surveillance assets to detect a ballistic missile attack, surface-to-air missiles (SAMs), and modern fighters to defend Soviet territory from air-breathing threats. The modernization of supporting systems, such as command, control, and communications (C^3) networks and radars, contributes to these capabilities to degrade attacking forces before they strike Soviet territory. The extent and pace of future strategic defense modernization will likely be a key issue of debate among the new national security decisionmakers both in Moscow and the republics.

Antiballistic Missile (ABM) Defense

The modernized ABM system around Moscow provides a dual-layered coverage against ballistic missile attack. Its multifunctional Pill Box radar located at Pushkino, north of Moscow, identifies and tracks attacking missiles so Gazelle and Gorgon interceptor missiles can be launched to destroy incoming reentry vehicles (RVs). The Gorgon is a silo-launched missile for high-altitude, long-range intercepts, while the Gazelle, also a silo-launched missile, is designed to intercept RVs in the atmosphere that penetrate the outer layer of defenses. The Galosh, part of an older ABM system around Moscow and now being replaced by the Gorgon, is launched from above ground and is designed for exoatmospheric intercept.

The Moscow ABM system has comprised the full 100 launchers permitted by the 1972 ABM Treaty, but it has major weaknesses. The limited number of launchers and reliance on the single Pill Box radar constrain the overall effectiveness of the system. The Soviets also probably view the upgraded system as improving the chances of intercepting a limited accidental or unauthorized launch against the city. This mission has been cited by Soviet officials for decades. The design of the system enables it to engage small



Soviet SA-10 SAM System

QUADRANT/FLIGHT

Field-deployed SA-10 mobile launchers demonstrate improved maneuver capabilities of Soviet strategic defenses. An improved version of this system, announced by the Soviets at the Paris Air Show, has increased mobility over the SA-10A.

Soviet strategic SAMs (the SA-2, SA-3, SA-5, and SA-10) provide barrier, area, and point of defense of the Soviet Union. The number of strategic SAM sites and launchers has decreased as the USSR has retired older-generation systems, although overall capability has increased. The SA-10 is replacing older SA-2 and SA-3 SAM systems, improving Soviet air defense capabilities against low-altitude aircraft and cruise missile attacks, and now constitutes approximately one-quarter of Soviet strategic SAM launchers. The SA-10's ability to engage several targets simultaneously and its firepower (four missiles per launcher) have enhanced the Soviet Union's air defense capability. The increasing mobility of the Soviet strategic SAM force is significantly enhancing its capability to maneuver. This capability will increase its survivability and capability to fire from undetected positions.

The SA-10 SAM system already in the air defense forces may have the potential to intercept some types of ballistic missiles, as may the SA-12, which is deployed with Soviet ground forces. The Soviet SA-12 system has been tested successfully against tactical ballistic missiles. Concern exists about the capability of those two systems to intercept strategic warheads.

Modern Soviet surface warships equipped with the SA-N-6 (the naval version of the SA-10) are integrated into the strategic SAM network and extend the network farther from the borders of the Soviet Union. The new Kuznetsov-class carriers will have an air wing composed at least partly of Flanker, and will also augment the land-based strategic defense system.

numbers of RVs, regardless of the country of origin.

Advanced Technologies for Strategic Defense

The Soviet Union has a substantial research program into advanced technologies for defense against ballistic missiles. That program represents an impressive investment of plant space, capital, and manpower. Primary areas of research include: laser weapons, involving over 10,000 scientists and engineers and more than a half dozen major research development facilities and test ranges; particle beam weapons, which the Soviets have been actively researching; radio frequency weapons, including research into the use of high-powered radio-frequency signals that have the potential to interfere with or destroy critical electronic components of ballistic missile warheads; kinetic energy weapons, where the Soviets have a variety of research programs under way, using the high-speed impact of a small mass as the kill mechanism.

Missile Attack Warning System

A comprehensive system of satellites, over-the-horizon radars, Hen House radars, and LPARs constitutes the missile attack warning system, referred to by the Soviets as the SPRN. Its mission is to detect a ballistic missile attack, assess its size and nature, and predict the target area. The detection of incoming missiles is passed to the Soviet leadership, General Staff, and services. The SPRN system likely supports the Moscow ABM system as well.

The network that supports the SPRN system was initially planned to consist of nine LPARs. Following longstanding complaints by the United States, the

Ballistic Missile Early Warning, Target-Tracking, and Battle Management

[1] Construction has been temporarily halted due to environmental concerns.

[2] The status of this radar will be subject to negotiations between Moscow and the Latvian government.

Soviets acknowledged that the Krasnoyarsk radar was a violation of the ABM Treaty and are currently in the process of dismantling it. The halt in construction of the Mukachevo radar, in response to environmental protests by the local Ukrainian population and government, remains in effect, bringing the total number of operational or under construction LPARs to seven, one of which is located in the newly independent country of Latvia. The Soviets intend to build a new LPAR to fill the gap in coverage left by dismantling the Krasnoyarsk radar.

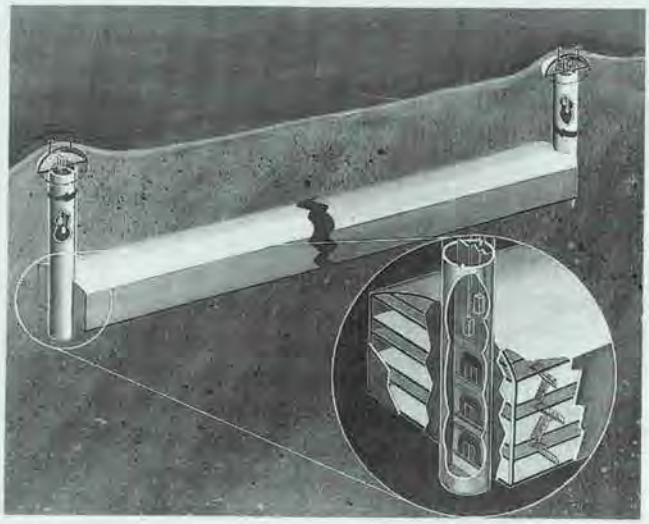
Aviation of Air Defense (APVO)

Fourth generation fighters now represent over one-fourth of the total inventory of the Soviet Aviation of Air Defense (APVO). Flanker and Foxhound units, with longer ranges, larger weapons loads, and advanced look-down/shoot-down capabilities, are currently replacing Flogger and Flagon regiments located throughout the USSR. APVO's airborne early warning program is continuing to experience difficulties due to the recent slow

Moscow's Deep-Underground Facilities

The Soviets have constructed deep-underground command posts both in urban Moscow and outside the city. These facilities are interconnected by a network of special deep subway lines that provide a quick and secure means of evacuation for the leadership. The leadership can move from their peacetime offices through concealed entryways to protective quarters beneath the city.

There are important deep-underground command posts in the Moscow area, one located at the Kremlin. Soviet press has noted the presence of an enormous underground leadership bunker adjacent to Moscow State University. These facilities are intended for the national command authority in wartime. They are estimated to be 200-300 meters deep and can accommodate an estimated 10,000 people. A special subway line runs from some points in Moscow and possibly to the VIP terminal at Vnukovo Airfield 27 kilometers southwest of the Kremlin.



Facilities for the highest level leadership elements in and around Moscow are often built hundreds of meters underground and at enormous cost.

The leadership can remain beneath Moscow or travel along special subway lines that connect these facilities to their preferred deep-underground command posts outside the city. Two of the most important complexes for the Soviet national command authority and the General Staff are located some 60 kilometers south of the city. There is also a complex located about 25 kilometers east of the Kremlin for the national air defense headquarters. The support infrastructure for these complexes is substantial. A highly redundant communications system supports these complexes and permits the leadership to send orders and receive reports through the wartime management structure. These installations also have highly effective life support systems that may permit independent operations for many months following a nuclear attack.

The extensive preparations the Soviets have made for leadership protection and wartime management are designed to give their leaders the capability to operate effectively in a nuclear war environment.

production of the Mainstay airborne warning and control system (AWACS). Nevertheless, the Soviets will continue using Mainstay with APVO fighters to project homeland air defenses beyond the borders of the USSR.

Command, Control, and Communications, Radars, and Surface-to-Air Missiles

The Soviets have dedicated a great amount of time and effort to streamline and update air defenses, C^3, and their air defense radar. Newer, more integrated air defense C^3 systems enhance early warning and target handling capability. Passive detection systems located on the country's periphery help provide the air surveillance network early warning. The Soviets also make extensive use of computer-aided decisionmaking equipment including air defense battle management systems and more efficient, redundant communications systems. New phased-array radars can more effectively detect and track multiple targets and some new early warning radars are three-dimensional, eliminating the need for separate height finder radars. Finally, the Soviets are working to close low-altitude radar gaps along their periphery, making undetected penetration of their airspace by low-flying aircraft and cruise missiles more difficult.

The Soviets continue to deploy modern surface-to-air missiles such as the SA-10, whose mobility and effectiveness they continue to improve. Integration of the SA-12 systems withdrawn from Eastern Europe into homeland air defenses will further enhance Soviet capabilities to defend against strategic bombers and cruise missiles.

Passive Defenses

The Soviet passive defense program is part of an integrated system of strategic defenses designed to moderate the effects of a nuclear attack. The

principal objectives of passive defense include: wartime leadership continuity; stable operation of the economy; post-attack rescue, recovery, and reconstitution; and protection of the general population. The most important part of the Soviet passive defense program is an extensive, redundant set of hardened command posts and communications facilities for all key echelons of the military, party, and government apparatus. This defense program is continuing without apparent change despite budget cuts in other areas.

Leadership Protection Plan

For over 40 years the Soviets have had a comprehensive program designed to ensure leadership survival in wartime. This multifaceted program has involved the construction of hardened bunkers, tunnels, and special subway lines beneath Moscow, other major Soviet cities, and the sites of major military commands. Although the majority of these hardened facilities are near-surface bunkers, many critical sites are built deep underground. As nuclear arsenals on both sides have become larger and more potent, these facilities have been expanded and deepened. For example, the Soviets continue to upgrade, improve, and deepen the most important facilities in and around Moscow for the highest level leadership elements, although they are already hundreds of meters deep and can hold thousands of people.

Civil Defense and Reconstitution

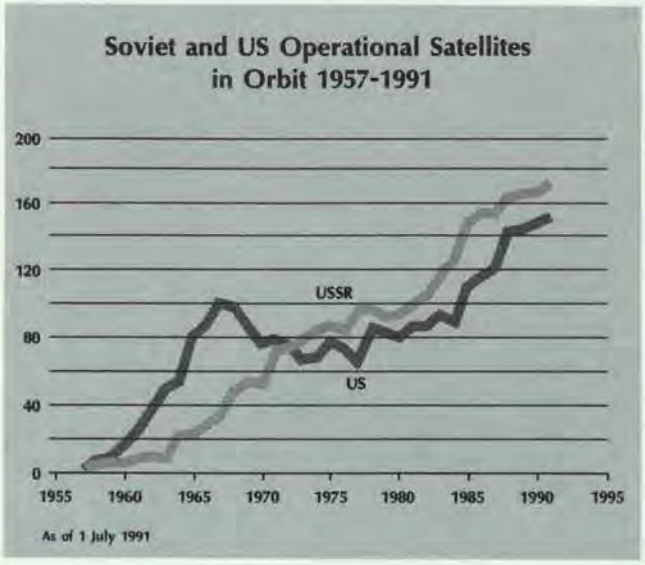
The USSR civil defense organization is responsible for wartime protection of the economy and population and post-attack recovery and reconstitution. Soviet efforts to protect the economy focus on key elements of the economic infrastructure essential to war support and recovery, including measures to protect the work force and certain major industries. In addition to its wartime mission, Soviet civil defense has a secondary role responding to peacetime disasters.

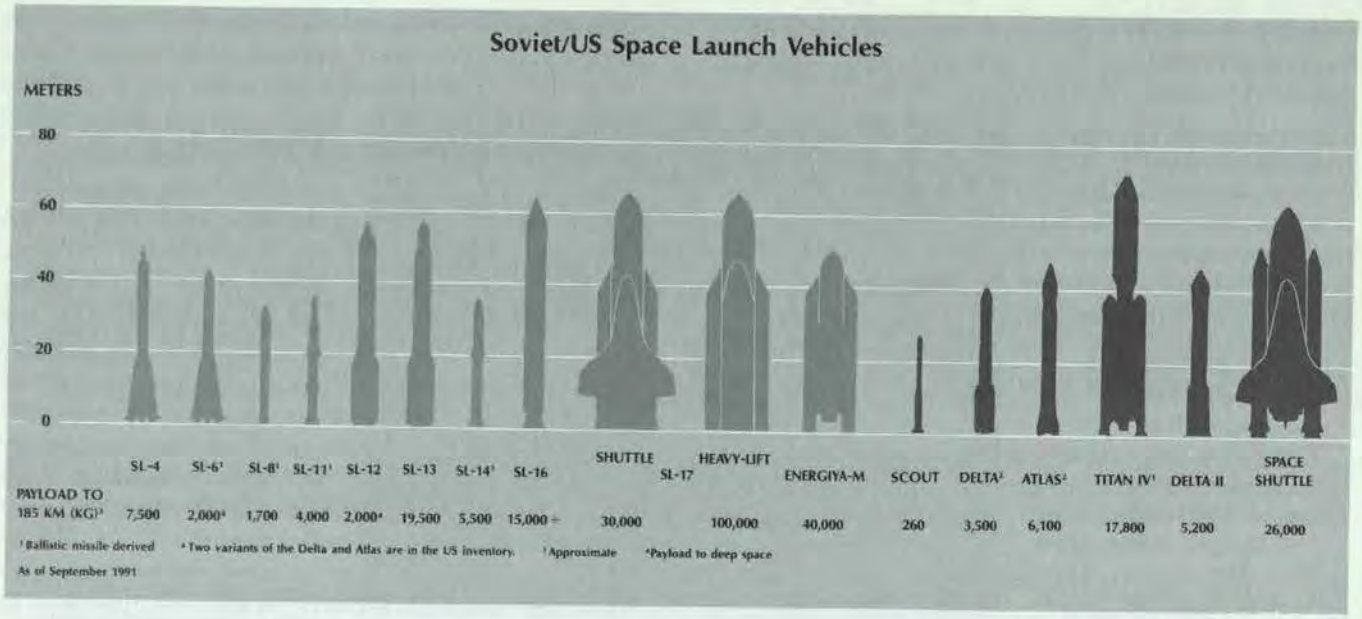
Critical shortcomings in the protection of the general population and rescue and recovery capabilities were visibly demonstrated in the aftermath of the Chernobyl nuclear accident and the Armenian earthquake. As a result, major changes are under consideration in civil defense to improve preparedness activities common to peacetime emergencies: planning, warning, communications, command and control, population movement, and the provision of food, shelter, medical care, and other critical resources. These measures, if implemented, may substantially improve the Soviets' capabilities to respond to isolated peacetime disasters. In light of the aborted coup, the role, mission, and funding of Soviet civil defense are likely to be reviewed.

SPACE FORCES

Introduction

The Soviet space program is overwhelmingly military in character, although there is an increasing tendency to support civilian missions. Almost all satellites are dedicated either exclusively to military missions (such as ocean reconnaissance and targeting) or to dual-use, military and civil, applications (such as communications and meteorology). While space-launch attempts increased slightly, from 75 in 1989 to 79 in 1990, the overall Soviet launch rate remains about 15 percent



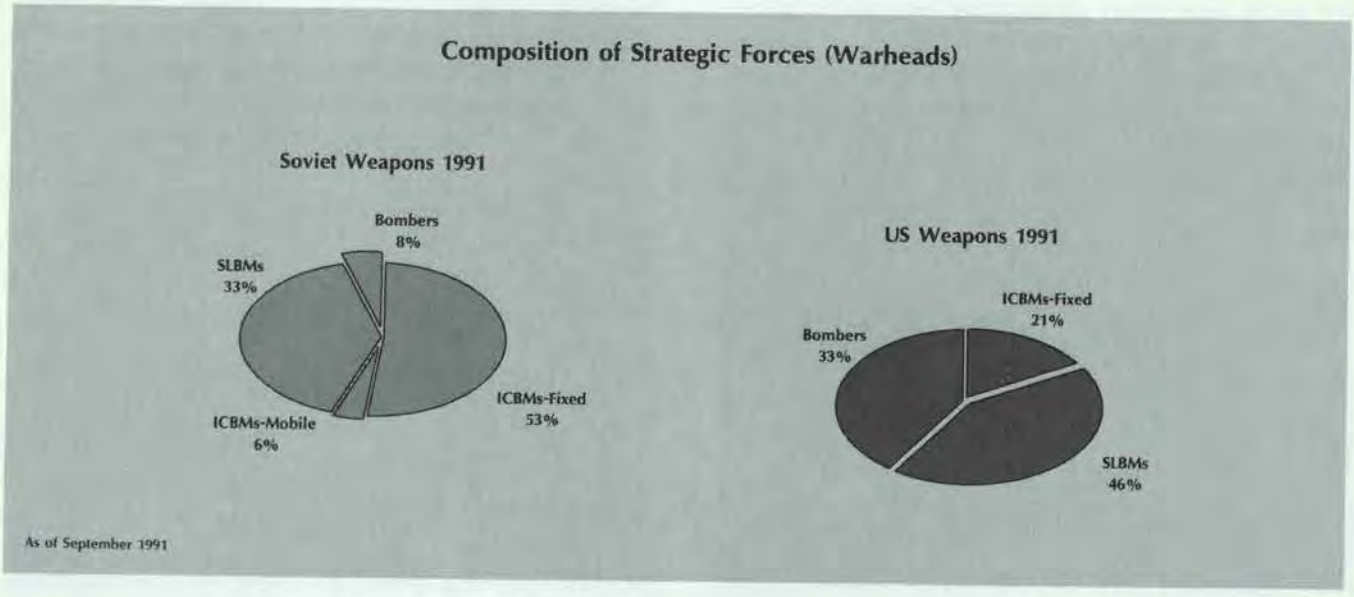


below what it was from 1980 to 1988. The number of Soviet space launches still remains more than double the number of US space launches per year. This decline in the launch rate has not significantly degraded Soviet military space capabilities because the number of satellites in orbit has increased slightly compared to the period from 1980 to 1988. Production of space-launch vehicles (SLVs) since 1988 has probably decreased by approximately 15 percent, based on the lower annual rate of space launches.

The Soviets maintain over 170 operational satellites in orbit, a number which has increased steadily over the years. Such trends indicate that Soviet satellites are gradually becoming more sophisticated and longer-lived. This increased operational efficiency is the mark of a more mature military space program that can reduce redundancy while accomplishing its missions and retaining the surge launch and reconstitution capabilities that are essential for military operations in crisis or conflict.

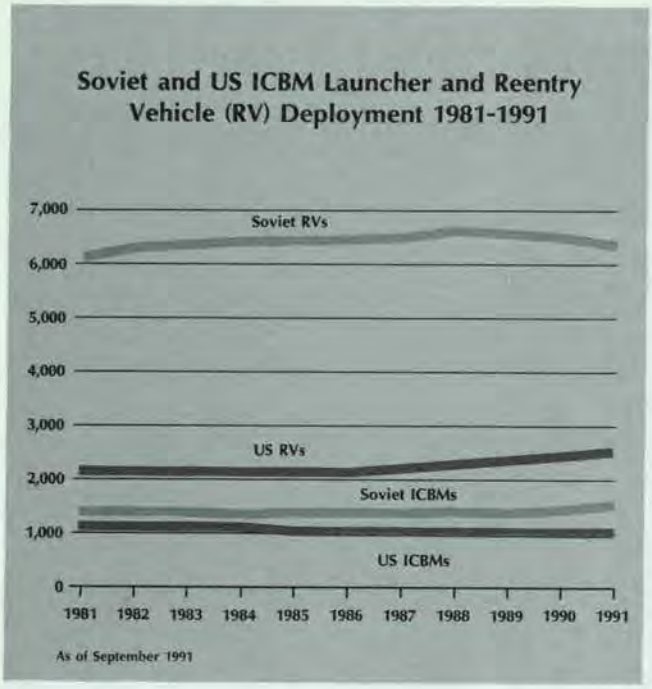
Space-Based Military Support

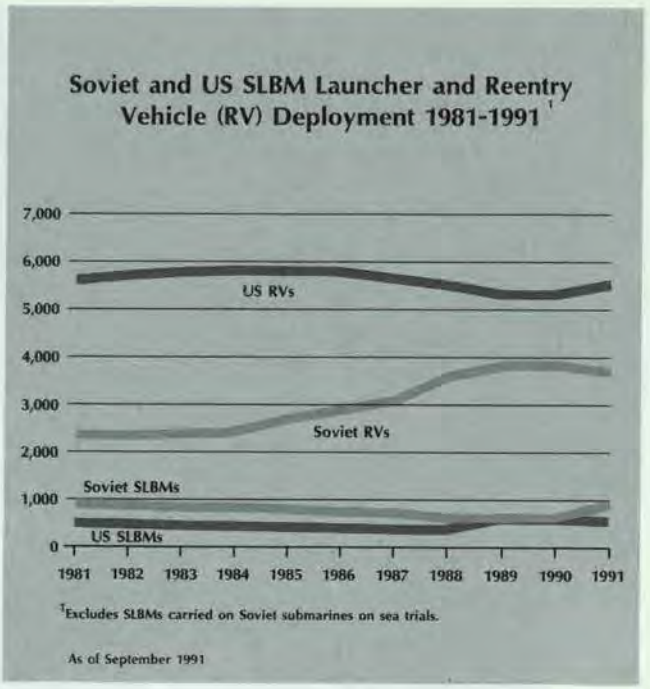
An extensive array of spacecraft supports the Soviet armed forces and the military and political leadership. Soviet satellite systems conduct missions which include: imagery, electronic and radar reconnaissance; launch detection and attack warning; ocean surveillance and targeting; command, control, and communications;



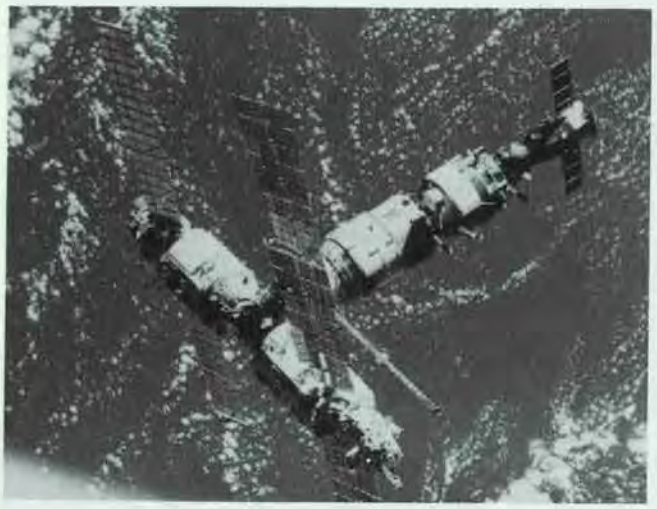
Subway-type excavation shafts used to construct Ramenki area deep-underground facility (looking southwest from Moscow State University).

Representative depictions of subway lines to deep-underground facilities.





geodetic, navigational, and meteorological support; antisatellite (ASAT) operations; and military R&D. These systems, in turn, are supported by a tremendous infrastructure on the ground, including the USSR Ministry of Defense (MOD) main space command, control, and telemetry complex near Moscow, which, along with Soviet space-launch facilities and space-related command, control, and tracking sites, is controlled by the recently declassified USSR MOD Space Units. Improvement, maintenance, and refurbishment of this infrastructure have continued, despite the slightly lower launch rate.



The *Mir* space station complex, continuously manned since September 1989, represents a determined Soviet effort to occupy near-earth orbit. The *Mir* is shown with two of four modules attached.

Antisatellite (ASAT) Systems

The Soviets maintain the world's only dedicated operational ASAT system in a state of combat readiness at their Tyuratam Cosmodrome. Although it has not been launched since 1982, the Soviets routinely conduct tests of ASAT components and procedures on the ground and use the associated booster, the SL-11, to launch other satellites several times a year. Since the operational co-orbital interceptor, capable of attacking low-altitude satellites, has demonstrated its capabilities in a series of tests in space, there is less need to resume intercept testing, providing the booster and ground components are tested regularly. Of course, the Soviets would be more confident of a system that had been tested more recently; but for political reasons they have chosen to maintain their moratorium on ASAT launches.

The Soviets have three additional ASAT-capable systems: exoatmospheric ABMs, located around Moscow and at the Sary Shagan test range; at least one ground-based laser, also at Sary Shagan, that may have

TASS/SOVFOTO

The SL-4 is the workhorse of Soviet space-launch vehicles. Among many other applications, the SL-4 is used to launch all Soviet photo reconnaissance satellites.

sufficient power to damage some unprotected satellites in near-earth orbit; and electronic warfare assets. Promising areas of continuing investigation into future ASAT systems include laser, particle beam, radio-frequency, and kinetic energy technologies.

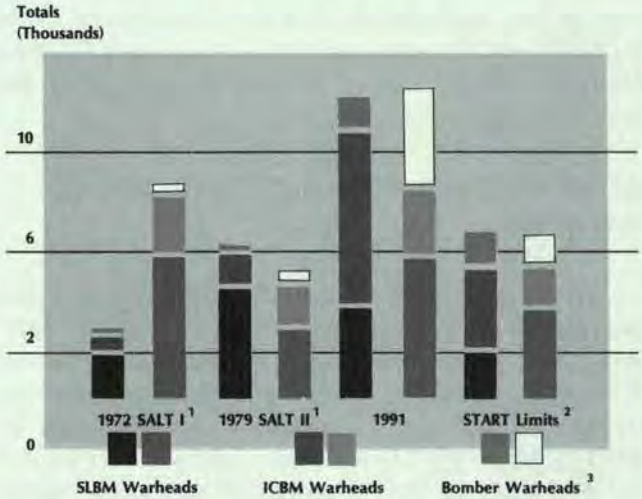
Manned Operations

The Soviets continue to conduct routine manned operations onboard their Mir space station complex, which currently includes the Mir core vehicle, the Kvant-1 module, and the Kvant-2 and Kristall modules docked at two of Mir's forward axial docking ports. Two-man cosmonaut crews, ferried by Soyuz-TM spacecraft, maintain a continuous presence in orbit, usually rotating with another crew after a six-month mission. (A longer duration mission is expected to begin within a year or two.) Unmanned Progress-M resupply spacecraft are also launched to Mir several times a year. A Japanese journalist visited Mir during 1990, followed by a British scientist in May 1991. Several other foreigners are scheduled for one-week visits over the next few years.

Space-Launch Systems

In late 1990, the Soviets introduced a new space-launch vehicle in development, the Energiya-M. This SLV is so named because it is partially derived from components of the larger SL-17 Energiya. The Energiya-M center core component is a modification of the SL-17's center core, and the Energiya-M's two strap-on boosters appear to be identical to those on the SL-17, although the SL-17 has four. The Energiya-M is reported to have a payload capacity of 40,000 kilograms to low-earth orbit, indicating that it is intended to fill the gap in launch capacity between the SL-13 Proton and the SL-17. While it will most likely be several years before the Soviets begin to test this new SLV, its introduction is evidence that the Soviet leadership remains committed to improving their space program.

Changes in Soviet/US Offensive Warheads (1972-1991)

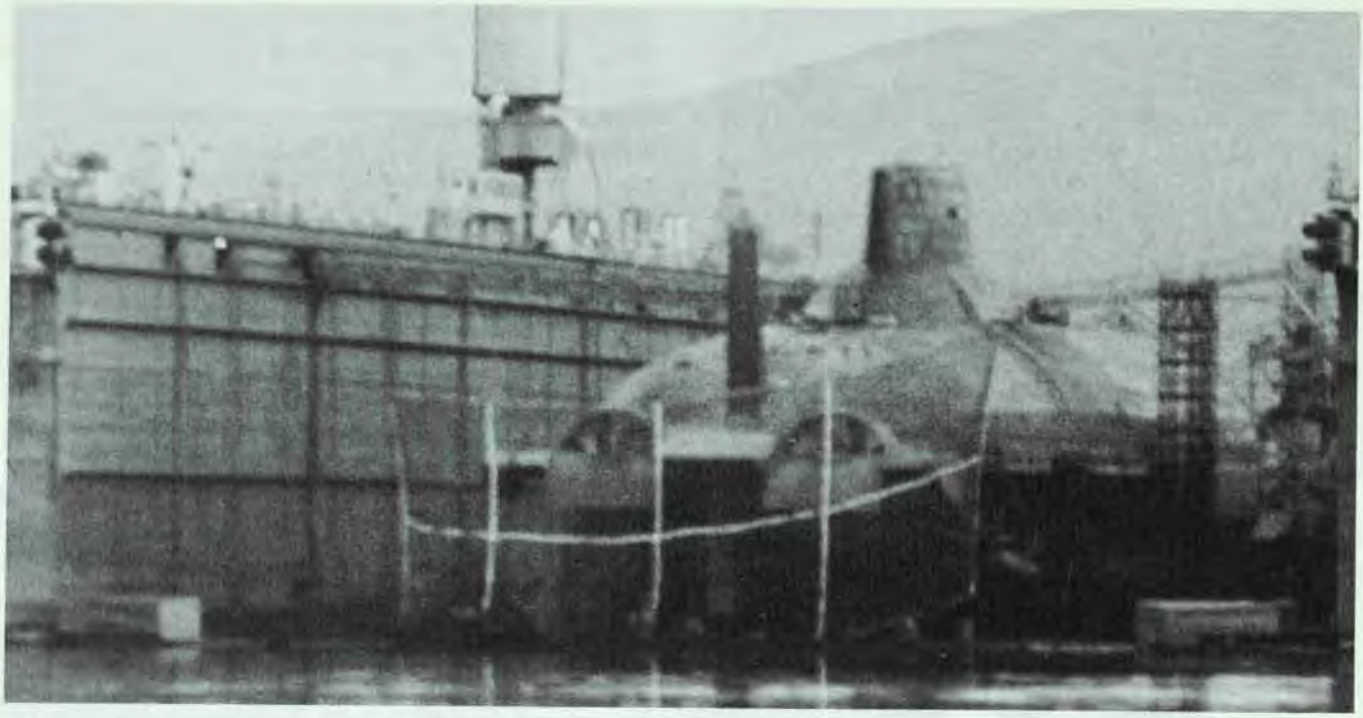


[1] Neither SALT I nor SALT II placed limits on ballistic missile warheads. Data reflect Soviet ballistic missile warheads on these dates.

[2] The United States and Soviet Union have agreed to a sublimit ceiling of 4,900 on the aggregate number of warheads on deployed ICBMs and deployed SLBMs. The START Treaty limits each side to 6,000 accountable warheads. Due to the bomber discount rule, however, the actual number of deployed weapons exceeds 6,000.

[3] Nominal loading of the entire bomber force.

As of September 1991



The first 25,000-ton Typhoon-class submarine is undergoing modernization and overhaul. This program may include fitting the class with the SS-N-20 follow-on missile.

Implications

The overall decline in the rate of Soviet space launches has not eroded Soviet military space capabilities. The Soviet capability to conduct ASAT and ABM operations remains unrivaled. The military use of space and the concomitant funding for such activities may be altered in light of the abortive August coup.

QUANTITATIVE ASSESSMENT OF THE BALANCE

Today the Soviet Union possesses more strategic nuclear delivery vehicles (SNDVs) — missile launchers and bombers — than does the United States. A rough parity exists, however, between the two countries in the number of nuclear weapons carried by SNDVs. Under the START Treaty, both sides are limited to 1,600 deployed SNDVs and 6,000 accountable weapons, with a sublimit of 4,900 deployed ballistic missile reentry vehicles and, within the 4,900 warhead limit, 1,100 deployed mobile ICBM warheads. The Soviets are also allowed 154 heavy ICBMs carrying a total of 1,540 RVs within the 1,600 SNDV and 4,900 ballistic missile warhead limits. There is considerable flexibility within those limits. The discounting of bombers, which are considered more stabilizing but also more vulnerable to existing defenses than ballistic missiles, will permit each side to deploy more than 6,000 total strategic weapons.

Major differences in the two sides' anticipated post-START forces are: first, a greater reliance on ICBMs in the Soviet force, including 154 SS-18s; second, significant mobility for ICBM launchers (the SS-24, SS-25, and possible follow-ons), compared to none currently planned for the US force; and third, a significant asymmetry in development and production programs, unless the Soviet government redirects the substantial resources being expended in this area. The Soviet modernization program includes five new ballistic missiles in development; the United States has none. Similarly, the Soviets have two long-range bombers in production compared to only one for the United States. Furthermore, the United States has terminated its production of new SSBNs at 18, reduced the planned number of the B-2 bomber, advanced cruise missile, and short-range attack missile II, and eliminated plans to deploy either the Peacekeeper on rail or a roadmobile small ICBM.

CONCLUSION

In the reconfigured USSR, the reformed center will probably retain control over strategic nuclear weapons although some republic leaders are demanding a role in the nuclear decisionmaking process. In addition, several republics have declared their intent to become nuclear-free zones. As new decisionmaking bodies assert their influence over defense spending, the operations and development of strategic systems could be affected. ■

CHAPTER

IV

Soviet General Purpose Forces

TASS/SOVFOTO

Soviet SA-13 Gopher surface-to-air missile systems are seen here on parade in Moscow. As a result of coalition successes in the air operation phase of Operation DESERT STORM, the Soviets have begun a major review of air defense doctrine and employment.

INTRODUCTION

Through the mid-1980s and into the 1990s, Soviet general purpose forces were in the midst of a comprehensive reorganization, comparable in size only to the massive military cutbacks in the early Khrushchev years. This reorganization encompassed virtually every element of Soviet theater forces and consisted of adoption of a new defensive doctrine, substantial force reductions, and withdrawal of Soviet forces from Eastern Europe. In the beginning of 1990, Moscow's signing of arms control agreements, including the Conventional Armed Forces in Europe (CFE) Treaty, gave Western nations unprecedented insight into the size and organization of Soviet forces in the Atlantic-to-the-Urals (ATTU) area, as well as Moscow's commitment to make even further equipment reductions. The consequences of the failed coup in August have introduced new elements of change to the Soviet armed forces. This chapter reviews the past plans for the

general purpose forces and provides updates and current status where possible.

GROUND FORCES

The withdrawal of Soviet forces from Czechoslovakia, Hungary, and Mongolia, together with reductions in Germany, Poland, and the USSR itself, have resulted in a continuing decline in identified active divisions from 215 in early 1989 to about 140. About 40 inactive division mobilization bases and equipment storage bases now are identified throughout the USSR. In time of crisis, these bases could be activated as units or the equipment from them redeployed to active units. (It should be noted that what we define as an "active" division includes some units that rely on reserve manning, in many cases on the order of 50 percent or more.)

In most of the USSR, the Soviets appear to be maintaining the maneuver division structure prevalent in the 1980s, consisting of three motorized rifle regiments and one tank regiment in a motorized rifle division, and three tank regiments and one motorized rifle regiment in a tank division. In the USSR west of the Urals, the size of a tank battalion in motorized rifle formations has been reduced from 40 to 31 tanks, yielding a decrease of about 12 percent of the tanks in a motorized rifle division. The typical size of an artillery battery has been reduced from six to four guns. In many cases, antitank, air defense, and defensive engineer capabilities have increased in the typical division structure.

The deployment of Soviet ground forces equipment is being dictated by unilateral reductions of ground units, negotiated withdrawal of Soviet forces from Eastern Europe, and CFE Treaty limitations. The Soviets continue deployment of modern tanks, armored personnel carriers (APCs), and artillery. Recently fielded tanks include new derivatives of the T-72 and T-80 with improved laser rangefinders, night vision optics, gun-launched guided munitions, and sophisticated armor. The Soviets continue to upgrade the current tank force with new reactive armor packages, full-length side skirts, add-on armor, and grenade projectors capable of dispensing obscuring smoke. They are deploying a new, air-droppable infantry fighting vehicle (IFV), the BMP-3, armed with a dual-armament system consisting of a coaxial-mounted 100mm gun/launcher and a 30mm automatic cannon. A new towed 152mm gun, the 2A65, has been deployed, and deployment has also begun of the 2S19, a 152mm self-propelled (SP) howitzer on a turreted chassis. The SA-15, a divisional mobile surface-to-air-missile (SAM) system intended to replace the SA-6 and SA-8 systems, has appeared in limited numbers.

Modern tanks — T-64, T-72, and T-80 — now comprise two-thirds of the tank force west of the Urals. The Soviets have replaced some 122mm SP artillery with towed 85mm pieces in units west of the Urals, apparently as part of a plan to meet CFE artillery ceilings. About a third of the 100mm or larger field artillery west of the Urals and one-fourth of the artillery force-wide is self-propelled, and some of the towed artillery is of recent design. About one-quarter of the multiple rocket launchers are newer models of 220mm and 300mm caliber, instead of the long-standard 122mm.

The capabilities of Soviet multiple-launch rocket systems, as well as tube artillery systems, are increasing significantly as a result of the continued development of improved conventional munitions for these weapons. These include cluster munitions, with self-guided submunitions, as well as scatterable mines and fuel-air explosives.

The Soviet Union possesses more than 1,300 short-range ballistic missile (SRBM) launchers, all capable of delivering nuclear weapons. Division-level FROG rocket launcher battalions are being replaced by SS-21 short-range ballistic missiles organized into army-level brigades of 18 launchers each. This improved organizational structure increases flexibility and responsiveness; it also simplifies command and control. The command and control processes for these forces are also being automated, greatly improving their capabilities.

The Soviets also have embarked on a modernization program for their artillery assets, replacing older, towed systems with improved self-propelled versions. At the same time, force structure changes that are reducing the size of the artillery force are also taking place. The

CAMMA LIAISON

Soviet forces are being affected by reductions, restructuring, and withdrawal from Eastern Europe, forcing them to hold large quantities of equipment in open storage, such as at this temporary facility in Dresden.

Soviet military has decreased artillery batteries from six or eight guns to four guns in many units west of the Urals. However, artillery units east of the Urals have retained the six-gun battery structure, and over 22,000 artillery pieces have been transferred to units or depots east of the Urals.

A decline in the number of armored vehicles deployed in the role of infantry squad carriers has been noted, due to a reduction in units and replacement of armored vehicles by trucks in some units based in the ATTU zone. About half of the squad carriers are classified as IFVs based on the presence of a main gun over 20mm and an antitank guided missile launch capability. In light of the abortive August coup and the increased role that republic governments will likely have in force development and military policy decisions, Soviet ground forces are likely to be significantly transformed over the next decade.

Soviet artillery units equipped with the SS-21 nuclear-capable short-range ballistic missile, shown here, are replacing older FROG battalions.

SPETSNAZ

The General Staff Intelligence Service (GRU) special purpose forces (SPF) are assigned to strategic and operational front and fleet command levels, total approximately 15,000 personnel, and are not equipped with CFE Treaty-limited items. Soviet SPF, or *Spetsial'noye Naznacheniye* (Spetsnaz), exist within three Soviet organizations: the Ministry of Defense, where they are attached to the General Staff; the Ministry of Internal Affairs (MVD); and the Committee for State Security (KGB). The vast majority of the Soviet SPF are maintained by the GRU, while the remainder, more loosely affiliated with the term Spetsnaz, are maintained by the MVD and the KGB.

CONVENTIONAL ARMED FORCES IN EUROPE (CFE) TREATY

The CFE Treaty imposes a regime of on-site inspection and monitored destruction that will be more intrusive than any other agreement to date. The destruction of equipment will be subject to on-site inspections without the right of refusal. The Soviets will have to reduce, according to their own declarations, about 23,000 pieces of treaty-limited equipment within 40 months of the treaty entry-into-force. On-site inspections of forces will be limited to certain percentages of the declared units: 20 percent during baseline periods before and after the destruction phase, 10 percent annually during the three years of equipment destruction, and 15 percent per year during the residual phase. This will still add up to hundreds of sites visited during the first few years of the treaty, and the vulnerability to inspection of all declared units at all times. Additionally, any significant changes in unit holdings must be declared in advance, and a detailed declaration of the entire force structure covered by the CFE Treaty must be submitted annually. The treaty also provides for challenge inspections of other areas. The challenged party must either grant access to the area or provide reasonable assurance the area does not contain equipment limited by the treaty.

The Soviets have moved thousands of pieces of combat equipment east of the Urals over the past two years, sheltering them from CFE destruction and providing significant quantities of stored equipment. For example, by June 1, 1991, the Soviets had sent to upgrade units or placed in storage over 16,000 modern tanks, at least 11,000 armored combat vehicles (ACVs), and 22,000 pieces of treaty-limited artillery.

Location of General Purpose Forces

Republic	Maneuver Divisions[1]	Interceptor Aircraft[2]	Tactical Aircraft[2]
Armenia	3	0	0
Azerbaijan	4	30	100
Byelorussia	10	110	360
Georgia	4	50	190
Kazakhstan	4	100	240
Kirghizia	1	0	0
Moldova	1	0	0
Russia	71	1,400	980
Tajikistan	1	0	0
Turkmenistan	4	70	90
Ukraine	20	230	620
Uzbekistan	1	30	260
Estonia[3]	1	110	0
Latvia[3]	1	30	150
Lithuania[3]	4	0	70

[1] There are still 16 active divisions in Eastern Europe and Mongolia.
[2] These figures do not include aircraft subordinated to Soviet Naval Aviation or in storage.
[3] The presence and eventual withdrawal of forces in the newly independent Baltic states are subjects of negotiation between the Baltic states and Moscow.

SOVIET AIR FORCES (SAF)

The Soviet Air Force (SAF) is the largest of the three Soviet military air arms, the other two being Aviation of Air Defense (APVO) and Soviet Naval Aviation (SNA). The SAF consists of four major operational components: the Air Armies of the Supreme High Command (VGK), Frontal Aviation assigned to the Air Forces of the Military Districts and Groups of Forces (AF MD/GOF), Army Aviation, and Military Transport Aviation (VTA). The Air Armies of the VGK and the AF MD/GOF continue force reductions and restructuring accompanied by qualitative upgrades as they go through a period of organizational change. The simultaneous initiation of the withdrawal from Eastern Europe and the implementation of changes intended to improve force structure have caused some problems.

AIR ARMIES OF THE SUPREME HIGH COMMAND (VGK)

The Smolensk, Irkutsk, Legnica, and Vinnitsa Air Armies consist of over 900 aircraft. Of these aircraft, an intermediate-range bomber force of more than 450 operational attack and support bombers is divided between the Smolensk Air Army in the west and the Irkutsk Air Army in the east. The Legnica and Vinnitsa Air Armies are positioned against NATO Central and Southern Regions, respectively. The Legnica Air Army has been reduced by half of its aircraft, but the rest of the theater bomber force has been affected only marginally by SAF force reductions.

The Soviets have preserved the combat effectiveness of the bomber force through continued modernization. Older systems have been retired in favor of fewer, more modern aircraft with substantially improved avionics and weapon capabilities. The modernization program has progressed so well that the supersonic Tu-22M3 Backfire C bomber constitutes the majority of the Smolensk Air Army theater attack force. Unlike the Backfire B, the Backfire C can carry up to 10 AS-16 Kickback, the newest Soviet short-range attack missile (SRAM), fitted with either a conventional or a nuclear warhead. This improves deliverable warhead potential and increases flexibility for Soviet planners.

The Irkutsk Air Army also is improving its capabilities by acquiring technologically sophisticated weapon systems. Backfire C, relocated from several regiments within the ATTU zone just prior to the signing of the CFE Treaty, replaced Tu-16 Badger at a Far East theater of military operations (TVD) base.

The Legnica Air Army, stationed in Poland, and the Vinnitsa Air Army, in the western Soviet Union, are equipped primarily with the Su-24 Fencer light bomber. Armed with a variety of tactical air-to-surface missiles (TASMs) or bombs, the Fencer can strike targets deep in enemy territory. Though the overall number of Fencer aircraft remains unchanged, aviation force restructuring has decreased the number of Fencer aircraft in the Legnica and Vinnitsa Air Armies as Fencer regiments have been resubordinated to AF MD/GOF and SNA. Legnica Air Army combat capabilities have declined most markedly, with over 75 percent of its Fencer force reassigned to other units since late 1988. This reassignment will ease relocation problems when Soviet forces eventually withdraw from Poland and will lessen Soviet reduction liability under the CFE Treaty. Despite these changes, the inventory of over 220 Fencer aircraft enables the Legnica and Vinnitsa Air Armies to retain a credible offensive capability. The bulk of these aircraft are the latest Fencer air-refuelable variant capable of carrying heavier payloads greater distances than earlier Fencer models.

In addition to the Fencer, the Legnica and Vinnitsa Air Armies have 170 fighters and 70 reconnaissance and

electronic countermeasures (ECM) aircraft for strike support. The fighter force consists primarily of the Soviets' most sophisticated operational fighter, the Su-27 Flanker. The Flanker has a true look-down/shoot-down capability, a large combat radius, and can carry the most advanced operational air-to-air missiles (AAMs) in the Soviet inventory, the AA-10 Alamo and the AA-11 Archer. The Flanker's extended range allows it to provide deep escort for bomber and fighter-bomber strike packages.

FRONTAL AVIATION

The majority of the Soviet general purpose aviation forces are assigned to the AF MD/GOF to support ground operations. Since 1988, hundreds of frontal aviation aircraft have been removed from service. The majority of these were older MiG-21 Fishbed, MiG-23 Flogger, or Su-17 Fitter which were due to be retired from the active force inventory. They were replaced by fewer, but more capable, MiG-29 Fulcrum, Su-27 Flanker, and Su-24 Fencer. Newer aircraft were also removed from frontal aviation as part of the reductions. Two regiments of Fulcrum, one regiment of Flogger, and an aircraft depot containing Fitter and Su-25 Frogfoot aircraft were resubordinated to SNA in 1990. In a binding agreement to the CFE Treaty, the Soviet Union is limited to no more than 400 land-based naval aircraft in the ATTU zone.

The Soviet change in emphasis to quality over quantity has resulted in a fighter force that is now over 75 percent fourth-generation Fulcrum or Flanker airframes. The more than 600 Fulcrum in service with frontal aviation units are, like Flanker, true look-down/shoot-down fighters capable of carrying the Soviet AA-10 and AA-11 air-to-air missiles. There is also evidence that some Fulcrum units train to deliver tactical nuclear weapons.

In the ground attack force, frontal fighter-bomber assets were reduced in favor of retaining theater light bombers. Fencer resubordinated from the Air Armies of the VGK displaced several Fitter regiments. The Fencer can operate deeper in enemy territory, while carrying a heavier payload than the Fitter and can employ the AS-13, an advanced stand-off launch-and-leave electro-optically guided munition capable of destroying hardened targets. Fencer strike operations will be supported by MiG-25 Foxbat armed with the stand-off AS-11 missile for defense suppression. Despite the reduction of frontal assets, more than 700 MiG-27 Flogger and Su-25 Frogfoot fighter-bombers remain in operational ground attack units. These aircraft, tasked with tactical and battlefield interdiction, still constitute the majority of the ground attack force.

Coincident with force reductions has been the withdrawal of air force units from non-Soviet territory. Frontal aviation units have been completely withdrawn from Mongolia, Hungary, and Czechoslovakia. All Soviet fixed-wing combat aircraft should be removed from Eastern Europe by 1994.

These changes have created problems as the Soviets attempt to relocate these forces in the western Soviet Union. Transitional problems of low morale, housing shortages, and decreased training hours resulting from

an excessive pilot-to-airframe ratio exist in tactical air regiments within the ATTU zone. These problems are not severe enough to preclude frontal aviation forces from performing their missions, but will degrade their combat effectiveness. The modernization of aviation assets and the preservation of the theater bomber force have allowed the Soviets to retain substantial offensive capabilities. The Soviets have established an intermediate-range bomber force, consisting mainly of Backfire C, and have deployed the AS-16. Fitter frontal assets have been reduced in favor of Fencer theater assets. The only decrement in offensive capability will be the overall reduction in the number of fighter-bombers. Fencer theater assets emphasize deep-strike interdiction and reserve a significant deterrent and retaliatory capability. Overall, these actions emphasize a continual effort to achieve a balance of strike interdiction and tactical support forces.

ARMY AVIATION

The Soviet attack helicopter force remains based on the Mi-24 Hind supplemented by armed troop carrier variants of the Mi-8 Hip. Missile, rocket, gun, and bomb armament reflect few changes, as do battlefield tactics and employment concepts. Army Aviation regiments and squadrons, along with other groups of forces components completely withdrawn from Czechoslovakia and Hungary, are in the process of withdrawing from their bases in Germany and Poland.

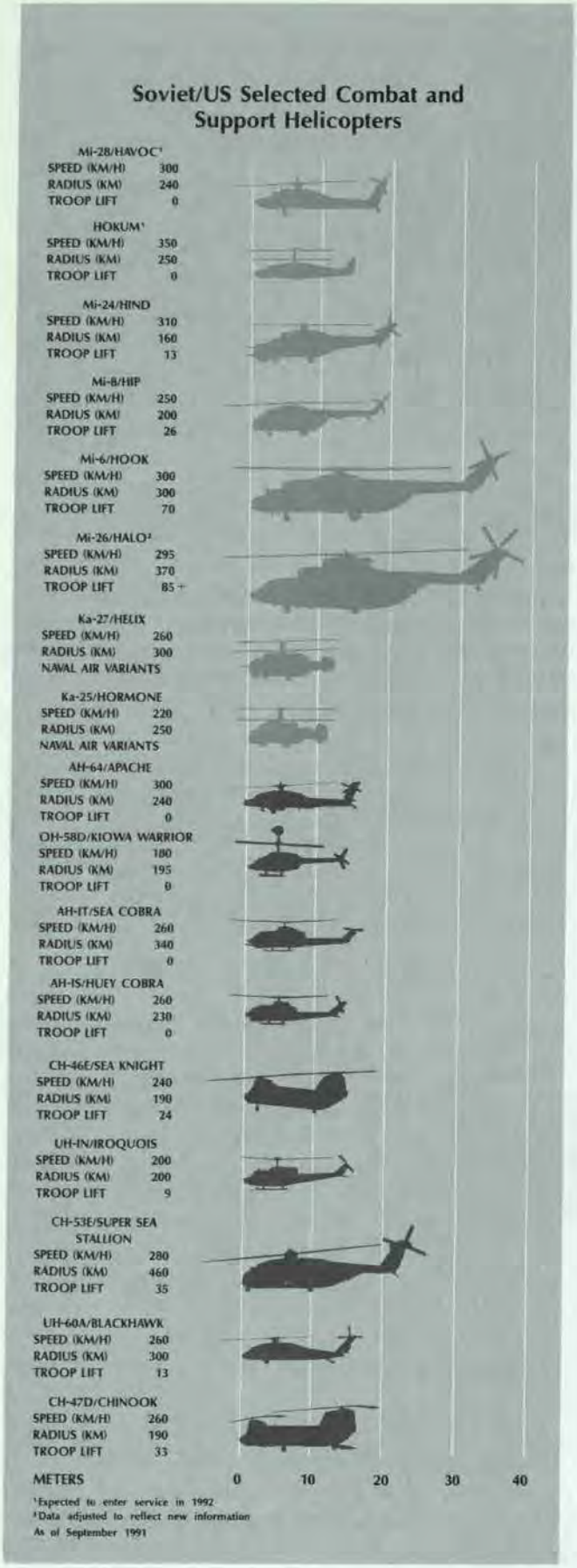
STRATEGIC MOBILITY

Soviet VTA's primary mission is support of Soviet airborne forces. VTA has also begun to play a more important role in providing a quick response by Soviet central authorities to internal unrest. With minimal notice, VTA has transported airborne and MVD forces to civil unrest regions throughout the Soviet Union.

The Il-76 Candid remains VTA's workhorse and constitutes roughly 70 percent of the VTA inventory. The An-124 Condor and the An-22 Cock constitute approximately 25 percent of the VTA lift capacity, specializing in wide, bulky, or outsized cargo. An-124s, almost all of which are subordinated to VTA, have begun to play a more important role in heavy-lift operations. Their military potential remains high for Soviet strategic movements.

NOVOSTI/SOVFOTO

New Mi-28 Havoc attack helicopter with day/night/adverse weather capabilities. The deployment of such modern, heavily armed helicopters will be an important addition to Army Aviation.



NAVAL FORCES

The Navy continues to build technologically advanced ships and submarines, albeit at slower rates, to modernize existing forces and to substantially reduce the number of older, less capable units in the inventory. This has resulted in a smaller, yet more modern force with new weapons and sensors. The primary wartime missions of the Soviet Navy are to:

- Participate in intercontinental and theater nuclear strikes;
- Protect and support naval forces participating in nuclear strikes;
- Defend the USSR and its allies, especially from adversaries capable of nuclear strikes;
- Support Soviet ground forces by securing contiguous maritime flanks, by providing naval fire and logistical support, and by conducting amphibious assaults and coastal defense; and
- Disrupt enemy sea lines of communications (SLOCs).

The Soviet Navy plans to accomplish these missions by concentrating its nuclear-powered ballistic missile submarines (SSBNs) and the majority of its general purpose naval forces in waters relatively close to Soviet territory. Within these well-protected areas, the bulk of the SSBNs would operate. The maritime approaches to the Soviet Union would be protected by an array of nuclear- and diesel-powered attack submarines, surface ships, naval aircraft, and other air forces. The Soviets maintain an inventory of nuclear-armed torpedoes as well as antisubmarine warfare (ASW) depth bombs. Together, these forces constitute a layered defense against external submarine, surface, and air threats.

The recent attainment of independence by Estonia, Latvia, and Lithuania will affect Soviet naval forces. The Baltics contain the ports of Riga, Liepaya, and Klaipeda, all important for the Baltic Fleet. The Baltic states are negotiating the status of these facilities with the Soviet government.

Submarines

New SSBNs, nuclear- and diesel-attack, and research submarines are produced at various yards around the country. Submarine construction continued into 1991. The Severodvinsk Shipyard launched its third Akula-class nuclear-powered attack submarine in March. Nuclear-powered ballistic missile and nuclear-powered attack submarines have played a critical role in Soviet strategic operations. A substantial

BMVg/MOD BONN

With the addition of new construction to the fleet, such as the frigate Neustrashimyy, shown here, and the retirement of older units, the Soviet Navy is enhancing its operational potential.

commitment of research and development has supported the continued modernization of these systems.

Surface Ships

Soviet surface force modernization continued into 1991 with the official commissioning of the 65,000 metric ton aircraft carrier Admiral Kuznetsov (previously the Tbilisi). Equipped with a ski jump bow ramp that enables it to operate naval variants of the MiG-29 Fulcrum and Su-27 Flanker fighters, the ship represents a dramatic leap forward in tactical fleet air defense capability. The total number of Fulcrum and Flanker ultimately based on the ship will probably be between 20 and 24 aircraft. Though operational fighter units have reportedly been formally commissioned, an apparent delay in the availability of sufficient new fighters may dictate a significant period of air wing workup and reduced flight schedules for the next few years.

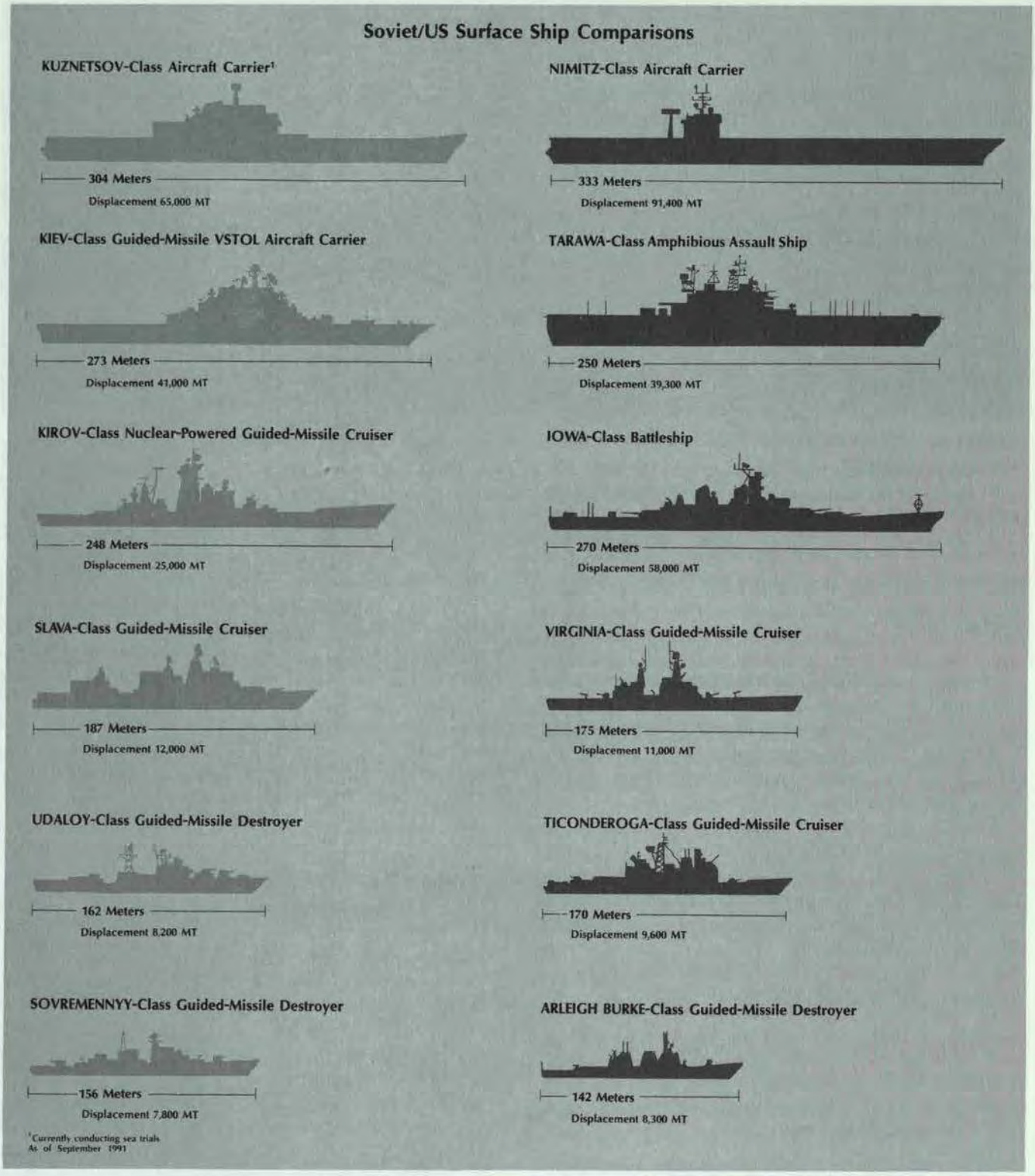
In addition to its aircraft, the Admiral Kuznetsov is equipped with an impressive array of weapons, including 12 SS-N-19 antiship cruise missiles, over 500 SAMs, and 22 Gatling guns.

A second Kuznetsov-class carrier, the Varyag, currently fitting out at the Nikolayev Shipyard in the Black Sea, is expected to start sea trials by 1993. The first unit of the new Ul'yanovsk aircraft carrier is also under construction at the Nikolayev Shipyard. The 70,000-75,000 metric ton nuclear-powered carrier may have catapults installed.

The fourth Kirov-class nuclear-powered guided missile cruiser (CGN), the Yuriy Andropov, continues fitting out at the Baltic Shipyard in St. Petersburg since its launch in April 1989. Though a fifth cruiser was started in 1989, work was stopped and the program terminated. The fitting out of the last Slava-class guided missile cruiser (CG), Admiral Lobov, is continuing very slowly at a shipyard in the Black Sea; no new cruiser programs are in evidence or are expected for several years. Of the four Slavas in the class, the third unit, Chervona Ukraina, joined the Pacific Ocean Fleet in early 1991. With the delivery of these ships, both of these cruiser yards will be converting entirely to civilian business.

The multiclass Soviet guided missile destroyer (DDG) construction programs (the Sovremennyy, the Udaloy, and the new Udaloy follow-on class) continue at a steady pace. The 7,300 metric ton Sovremennyy, designed mainly for antisurface warfare (ASUW), is equipped with 8 SS-N-22 antiship cruise missiles, 40 SA-N-7 medium-range SAMs, and 2 twin 130mm guns. The Navy has received 13 Sovremennyy-class DDGs and more are under construction. The twelfth and final Udaloy ASW destroyer is expected to reach the fleet in 1991. The first unit of a new destroyer program based on a modified Udaloy hull continues under production and should reach the fleet by 1992. This ship will carry one twin 130mm gun, at least two CADS-1 air defense systems, and an improved sonar system.

Intended primarily for ASW, the 4,500 metric ton Neustrashimyy-class frigate will augment and

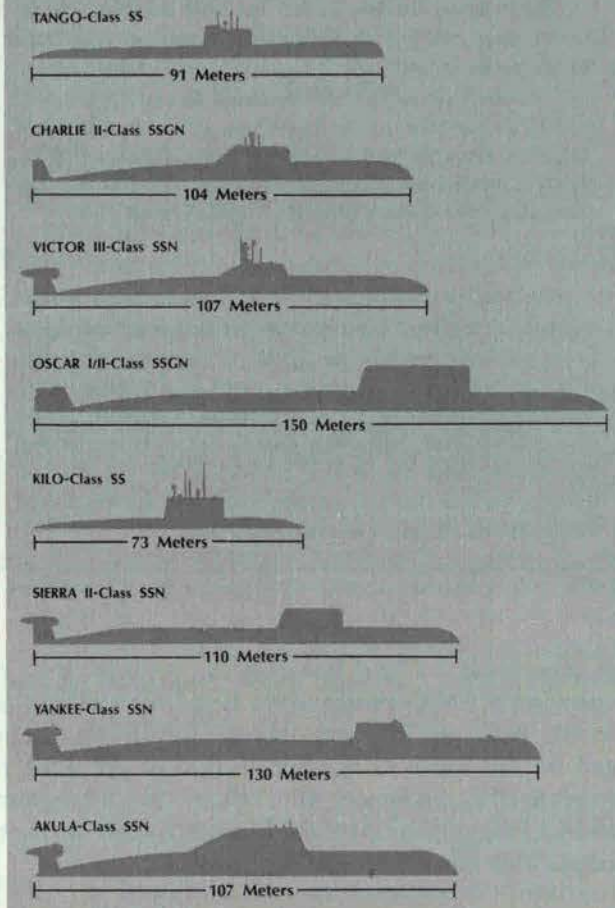


eventually replace the late 1960s-era Krivak-class frigates. Neustrashimyy-class units will be equipped with torpedoes, a single 100mm gun, four SA-N-9 SAM positions (for a total of at least 32 missiles), two CADS-1 air defense positions, and a probable low-frequency sonar system. At least one more unit is currently being constructed at a very slow rate.

Soviet Naval Aviation (SNA)

The Soviets have long relied on permanently land-based and, to a lesser degree, seaborne naval aviation

Soviet/US Attack Submarines



TANGO-Class SS	
Armament:	Torpedoes
Propulsion:	Diesel
Submerged Displacement:	3,900 MT
Initial Operational Capability:	1973
CHARLIE II-Class SSGN	
Armament:	Torpedoes, SS-N-9 antiship cruise missile
Propulsion:	Nuclear
Submerged Displacement:	5,400 MT
Initial Operational Capability:	1974
VICTOR III-Class SSN	
Armament:	Torpedoes, ASW missile
Propulsion:	Nuclear
Submerged Displacement:	6,300 MT
Initial Operational Capability:	1979
OSCAR I/II-Class SSGN	
Armament:	Torpedoes, SS-N-19 antiship cruise missile
Propulsion:	Nuclear
Submerged Displacement:	17,000 MT(I)/18,000 MT(II)
Initial Operational Capability:	1981(I)/1987(II)
KILO-Class SS	
Armament:	Torpedoes
Propulsion:	Diesel
Submerged Displacement:	3,000 MT
Initial Operational Capability:	1980
SIERRA II-Class SSN	
Armament:	Torpedoes, ASW missile
Propulsion:	Nuclear
Submerged Displacement:	7,930 MT
Initial Operational Capability:	1991
YANKEE-Class SSN	
Armament:	Torpedoes
Propulsion:	Nuclear
Submerged Displacement:	10,000 MT
Initial Operational Capability:	1988
AKULA-Class SSN	
Armament:	Torpedoes, ASW missile, SS-N-21
Propulsion:	Nuclear
Submerged Displacement:	10,000 MT
Initial Operational Capability:	1988
LOS ANGELES-Class SSN-688[1]	
Armament:	Torpedoes, HARPOON antiship missiles, TOMAHAWK SLCM
Propulsion:	Nuclear
Submerged Displacement:	6,500 MT
Initial Operational Capability:	1976
STURGEON-Class SSN-637	
Armament:	Torpedoes, HARPOON, TOMAHAWK SLCM
Propulsion:	Nuclear
Submerged Displacement:	4,600 MT
Initial Operational Capability:	1976

[1] USS Los Angeles- and Sturgeon-classes are shown for comparison purposes. Four other US boats are still deployed, including Permit (2), Ethan Allen (1), and Norwhal (1) classes.

As of September 1991

to provide a wide range of support for Soviet Navy surface ship, submarine, and naval infantry forces. Associated SNA missions have included: ASUW and ASW; land and coastal installation strike/attack; reconnaissance and intelligence collection; targeting support, particularly for missile-equipped surface ships, aircraft, and coastal defense sites; mining and mine countermeasures; amphibious warfare

It's All in the Name

TASS/SOVFOTO

The naming of a ship involves a certain amount of political maneuvering, especially in the Soviet Union. During its construction in the early 1980s, the first Kuznetsov-class carrier was named the Leonid Brezhnev. Later, after the rise of President Gorbachev and the heightened criticism of the Brezhnev era, the ship was named after the capital of the Georgian Republic, Tbilisi. With Georgia now in turmoil and demanding autonomy, the ship's name was changed to the Admiral Flota Sovetskogo Soyuza Kuznetsov (Admiral of the Fleet of the Soviet Union Kuznetsov). Of note, Admiral Kuznetsov, former Commander-in-Chief of the Soviet Navy, was politically resurrected by Gorbachev more than 30 years after he was demoted by Stalin.

The name of the second Kuznetsov carrier was changed from Riga, the capital of Latvia, to Varyag; and the fourth Kiev-class carrier changed its name from Baku, after Azerbaijan's capital city, to the Admiral of the Fleet of the Soviet Union Gorshkov, former Navy chief and architect of the modern Soviet Navy. At least two cruisers have been renamed: Tallin, for Estonia's capital, to Vladivostok; and Marshal Voroshilov to Khabarovsk.

Coastal Defense Forces

The Coastal Defense Force has been restored by the Soviet Navy and has absorbed two former branches, the Soviet Naval Infantry (SNI) and the Coastal Missile Artillery Force (CMAF). Each western fleet's land-based coastal defense force now combines a former motorized rifle division, renamed a coastal defense division (CDD), Naval Infantry, and a Coastal Missile Artillery Force. The same structure exists within the Pacific Ocean Fleet.

The reorganization of the Navy's land-based coastal defense force was probably initiated as a result of Soviet force reductions and their declared defensive doctrine. Since at least 1986, a distinct trend in Soviet military writings indicates that a reexamination of coastal defense concepts has been under way. One Soviet source has stated that the Coastal Force is a revival of the old Coastal Defense Service that was a major branch of the Navy from 1926 until its abolition in the early 1960s.

support; contribution to fleet air defense; and provision of strategic communications support to the Navy's ballistic missile submarine force.

During the past several years, SNA restructuring has been marked by an emphasis on quality over quantity and a transformation from a land-based, bomber-dominated force to one in which the primary combat power will be represented by fighter and fighter-bomber aircraft, based on land and sea. The trend for quality is most evident in the intermediate-range missile air regiment force, which has experienced a continuing decline in numbers of units and assigned aircraft while at the same time upgrading from the obsolescent Tu-16 Badger to the supersonic Tu-22M Backfire. By contrast, a major expansion of SNA's permanently land-based tactical air element in the ATTU zone opposite NATO was facilitated by the 1989-90 resubordination to the SNA of former SAF Su-24 Fencer, Su-17 Fitter, Su-25 Frogfoot, MiG-23 Flogger, and MiG-27 Flogger fighter-bombers and MiG-29 Fulcrum fighters.

The resubordination of former SAF assets resulted in the creation of nine new SNA tactical air regiments within the ATTU zone and the upgrading of an existing fighter-bomber regiment with newer variant aircraft. The net result of these related developments is a markedly enhanced capability to conduct ASUW, land and coastal installation strike/attack, amphibious warfare support, and fleet air defense operations in the coastal zone and peripheral waters. The introduction of the first Kuznetsov-class carrier, and its embarked Su-27 Flanker and MiG-29 Fulcrum aircraft, will enhance fleet air defense capabilities. The Yak-38 Forger, which has operated from Kiev-class carriers since 1976, appears to be in the process of retirement from combat service well in advance of the projected delivery date of a successor aircraft. Though there are no indications of a successor aircraft for the aging Badger and Bear D maritime reconnaissance platforms, the Soviets continue to slowly modernize their ASW force. Highlights include additional deliveries of Tu-142 Bear F Mod 4 long-range, fixed-wing aircraft and Ka-27 Helix A helicopters to operational regiments, and the start of

acceptance trials of the A-40 Albatross, the largest jet amphibian ever built in both the Be-42 search and rescue and Be-44 ASW versions. The A-40 will eventually replace the aging I1-38 May and Be-12 Mail aircraft, though not on a one-for-one basis.

CHEMICAL AND BIOLOGICAL WARFARE

Chemical Warfare (CW)

The USSR has the most extensive chemical warfare (CW) capability in the world. Its declared stockpile of 40,000 tons of chemical agents is the world's largest. It includes chemical agents in weapons as well as in bulk containers. The Soviets can deliver chemical agents with almost all of their major conventional weapon systems, from mortars to long-range tactical missiles to high-performance aircraft. They have stated their inventory includes persistent and nonpersistent nerve agents, as well as an assortment of blister agents. This variety of agents and weapons allows the Soviets to select weapon systems that can attack virtually any target at any tactical range. In spite of 1990-91 visits by Western delegations to some Soviet CW production plants and storage locations, some important questions remain unresolved about the full extent of Soviet CW capabilities.

Recently, Soviet officials indicated that all of the USSR's chemical weapons are now stored in the Russian Republic. This implies that a massive consolidation of Soviet chemical weapons has occurred in recent years, probably since the mid-1980s. Activity observed at several known and suspected Soviet CW storage locations indicates that this consolidation effort may still be under way. The Soviets may be relocating their chemical stockpiles to better protect them from internal unrest and to ease the logistics problems involved in getting rid of their old and obsolete weapons. Undeclared, clandestine storage of chemical weapons anywhere in the USSR remains a possibility.

Specially trained and equipped troops enhance Soviet capabilities to protect themselves against nuclear, biological, and chemical (NBC) hazards. The Soviets have over 60,000 dedicated personnel who specialize in reconnaissance and decontamination operations and over 30,000 special vehicles for NBC operations. The Soviets have evaluated thousands of toxic compounds for potential use as chemical warfare agents and have also conducted parallel research on new methods of dissemination and weapon configurations.

TASS/SOVFOTO

Soviet specialists remove nerve agent (diluted sarin) from a bomb during a demonstration of their mobile chemical weapon destruction system at Shikhany in October 1987. The Soviets still lack a destruction capability adequate to their huge stocks of chemical weapons.

The Effects of Arms Control Negotiations

In 1991, the US launched a major new initiative to complete the global Chemical Weapons Convention by May 1992, and the USSR expressed its support. Bilateral talks have not reached a conclusion because of two major issues. First, the Soviets lack a plan to meet the CW destruction deadlines specified in the agreement. Second, the Soviets insist that they be permitted to convert CW production plants from military to civilian use, rather than destroy them. The Soviets have offered to accept a permanent monitoring presence at those plants. However, such conversion would leave a latent CW production capability in place, and it does not satisfy the destruction agreement requirement to dismantle existing CW production plants.

The Soviets have not furnished a workable CW destruction plan, nor do they have a facility capable of destroying their declared chemical agent stockpile of 40,000 tons. The Soviets have not decided where to build the one or more destruction facilities they will need and are meeting strong public resistance near candidate sites. It is extremely unlikely that the Soviets will be able to meet the December 1992 bilateral destruction accord deadline for initiating their CW destruction program in anything but symbolic fashion. Western technical assistance has been offered and will probably be required to get the Soviet chemical agent and weapon destruction program under way.

Biological Warfare (BW)

There is persuasive evidence that the Soviets are

supporting research and development of biological warfare (BW) agents, as well as their weaponization. The Sverdlovsk biological agent accident of 1979 that resulted in the release of anthrax from a bacteriological warfare institute provides one example of such evidence. In general, the size and scope of their efforts are not consistent with any reasonable standard of what could be justified on the basis of prophylactic, protective, or peaceful purposes. Their various BW activities continue to be in violation of the Biological Weapons Convention they ratified in 1975.

CONCLUSION

Through the mid-1980s and into the 1990s, Soviet general purpose forces were in the midst of a comprehensive reorganization, comparable in size only to the massive military cutbacks in the early Khrushchev years. This reorganization encompassed virtually every element of Soviet theater forces and consisted of adoption of a new defensive doctrine, substantial force reductions, and withdrawal of Soviet forces from Eastern Europe.

The results of the failed coup in August have introduced elements of further significant change to the armed forces. The basic context for armed forces in the USSR as a clear symbol of the dominance of the center has changed. Republic leaders will have an increasingly important role in determining key military policy issues affecting all aspects of the forces. ■

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