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USSR Monthly Review

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September-October 1984

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SOV UR 84-009JX

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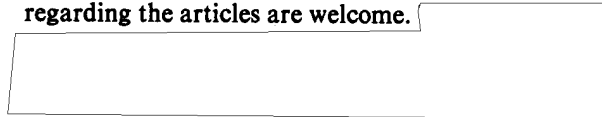
USSR Monthly Review



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September-October 1984

The *USSR Monthly Review* is published by the Office of Soviet Analysis. Comments and queries regarding the articles are welcome.



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October 1984

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Page Denied

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Contents

	<i>Page</i>	
Soviet Strategic Forces for Intercontinental Warfare in the 1990s	1	25X1
Perspective <input type="text"/>		
We believe Soviet pessimism regarding prospects for a relaxation in the superpower rivalry with the United States reinforces Moscow's basic view that national security will continue to require strong military forces and, at a minimum, strategic parity with the United States. Moscow probably has concluded that, while arms control efforts may provide some limits on the strategic nuclear competition, US strategic programs present a new challenge that will demand a response regardless of the resource costs. As a result, we can expect a new impetus over the next decade to already formidable strategic research, development, and modernization programs. <input type="text"/>		25X1
US-Soviet Relations and Prospects for Arms Control <input type="text"/>	7	25X1
The Soviet view of long-term bilateral relations with the United States is dominated by uncertainty and pessimism. Despite this view and the current hiatus in talks, the Soviets will attempt to limit US strategic systems through arms control agreements, particularly in the areas of space weapons and ballistic missile defense. <input type="text"/>		25X1
<input type="text"/>		25X1
Technology Trends That Will Affect Soviet Strategic War-Fighting Capabilities in the 1990s <input type="text"/>	9	25X1
The long leadtime required to develop and produce new weapon and space systems means that the systems the Soviets will deploy through the mid-1990s will be based largely on technology developed indigenously or obtained from the West in the 1975-85 period. While the Soviets lead the West in some areas, the technology available to the USSR for application to future military systems is now generally about five years behind that of the West. Some narrowing of this gap is expected by the end of the century. <input type="text"/>		25X1
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SOVUR 84-009JX

October 1984

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Resource Implications of Soviet Strategic Force Modernization in the 1990s 

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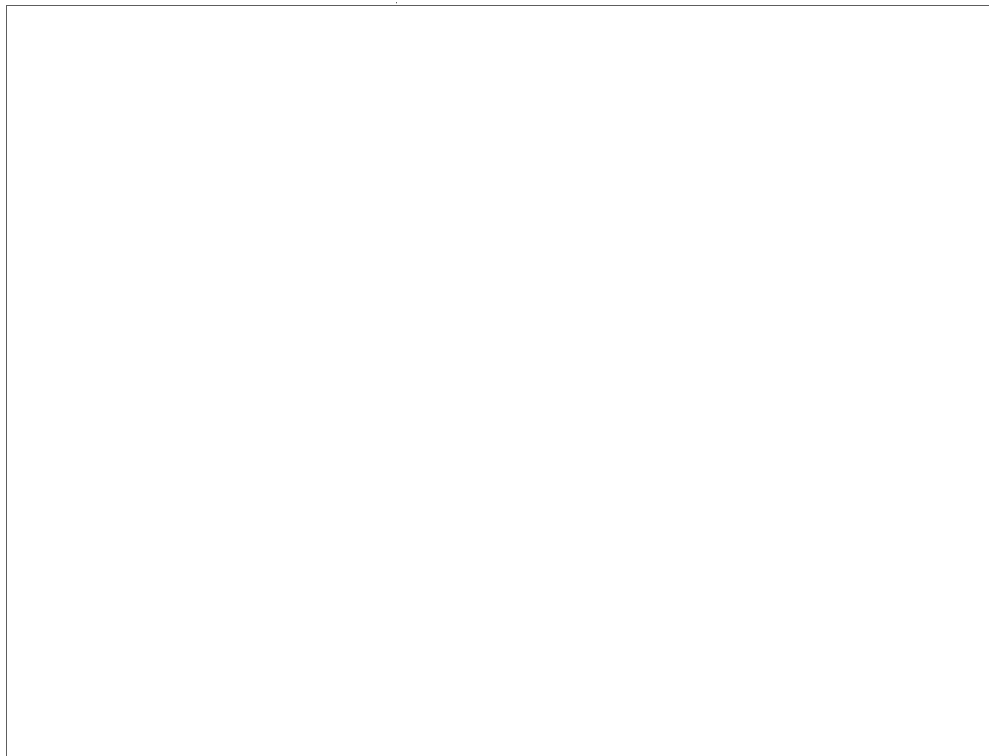
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The programs we expect the Soviets to undertake in modernizing their strategic forces in the coming decade will entail a sharp increase in spending. In addition to difficulties with the design and manufacture of complex weapon systems incorporating Soviet state-of-the-art technology, the Soviets may find the economic requirements for this effort far more burdensome than in the past. Because they are confronted with a declining rate of economic growth, a major increase in spending on strategic programs would necessitate cuts in other military programs or an increase in the share of the economy going to defense. 

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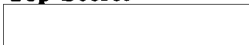
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Changing Soviet Doctrine in Central Europe and US War-Fighting Plans [redacted] 37

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Soviet force developments over the past few years appear to undercut key assumptions of new US operational concepts for defeating a Warsaw Pact offensive in Central Europe. [redacted]

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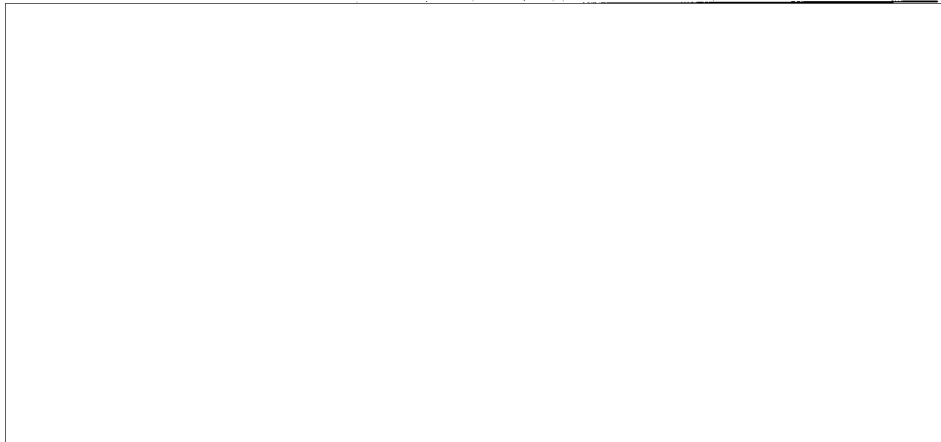
[redacted] a realignment of forces suggests that the Soviets are changing their offensive operational concepts—either in reaction to, or coincidental with, the development of new US doctrine and in ways inimical to it. [redacted]

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Soviet Transportation: A Look at Its Improved Performance [redacted] 47

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The performance of the Soviet transportation sector continues to improve. The recovery of the railroads is largely the result of a program prescribed by Brezhnev in 1979. The benefits of the program were delayed by its unbalanced and unenforced implementation in the early 1980s and by a series of external disruptions to rail transportation from 1979 through 1982. The performance of other carriers has been mixed: gas pipeline traffic was up 15 percent in the first half of this year, but highway and river traffic declined.

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Top Secret

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Briefs	Soviets Expand Industrial Management Experiment	<input type="text"/>	51	25X1
	Major Siberian River Diversion Project	<input type="text"/>	51	25X1
	Another Soviet Retail Price Reduction	<input type="text"/>	52	25X1
				25X1
	Civil Defense Failure at Severomorsk?	<input type="text"/>	54	25X1
			25X1	
	Guineans Grant Soviets Fishing Port	<input type="text"/>	54	25X1



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Soviet Strategic Forces for Intercontinental Warfare in the 1990s

Perspective



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We believe Soviet pessimism regarding prospects for a relaxation in the superpower rivalry with the United States reinforces Moscow's basic view that national security will continue to require strong military forces and, at a minimum, strategic parity with the United States. Moscow probably has concluded that, while arms control efforts may provide some limits on the strategic nuclear competition, US strategic programs present a new challenge that will demand a response regardless of the resource costs. As a result, we can expect a new impetus over the next decade to already formidable strategic research, development, and modernization programs.



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Missions and Objectives

We expect little change over the next decade in the missions and objectives that guide the development, procurement, and employment of Soviet strategic forces. There is a standing requirement—almost irrespective of the particular US administration, policy framework, or military programs facing the USSR at any given time—for strategic forces that can mount effective attacks to cripple US military potential and national resolve. These forces also must provide active and passive defenses to help limit damage to the Soviet homeland and protect and sustain a command and control capability as well as the leadership required to direct and coordinate military operations and the eventual reconstitution of the country.



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The Soviet approach to nuclear strategy has been inherently inhospitable to Western notions that place a sharp distinction between "deterrence" and "war-fighting" requirements. Moscow has consequently been unresponsive to calls for restraint in the buildup of strategic forces and in the deployment of counterforce and various defensive systems that the West has claimed to be unnecessarily provocative.



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SOV UR 84-009JX



October 1984

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It is doubtful that the Soviets are counting on arms control initiatives to play a significant role in managing the arms competition over the next decade. The Soviets seem to view arms control as a supplement to—not a substitute for—a strong strategic arsenal. They are likely, therefore, to value arms control agreements and adherence to the ABM Treaty as only one means of trying to head off the more threatening US programs, such as the Strategic Defense Initiative and antisatellite weapons. Negotiations also provide the opportunity to propagandize the Soviet “peace” image and to undercut popular support for Western military programs. [redacted]

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A strong strategic force posture also underpins an assertive Soviet foreign policy in peacetime. Such a force is most likely to impress—and, if possible, intimidate—foreign audiences. Moscow is likely to continue to appreciate that, while it has fielded large conventional forces throughout the postwar era, it acquired true superpower status only when, by the late 1960s, it had registered major achievements in its strategic nuclear capabilities. [redacted]

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Soviet Perceptions of the Nuclear Threat

The Soviets believe that, despite the unprecedented destructiveness of nuclear war and determined efforts to avoid it, an all-out nuclear war between the United States and the Soviet Union remains a distinct possibility. We believe, however, that—recent “war scare” rhetoric notwithstanding—the Soviets see little likelihood that the United States would initiate a surprise nuclear attack from a peacetime posture. Instead, they believe NATO most likely would initiate the use of nuclear weapons to prevent a conventional defeat by the Warsaw Pact. In turn, we judge the Soviets would prefer to count on the numerical preponderance of Warsaw Pact conventional forces to achieve their military and political objectives. Moscow would be unlikely to initiate nuclear conflict unless Pact conventional forces were faced with a major defeat or unless they detected signs that NATO was preparing to use nuclear weapons. [redacted]

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The Soviets have tried in recent years to achieve greater survivability and more operational flexibility in their force structure and control mechanisms for fighting a nuclear war. Although military writings [redacted] indicate that they would prefer to seize the initiative and launch a large, preemptive strike, they have worked to diversify their employment options, developing a launch-on-tactical-warning (LOTW) capability. They have sought to reduce vulnerability by emphasizing mobility for their intermediate-range ballistic missiles (IRBMs) and intercontinental ballistic missile (ICBM) forces as well as their command and control assets. They also have created bastion areas to protect their ballistic missile submarines (SSBNs) from attack. Such developments are responses, at least in part, to the inherent uncertainties in nuclear warfare, including the possibility of having to fight a protracted, all-out nuclear war. [redacted]

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Strategic Challenges

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Soviet military planners must contend with various ongoing or projected military efforts by the United States and NATO that challenge the USSR's ability to continue to meet its strategic force objectives in the 1990s. These challenges include:

- The Peacekeeper (MX) ICBM, which, depending on the extent of its eventual deployment, will enhance the US counterforce threat against the USSR.
- The projected US small mobile ICBM, which will pose additional and more complicated targeting requirements for Soviet forces.
- The Trident II/D-5 submarine-launched ballistic missile (SLBM) system, which will give the United States a genuine sea-based counterforce capability—one Moscow could not effectively counter with its current LOTW and antisubmarine warfare (ASW) capabilities.
- The US B-1B and advanced-technology (Stealth) bombers along with deployments of ground-, air-, and sea-launched cruise missiles, which pose substantial air defense challenges for the USSR.
- Deployment in Europe of Pershing IIs, which can threaten important strategic assets in the western USSR, such as key command and control installations. They also have a short flight time, which would complicate a Soviet LOTW effort. The Soviets also may believe that either current or follow-on systems could threaten key command installations in the Moscow area.
- The US Strategic Defense Initiative aimed at eventually providing a space-based defense nullifying (or at least reducing) Moscow's longstanding strength in counterforce capabilities. Such US advances could nullify also the USSR's near monopoly in strategic defenses.

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[Redacted]

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- Improvements in British and French nuclear forces, which, by the mid-1990s, could result in a combined total of around 1,000 reentry vehicles for use against the USSR.
- Advances in US/NATO concepts and capabilities for conventional warfare in Europe, such as conventionally armed, long-range cruise missiles, that would enable the Alliance—without resorting to nuclear weapons—to strike the Soviet homeland and reduce Soviet strategic forces before they can be used. [Redacted]

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Technological and Economic Factors

To develop and produce weapons for the 1990s capable of sustaining the growth of Soviet military power and countering Western progress will require advances in various technologies, many of which the Soviets will need to import from the West. [Redacted]

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[Redacted]

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[Redacted] The Soviets are working on advanced technologies for weapon applications, but they will particularly need to improve their capabilities to mass-produce such technologies to match the challenges of the 1990s. [Redacted]

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The Soviets are likely to find the resource requirements for the modernization of their forces more burdensome than in the past. The two previous upswings in strategic expenditures—in the late 1960s and mid-1970s—coincided with periods of steady growth in the economy. In contrast, an upswing beginning in the late 1980s would correspond with what we believe will be a period of relatively slow or declining rates of economic growth. Although we estimate that the Soviet economy is large enough and strong enough to support a major strategic modernization effort, such an effort could hinder the improvement of overall industrial productivity and may require cuts elsewhere in the defense budget. [Redacted]

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Forces Expected in the 1990s

Soviet military planners currently are preparing the 1986-90 five-year defense plan and are making decisions that will determine to a significant degree the capabilities, size, and composition of the USSR's strategic forces in the 1990s. They will strive to keep US and NATO military programs from undoing and perhaps even reversing their hard-won strategic gains of the last two decades. [Redacted]

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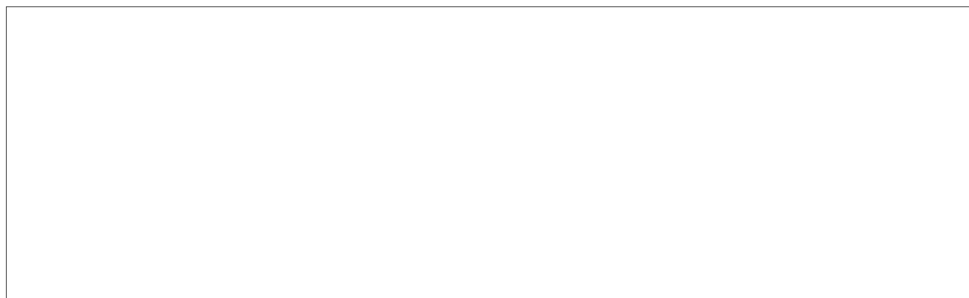
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The major trends in the development of Soviet strategic forces in the early 1990s probably will include:

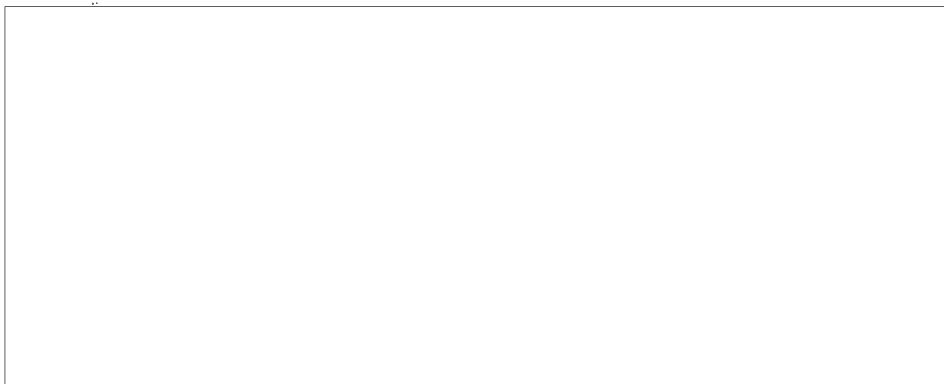
- Continued reliance on the ICBM force as the backbone for intercontinental strikes and on the IRBM force for meeting nuclear mission requirements on the periphery.
- Advances in ICBM accuracy and increases in the number of hard-target-capable warheads.
- Efforts to achieve increased effectiveness and enhanced survivability through the deployment of more warheads on SLBMs and mobile ICBMs.
- A more diversified attack force through the deployment of long-range cruise missiles and advanced bombers.
- Improved command, control, and communications capabilities through increased hardening and the deployment of mobile systems.
- Increased emphasis on air defense to counter aerodynamic targets that fly at low altitudes and those that have very small radar cross sections.



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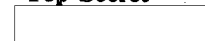
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The Soviets could pose significant challenges to the United States later in the 1990s if they succeed in making technological breakthroughs in the application of lasers and directed energy to such tough areas as space and ballistic missile defense. Similarly, any breakthrough in the creation of an effective ASW capability could provide the Soviets with a significant gain over their current capabilities [Redacted]

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[Redacted] we judge that there is little possibility that they will be able to deploy a system that could reliably monitor US SSBNs patrolling in the open ocean. [Redacted]

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The articles that follow discuss major trends in Soviet strategic forces in the 1990s that will affect their nuclear war-fighting capabilities. [Redacted]

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[Redacted]

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US-Soviet Relations and Prospects for Arms Control [Redacted]

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Soviet Leadership Perceptions

The Soviet leadership is less certain today than it was a decade ago about the long-term course of US-Soviet relations. In the early 1970s the Soviets probably hoped that detente would become the dominant influence on the bilateral relationship, limiting new US strategic programs while allowing the USSR to build up its own strategic arsenal and to expand its relations with Western Europe and its influence in the Third World without serious challenge from the United States. [Redacted]

This Soviet perception was jolted by a series of events, including Congressional insistence that US trade concessions be conditional upon an improvement in Soviet human rights performance; growing US reaction to Soviet interventions in the Third World, particularly Angola and Ethiopia; US nonratification of the SALT II agreement; the NATO decision to deploy new US intermediate-range missiles in Europe in response to Soviet deployment of SS-20s; and US sanctions resulting from the Soviet invasion of Afghanistan and from Moscow's role in suppressing the Solidarity movement in Poland. [Redacted]

The election of a US administration with the stated resolve to challenge the USSR globally while substantially modernizing US strategic forces further deepened Kremlin concern that US policy had taken a fundamentally anti-Soviet turn. Indeed, Soviet commentary on the current US election campaign has charged that the Democratic Party platform offers no real alternative to the current administration's policies, despite its criticism of them. [Redacted]

Not surprisingly, this political assessment triggered a reassessment by some Soviet officials of the implications of US policy for Soviet national security. As early as June 1980, a Central Committee resolution asserted that US actions had increased the danger of war and that this required strengthening Soviet defense capabilities.¹ In recent months, Defense Minister Ustinov has accused the United States of preparing for war and affirmed that the USSR will not allow

the military "equilibrium" to be upset. Meanwhile, Politburo member and party secretary Gorbachev has stated that "mounting aggressiveness" from the West requires the USSR "more than ever" to strengthen its defense. [Redacted]

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There appear, however, to be variations in the degree of urgency the Soviet leaders assign to the US military threat and to the need for measures to counter it. General Secretary Chernenko stated on 29 April that the worsened international situation does not require extending the workweek, setting up a special fund for the defense of the country, or delaying implementation of programs to raise the living standard of the Soviet people. Gorbachev, even while calling for strengthened defenses, denied that detente has been "irreversibly undermined." In June, the elite-oriented newspaper *Literaturnaya Gazeta* published a fictional dialogue by the influential political commentator Fedor Burlatskiy arguing that, although "some people" might disagree, the threat of war is less now than in 1939 or in the 1950s. [Redacted]

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Moreover, while the Soviet view of long-term relations with the United States appears to be predominantly pessimistic, there are voices arguing that "objective factors"—particularly US budget deficits and the allegedly growing "peace movement"—will force changes in US policy independently of any Soviet action.² The continued airing of these views suggests that the Soviets have yet to determine the extent of increase in their strategic programs for the 1990s. Although the advanced age of current Soviet leaders practically ensures a major change in the composition of the Politburo during the next few years, one tenet of Soviet policy will not change—Moscow's determination not to allow any deterioration in its strategic position vis-a-vis the United States. [Redacted]

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Arms Control Outlook

In an attempt to avoid competition in areas where the United States enjoys a technological advantage, the Soviets almost certainly will continue to attempt to limit US systems through arms control proposals, notwithstanding the current hiatus in talks. The scheduled completion of NATO cruise missile and Pershing II deployments in Europe by the end of this decade is likely to result in an intensification of Soviet efforts in the INF field toward restricting US forward-based aircraft and limiting the modernization of US and allied systems, especially those including new technologies such as stealth. They probably believe there is at least some chance over the longer term that political pressure in the United States or Western Europe will compel US leaders to alter some arms control positions and perhaps curtail some military programs. Moreover, portraying themselves as advocates of arms control is almost certain to remain a central theme of Soviet propaganda.

Although arms control initiatives may provide the Soviets new opportunities, they probably believe that the strategic environment in the 1990s may make reaching arms control agreements even more difficult than in the past. The modernization of British and French nuclear forces along with the expansion of Chinese strategic forces makes any agreement limited only to US and Soviet forces potentially more problematic. These difficulties are likely to be further compounded by the rapid pace of technological advances in weapon system development. The Soviets are likely to increase their efforts, therefore, to restrict the expansion of third-country forces through regional arms control proposals. They are also likely in any future negotiations with the United States to place even more stress on their demands for compensation for non-US forces.

Soviet arms control proposals will continue to allow for deployment of new Soviet strategic offensive systems likely to begin in the mid-to-late 1980s. Indeed, the Soviet START proposal appears intended to protect those key strategic development programs for the remainder of the decade. In contrast, the Soviets view the US START proposal as threatening both their existing strategic force posture and their planned force improvements—particularly in the field of ICBM deployments.

A salient feature of Soviet arms control policy in the years ahead also will be its emphasis on limiting ballistic missile defense and space weapon systems—areas where the Soviets believe they are at a long-term technological disadvantage despite their current lead in deployable systems. They will continue to support adherence to the ABM Treaty as long as they believe it serves their efforts to deter or postpone deployment of US systems while proceeding with their own research. Unless they achieve a major developmental breakthrough, they will oppose any US effort to modify the Treaty to allow for new ABM defenses.

Perceiving an across-the-board US technological lead in the space weapons field, the Soviets will seek as broad a ban as possible on the testing and deployment of weapons in space and on earth-based weapons for use against space targets. They will not necessarily maintain their current insistence on a comprehensive ban on space weapons. They may demonstrate some flexibility, which could result in the acceptance of mutual capabilities against low-altitude satellites in return for a ban on high-altitude antisatellite weapons.

Whatever direction US-Soviet relations and arms control negotiations take over the next decade, the Soviets will continue to rely primarily upon their own military might to maintain strategic parity with the United States. Whenever they conclude that their position is threatened by US advances, or see opportunities for advances of their own, they will introduce new programs or accelerate those already in train. Their bleak portrayals of the state of bilateral relations may be intended in part to justify the additional investment this will require.

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Technology Trends That Will Affect Soviet Strategic War-Fighting Capabilities in the 1990s

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The long leadtime required to develop and produce new weapon and space systems means that the systems the Soviets will deploy through the mid-1990s will be based largely on the technology developed indigenously or obtained from the West in the 1975-85 period. In general, the technology available to the USSR for application to future military systems is about five years behind that in the West. Some changes to systems under development may be incorporated in midstream, but the Soviets usually institute a technology freeze early in a program. They evidently believe that a stable development process using relatively proven technologies limits the risks entailed in new programs. Nevertheless, the USSR is now moving toward greater efforts in developing complex multimission weapons that can compete with Western systems, rather than the traditional emphasis on those with design simplicity and a single mission.

Despite their many problems, the Soviets currently lead the United States in several key technologies.

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Soviets will increasingly emphasize advanced radar and electro-optical sensors in an effort to counter US stealth technology.

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Prior to the mid-1960s, the Soviets attempted to accelerate the introduction of technological advances into some new weapon systems, but these efforts proved largely unsuccessful. Responding to these failures, the Soviets began to add new technologies to weapon designs at a more measured pace, incorporating advances only after the completion of applied research. This approach has resulted in a persistent modernization effort that has been characterized by gradual improvements to systems and that has compensated somewhat for Soviet production weaknesses as well as for the attendant technological lag behind Western systems.

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Research and Development

Fielding more capable systems has required the Soviets to increase resources for research and development (R&D). Over the past 20 years, they have doubled the number of research institutes, including increases in those dedicated to defense, and have increased defense-related tasking of institutes outside the defense industry. The steady expansion of their existing design bureaus is also an indicator of their efforts to incorporate new, more complex technologies. All this expansion has allowed them to continue to support simultaneously the number of programs that they have conducted in the past—about 200.

Production

The Soviets have had some success in reorganizing industries and modernizing facilities to hasten the assimilation of new technology into production. They have been less successful in producing weapon systems that rely on substantial advances in technology. Problems in system integration, production engineering, and quality control frequently result in prolonged startup times as well as slow rates of production for high-technology systems. A combination of other factors—more multipurpose weapons, higher costs, and more difficult and costly maintenance requirements—is likely, in many cases, to cause the Soviets to

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Of equal importance, the Soviets have pursued a well-organized national program for acquiring Western technologies in an effort to reduce costs and development time. They are especially dependent on Western technology for computers, microelectronics, and automated production technologies. They also face major limitations in signal processing technology and in precision test equipment. Their lag behind the West in key technologies will continue to hamper many programs, including those for antisubmarine warfare (ASW), aircraft, and command and control systems.

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produce new and more technically advanced systems more slowly and in smaller quantities than weapon systems based on evolutionary advances in technology. [redacted]

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Projected Soviet Advances

We base our projections of Soviet weapon systems of the 1990s on evidence of programs now in development and technology trends. However, our understanding of specific Soviet technologies is not uniform. [redacted]

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Strategic Offensive Systems. Soviet emphasis in the development of new strategic offensive systems will be on greater payload capabilities that will result in increased numbers of reentry vehicles, as well as on improved accuracy. We expect that by the early 1990s the Soviets will develop ICBMs with CEPs of about [redacted]

There is an extensive body of literature dating from the 1960s demonstrating Soviet knowledge of, and research in, stealth-type techniques to achieve weapon survivability. Aircraft and cruise missiles retrofitted with radar-absorbing paints or structural materials could be deployed by the early 1990s. Further reductions of radar cross sections could be achieved after the mid-1990s by incorporating body shaping along with radar-absorbing materials in new systems. In their ICBM force, however, the Soviets will continue as they have since the 1950s to stress mobility and alternative basing options to reduce vulnerability. [redacted]

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Although we expect them also to pursue the development of maneuvering reentry vehicles (MaRVs) for ICBMs, they probably will not master required sensor technologies in time to begin deploying ICBM MaRVs before the early-to-middle 1990s. We also expect the GLONASS global positioning satellite to provide continuous, precise navigation to military users, thereby increasing the accuracy of mobile delivery systems. [redacted]

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Strategic Defensive Systems. The Soviets' growing problems in strategic defense also will require some technologically advanced systems. [redacted]

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[redacted]

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Other accuracy improvements on systems fielded in the 1990s probably will incorporate autonomous position update systems to correct navigation errors for their long-range, land-attack cruise missiles. Both active and passive sensors probably will be developed for the missiles' terminal flight phase to improve their accuracy. Such developments will permit use of smaller nuclear, or even conventional, warheads against hardened or small targets. [redacted]

Moreover, the Soviets are undoubtedly concerned that rapid US advances in ballistic missile defense could eventually put them at a relative disadvantage if either side abrogated the ABM Treaty. Their vulnerability to low-altitude bomber and cruise missile penetration will be extended as more air- and ground-launched cruise missiles are fielded and especially as stealth bombers and advanced cruise missiles become operational in the 1990s. [redacted]

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The Soviets could increase the payload capabilities of their liquid-propellant missiles. For example, they could achieve an improvement of about 20 to 30 percent by increasing rocket engine chamber pressures. By the early 1990s the use of advanced propellants could yield another 15- to 30-percent improvement [redacted]

ABM radar improvements allowing the Soviets to detect reentry vehicles accompanied by penetration aids are likely. ABM interceptors will be more maneuverable and may incorporate a homing guidance subsystem [redacted]

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² CEP (circular error probable) is the radius of a circle around a target in which 50 percent of the attacking weapons are expected to fall. [redacted]

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[Redacted] Targets with very small radar cross sections, such as the supersonic AGM-69 short-range attack missile (SRAM), will continue to be beyond Soviet capabilities. We are uncertain, as to the future operational effectiveness of Soviet air defenses against a coordinated US attack, given their current limitations in communication and data systems for coordination of air defense assets as well as their problems in training and operational procedures. [Redacted]

[Redacted] These Soviet submarines probably will have improved hull material and structures that will make them capable of diving to greater depths. Moreover, Soviet activity in the design and testing of advanced submarine propulsion systems may allow sustained speeds for some classes in the 40- to 45-knot range or may allow very large fractions of the submarine's weight to be devoted to nonpropulsion purposes. If the United States continues to improve its ASW capabilities, however, the Soviets probably will remain at a significant disadvantage. [Redacted]

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New land-based air defense and ground-controlled-intercept radars with better signal processing capabilities will allow detection of some targets with small radar cross sections. SAM systems with greater firepower, mobility, and flexibility—possibly supplemented by air defense lasers for close-in attack—will allow simultaneous engagements of aircraft, cruise missiles, and tactical ballistic missiles. [Redacted]

Space Systems. Space systems improvements in the 1990s will provide the Soviet leadership with a more effective worldwide command, control, and communications capability and a more extensive attack-warning capability approximating that which the United States achieved over five years ago. Soviet geostationary communications satellites will provide command and control communications on a global basis, serving a greatly increased number of fixed and mobile military users with—at least in peacetime—continuous, secure, and reliable communications. [Redacted]

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We expect aircraft to carry advanced infrared electro-optical sensors and imaging radars. They probably will also have a number of advanced electronic warfare systems including highly capable jamming systems. High-speed computers and high-capacity data links will provide the potential for a more highly automated command system to coordinate various Soviet defense assets. [Redacted]

Soviet spacecraft will provide much more timely intelligence in the 1990s for use in indications and warning and in determining the status, composition, and disposition of forces to support strategic planning and operations. The expected satellite data relay system will allow near-real-time passage of data from a number of satellites in low Earth orbits. Their developmental electro-optical imaging system, for example, will provide worldwide near-real-time imagery of targets. The new manned space stations and the manned space plane could provide important supplemental reconnaissance coverage. [Redacted]

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Work in underwater acoustics as well as digital and optical signal processing will result in ship, submarine, aircraft, and limited-coverage shore-based ASW detection systems by the 1990s that have essentially the same technical characteristics as those deployed by the United States today. Soviet nonacoustic sensors probably will have limited capabilities. One system using airborne radars to detect submarine wakes may become operational, but detection would be possible only under certain favorable oceanographic and submarine operational conditions. Spaceborne systems will still be under research. [Redacted]

We believe current and prospective US antisatellite capabilities will stimulate the Soviets to increase the survivability of their satellite systems. Various measures, such as maneuvering to avoid interception and hardening to protect against nuclear or laser damage, could be taken. The Soviets might also use techniques to reduce the detectability of their spacecraft. [Redacted]

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The USSR may begin to field advanced ASAT systems in the mid-1990s. The first operational space-based lasers will probably have an ASAT mission

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against low-altitude targets. Near the end of the century, directed-energy ASAT systems for use against high-altitude space systems may be tested.

[Redacted]

Military Implications

Despite these anticipated advances, we project that the Soviets will generally remain behind the West in the development of most new technologies. The current and prospective upswing in US military research and development commitments will pose a major challenge to Soviet military R&D and make it more difficult for the USSR to close existing technology gaps, even though its military R&D will continue for some years to benefit from the large investment that characterized the past. [Redacted]

As a result, we see the Soviets continuing to rely on—and probably having to increase—their massive effort to acquire foreign technology. They also are likely to continue conducting extensive research programs to demonstrate the feasibility of new technologies before proceeding into development. [Redacted]

Technological strengths in several areas—such as storable liquid-propellant rocket engines, titanium alloy fabrication, and liquid-metal-cooled nuclear propulsion systems—reflect design choices different from those of the United States and, although providing some unique weapons capabilities, do not necessarily provide clear-cut military advantages. [Redacted]

Although the Soviets have made important gains in recent years, serious shortcomings in computer technologies will hamper their programs in antiballistic missile defense, antisubmarine warfare, and command and control systems. Limitations in signal processing technology will seriously impede their capabilities to defend against US stealth technology in the 1990s. A key to their success in this area is whether, in the near term, they can improve their ability to produce high-quality microelectronics and optical components in quantity or make major advances in the linking of their analog, optical, and digital processing capabilities. [Redacted]

Persistent inadequacies in production technologies and test equipment will continue generally to hamper the availability and reliability of deployed military systems. The initial production startup of new high-technology systems has often encountered problems.

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The Soviet Union is beginning to develop more technically complex multimission weapons and space systems. Many systems for the mid-1990s will, however, incorporate technologies that are currently in US systems or will be designed to counter the current US threat. The Soviet acquisition process does compensate somewhat for this lag by placing technological advances more frequently into modernized versions of deployed systems than does the United States. In a few cases, this has resulted in advanced technologies entering Soviet forces before they were incorporated in US systems. In the late 1990s and beyond, some military systems will include a number of military technologies that lag the West by no more than three to five years. [Redacted]

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Resource Implications of Soviet Strategic Force Modernization in the 1990s

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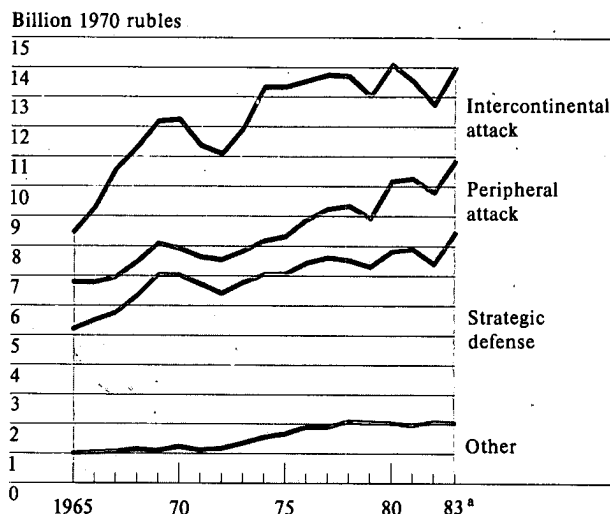
The modernization of Soviet strategic forces in the coming decade will probably entail a sharp increase in spending. In addition to difficulties with the design and manufacture of complex weapon systems incorporating Soviet state-of-the-art technology, the Soviets may find the economic requirements to be more burdensome than in the past. Unlike previous strategic modernization efforts, which coincided with periods of steady growth in the economy, this one will occur during a period of declining economic growth. A major increase in spending on strategic programs, therefore, would necessitate cuts in other military programs or an increase in the share of the economy going to defense.

Similar Spending Upswings in the Past

The resource implications of future strategic force modernization can best be understood when placed in the context of two previous Soviet modernization efforts (see graph). The first began in the mid-1960s and was characterized by a physical expansion of strategic offensive and defensive forces. Expenditures for strategic forces grew at about 10 percent a year during this period. A second spending upswing, which began in 1973, was largely due to qualitative improvements and an increase in the number of warheads on strategic ballistic missiles. Growth in Soviet spending during the second period was not as rapid as during the first. Indeed, spending on strategic programs plateaued after 1974 and declined as a share of total defense spending—from about one-quarter in the mid-1970s to less than one-fifth in the early 1980s.

The slower growth pattern of spending for strategic forces in the 1970s was consistent with the pattern of total defense spending during that period. In part, it reflects Soviet policy decisions to adhere to arms control agreements concluded in the 1970s. In addition, the Soviets encountered technical problems that may have significantly delayed the start of series production of some weapon systems. They may also have encountered problems in achieving

Soviet Investment and Operating Expenditures for Strategic Programs, 1965-83



^a Our estimate for 1983 is influenced by lead costs associated with weapons expected to be deployed in the succeeding two to three years. It may change as we collect additional information on Soviet activities.

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high levels of series production because the more sophisticated technology of newer systems requires high-quality machinery for manufacturing and testing materials and components as well as for precision processing.

Outlook for Strategic Force Expenditures

The leveling off of Soviet investment in weapons and military facilities and operating costs for strategic programs since the mid-1970s was a major contributor to a slowing in the rate of growth of total defense expenditures—from the historical rate of about 4

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percent a year to about 2 percent. Unless the upcoming modernization of the strategic forces is accompanied by offsetting reductions in spending for nonstrategic military programs, an increase in the growth of total defense spending seems likely. We do not know how fast the Soviets plan to modernize their strategic forces, but growth in spending between 4 and 7 percent is likely, given Soviet military requirements and the number and type of weapon systems in research, development, and testing.¹ This assessment assumes that no new unforeseen technological or manufacturing problems arise. These rates of growth would accelerate total defense spending from the current 2 percent to between 2.5 and 3 percent a year, even if spending on nonstrategic military programs were limited to about 2 percent. [Redacted]

We believe that the Soviets would find a sharp upswing in strategic expenditures and the more moderate acceleration in overall defense spending more of a burden than in the past. Since 1965, growth in the economy has matched growth in total defense spending, so the defense share of GNP has remained fairly constant at about 13 to 14 percent. The two previous upswings in spending on strategic programs coincided with periods of steady growth in the economy—5 percent in the late 1960s and 4 percent in the mid-1970s. In contrast, we project that during the upswing in the late 1980s the economy will grow at only about 2 percent a year. If so, the defense share of GNP in the late 1980s will exceed the current level. For example, if the annual rate of growth in defense spending increased to 3 percent, the defense share of GNP would be about half a percent larger than the current share. [Redacted]

Even though the Soviet economy has proved to be strong enough to support major strategic modernization efforts, such efforts now more than before would hinder attempts to improve industrial productivity. A sharp upswing in investment in new plant and equipment for strategic weapon production, for example, would absorb chemicals and high-strength steels that could otherwise be used in the production of turbine components and cutting tools for the civilian economy. Moreover, the finer tolerances and consistency of

[Redacted]

replication needed for the production of pulse Doppler radars and onboard computers for the new air defense interceptors require precision machinery—computerized timing and control devices and wafer-handling equipment—that are necessary for the mass production of advanced microelectronics and that are in short supply in the Soviet economy. [Redacted]

On balance, therefore, the potential for economic problems is likely to increase over the next decade. Moreover, problems with the design and manufacture of advanced weapons, which we believe have contributed to a recent plateau in weapons procurement, probably will increase over the next decade, especially as the number of new weapon systems incorporating Soviet state-of-the-art technology grows. Nevertheless, we believe that, as before, the Soviets are unlikely to constrain efforts to modernize their strategic forces solely on the basis of resource considerations. [Redacted]

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**Soviet Air Defense Aviation:
Capabilities Versus
Performance in the 1990s**

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Improvements in Western offensive air capabilities since the 1970s have challenged the Soviets to field a national air defense that is responsive to the evolving threat. They will have to cope with systems such as new NATO peripheral strike aircraft and long-range cruise missiles, as well as the prospect of intercontinental bombers with significantly reduced radar signatures. To do so, they will increasingly need defensive aviation that is characterized by flexible control and operations, independent pilot judgment, and an ability to operate in forward areas at some distance from the Soviet Union. Three new aircraft currently in the early stages of operational deployment or late stages of testing will be key to the attainment of these capabilities through at least the next decade. They are the MIG-29 Fulcrum A, SU-27 Flanker A, and IL-76 Mainstay airborne warning and control system (AWACS). The potential benefits of these aircraft and other possible technical improvements that may be made to Soviet national air defense, however, will not be fully realized unless the Soviets change a number of longstanding operational practices and attitudes.

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Soviet Air Defense Aviation Today

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Since 1960 the number of Soviet interceptors assigned to a national air defense role has declined from about 4,900 aircraft to about 2,300, with a gradual improvement in quality. If this trend continues as we estimate, Soviet air defense aviation could decrease by about 8 percent by the mid-1990s as older aircraft are replaced with more capable aircraft on a less than 1-for-1 basis. If the Soviets replace most of their YAK-28 Firebars, TU-128 Fiddlers, and SU-15 Flagons now in the operational inventory with Flankers, Fulcrums, and Foxhounds, the number of aircraft comparable to modern NATO weapon systems could increase to more than half the force by the mid-1990s. Virtually all of Soviet air defense aviation could be modernized by the end of the 1990s. 

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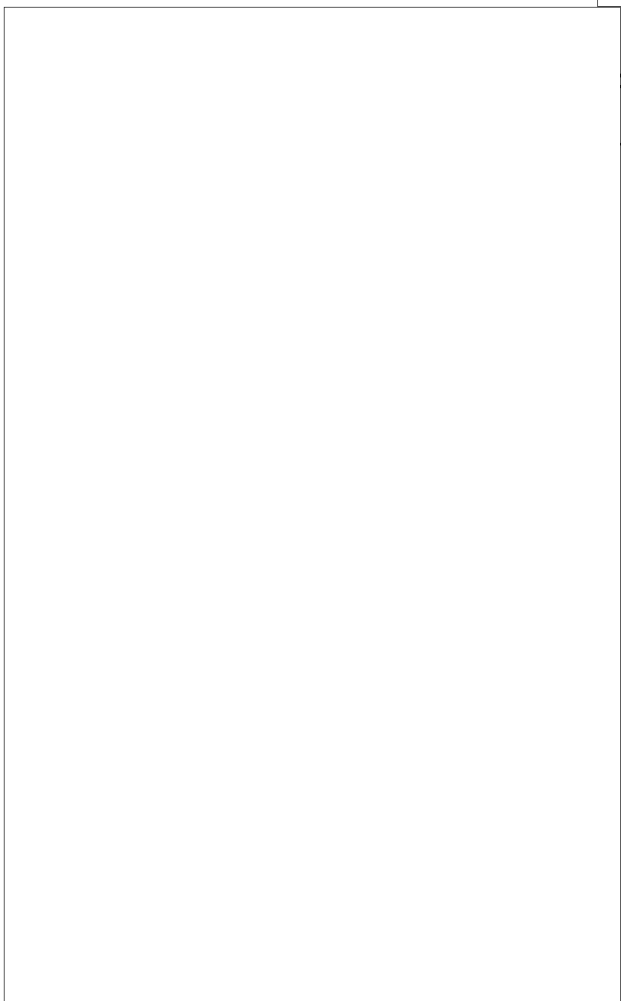
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Potential Improvements

Early-to-Mid-1990s. Because of the long leadtime required for the development, testing, and deployment of major new weapon systems, programs now in evidence reflect the most likely advances that the Soviets will incorporate into their defensive aviation through the mid-1990s. We do not expect deployment of any completely new fighters that represent radical change in design philosophy during this period. The Soviets, however, probably will incrementally improve aircraft now entering service in successive models. In some cases, what may appear to be a completely new aircraft actually will be an extensive modification of an older system—such as occurred with the Foxhound, which was developed as a highly modified version of the older MIG-25 Foxbat A interceptor.



Incremental improvements to the Mainstay AWACS could include enhancement of its radar, data links, and computer—steps that would make the aircraft better able to perform autonomous control of multiple intercepts. We speculate that the Soviets also could field during the next few years a system somewhat smaller and less complex than the Mainstay to increase the number of airborne radar aircraft that would be available for theater operations.

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Concomitant with improvements such as these, the Soviets probably will seek to enhance the interaction of components within their air defense system as a whole. Such efforts could include deployment of early warning and ground-controlled intercept radars with improved low-altitude capabilities. The Soviets probably also will institute improved procedures and deploy better equipment for passing data between ground controllers.

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Mid-to-Late 1990s. We estimate that the Soviets could develop and possibly deploy a fighter designed “from the ground up” by the second half of the 1990s, if they choose to do so. Such an aircraft could be an advanced tactical fighter or interceptor optimized for defense against cruise missiles. Although any description is highly speculative in the absence of a test program or known Soviet requirements, we believe it could have some of the following features:

- An airframe that could consist of 40- to 60-percent composite material, for structural integrity as well as for reduced observability.
- A radar cross section substantially less than a square meter for some azimuth angles.
- Improvements to air-intercept radar that could result in higher power and better detection of targets that present extremely small radar returns.
- A multiband infrared search and tracking system and, possibly, spread-spectrum coding for communications and radar.⁶

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⁶ Spread-spectrum coding enables signals to be transmitted and received on rapidly changing frequencies. It greatly increases the difficulty of detecting and jamming radar and other forms of electronic communication.

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Continuing Challenges

The development and deployment of the Fulcrum and Mainstay AWACS aircraft, the impending operational deployment of the Flanker fighter, and the ongoing test programs all reflect a Soviet emphasis on technology and qualitative factors and a corresponding attempt to deal with past inadequacies in the quality and performance of equipment in the field. Nonetheless, deployed Soviet defensive systems have historically lagged the air threat from the West, and operational training has lagged the introduction of new technology. These trends are as much in evidence today as they have been in the past. [Redacted]

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Outlook

Even with substantial changes to their air defense, the Soviets still face many of the basic problems that have plagued them for years. In addition, they face the prospect of targets (such as the advanced-technology bomber) with significantly reduced radar signatures and even longer range cruise missiles. A major problem for them in the future, thus, will be how well they can adapt their air defense doctrine, training, and operational practices to meet these present and future threats. [Redacted]

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The Soviets may be unwilling in some cases, however, to take appropriate risks in radically changing long-standing practices to take advantage of technological advances. Greater pilot initiative probably will not be accomplished without some difficulty, particularly in light of the strong historical Soviet orientation—both military and civilian—toward reliance on centralized control. Successful integration of complex air defense operations in unanticipated or rapidly changing situations is likely to remain an elusive goal. Thus, despite the Soviets' best efforts, the mismatch between the use of technology in the field and the evolving threat probably will continue, offsetting much of their progress in air defense modernization. [Redacted]

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Changing Soviet Doctrine in Central Europe and US War-Fighting Plans [Redacted]

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Soviet force developments over the past few years appear to undercut key assumptions of new US operational concepts for defeating a Warsaw Pact offensive in Central Europe

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[Redacted] a realignment of forces suggests that the Soviets are changing their offensive operational concepts—either in reaction to, or coincidental with, the development of new US doctrine and in ways inimical to it. [Redacted]

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There are several possible explanations for increased "Sovietization" of the first strategic echelon. Soviet planners may have considered that the combination of strengthened NATO defenses and the lagging modernization of NSWP armies required more Soviet forces in the first echelon to avoid an early stalemate in Central Europe. Also, the Soviets probably were aware at least by the early 1980s that the United States was examining concepts and developing weapons for cutting off the

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The developments [Redacted] in Soviet forces will have the effect of "front loading" Pact assaults—making the first echelon stronger and more versatile, thereby *reducing reliance on a second echelon*. These changes apparently apply to "strategic" concepts—the way the Soviets would array and support their own and East European fronts for a massive offensive in Central Europe—and also to the "operational" level assault concepts of individual fronts. [Redacted]

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first echelon from early reinforcement and defeating it in forward battles. Stiffening the first echelon with one or more Soviet fronts that had formerly been considered part of the second echelon would make this more difficult. [Redacted]

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Early forward deployment of one or more fronts from the western USSR would also lessen the chance that the movement of such forces would be subject to the intense interdiction called for by the new US concepts. Once deployed forward, such forces could be used either in the first echelon or in more traditional second-echelon roles. In either case their availability would be more certain than if they remained in the USSR until hostilities began and their forward movements and transportation routes came under strong NATO air attack. [Redacted]

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Equipment modernization in the traditional second-echelon forces also suggests a more important operational role for these forces in Pact planning. Over the past few years, low-strength divisions in the western USSR have been receiving firstline combat equipment—particularly modern tanks and air defense systems. Such systems made up less than 20 percent of the Carpathian Military District's inventories in the mid-to-late 1970s, for example, but now account for more than half. [Redacted]

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Although not related—at least at its inception—to new US operational concepts, the Soviets' forward logistic buildup supports subsequent Soviet developments that reduce their vulnerability to US interdiction efforts. It may receive additional impetus from the US concepts because:

- Pre-positioned stocks would facilitate the movement of combat forces from the USSR before hostilities to reinforce the first echelon—either as part of the GSFG front or as a separate front.

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- After a war started, pre-positioning of stocks would ease clogged supply lines from the western USSR, freeing transportation to speed the movement of additional combat forces.
- Even if these stockpiles are intended for forces already in place in Central Europe, they would considerably reduce the reliance of the first-echelon forces on early resupply and reinforcement from the USSR. [Redacted]

They may now consider that stronger NATO defenses, and an expressed US intention to devote considerably greater effort to interdiction, again argue for prehostilities reinforcement. This would increase the warning time of NATO forces, but we estimate that Soviet planners believe that the requirements to strengthen the first strategic echelon with 25X1 additional Soviet forces and the increased risk of interdiction outweigh the former consideration. [Redacted]

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[Redacted] when asked about likely Soviet responses to the Airland Battle doctrine, cited options that are quite similar to some of the developments noted above although they almost certainly were not in a position to be aware of them. The suggested options included reinforcing the first echelon, altering deployment practices for the second echelon, and establishing special reserves. The sources opined that the Pact would have to compress the depth of the first echelon and strengthen it with armor-heavy units. They also noted that the second-echelon fronts should be moved to forward assembly areas before hostilities to reduce NATO opportunities to separate them from the first echelon and defeat both echelons separately by ground action or interdiction. To support these changes they believed additional stockpiles of key supplies would need to be positioned forward. [Redacted]

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Possible Warning Implications

In addition to their implications for developing US and NATO doctrine, the force developments noted will have an impact on the problem of warning of a Warsaw Pact attack. As NATO defenses improve—through a combination of increasingly lethal weaponry and greater urbanization of the German countryside—Pact planners have had to strengthen their attack forces. This effort may have been given added impetus by the evolving—and publicly debated—US concepts. In any case, the increased force requirements may be forcing the Soviets to return to their reinforcement concepts of the 1960s. Then, expecting that a war in Europe would be nuclear from the outset, they intended to move fronts in the western USSR forward prior to hostilities so they could not be interdicted by nuclear weapons. [Redacted]

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Soviet Transportation:
A Look at Its
Improved Performance

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During 1983 and so far in 1984 the Soviet transport system has made a substantial, if not spectacular, recovery from its especially poor performance in 1982 (see table). The recovery of the railroads, which carry almost 70 percent of nonpipeline traffic—and most industrial materials—is the most important development. Much of the responsibility for the drop-off in industrial performance in the Soviet Union during the late 1970s and early 1980s can be traced to the railroads. In turn, the railroads can be credited with a major part of the upturn in industrial performance since 1982. The performance of other transportation sectors has been mixed. The amount of gas transported by pipelines has experienced double-digit growth, but the volume of traffic carried on highways and rivers has declined.

Railroads

Recovery Factors. The main themes of the current plan to improve rail transportation—strengthening discipline, improving the repair of freight cars, and reducing turnaround times for freight cars—were all presented directly or indirectly by Brezhnev in his November 1979 plenum speech. Indeed, the deterioration in key performance indicators for rail transportation appears to have been arrested by 1980 (see graph). The benefits to the economy were delayed, however. First, the measures implemented in the early 1980s were not well balanced. For example, programs to reduce turnaround times for freight cars and thereby increase their availability resulted instead in a reduction in the working fleet. Higher rates of freight car damage resulted from more intensive use, and this was not offset by improvements in freight car repair recommended by Brezhnev. Freight car shortages persisted. Second, a succession of outside influences after November 1979—the invasion of Afghanistan, the crisis in Poland, and the extreme winter of 1981-82—each in turn disrupted normal rail service.

The improved performance of rail transport in 1983 and so far in 1984 resulted mainly from the easing of external factors—border tensions and bad

USSR: Average Annual Growth of
Freight Traffic in Ton-Kilometers

Percent

	1976-80	1981	1982	1983	1st Half 1984
Total	4.3	3.4	1.3	5.0	3
Rail	1.2	1.8	-1.1	3.9	2
River	2.0	4.4	2.7	4.0	-7
Highway	6.2	6.8	2.1	-0.4	-4
Oil pipeline	12.8	3.9	3.5	3.5	2
Gas pipeline	16.3	14.1	13.3	11.9	15

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weather. However, Andropov can be credited with providing a rebalancing of Brezhnev's measures to improve rail transportation backed up by concrete guidelines and enforcement power.

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The Record in 1983 and 1984. The 4-percent growth of rail turnover in 1983—the highest since 1975—reflected recovery from a downturn of more than 1 percent in 1982. Disruptions stemming from the frigid winter of 1982 cascaded through railroad operations during the rest of the year. Major high-level interventions were required to help clear backed up industrial shipments. To spur the recovery, the Kremlin—under Andropov's leadership—made high-level changes in railway management and introduced a new array of punitive measures, rewards, and guidelines for the rail ministry. In November 1982, Andropov fired the rail minister, Ivan Pavlovskiy. The new minister, Nikolai Konarev, immediately put rail system heads on notice that the firings would continue if performance did not improve. Geydar Aliyev, a noted management specialist and newly appointed member of the Council of Ministers, was tasked with overseeing transportation—a major move that underscored the

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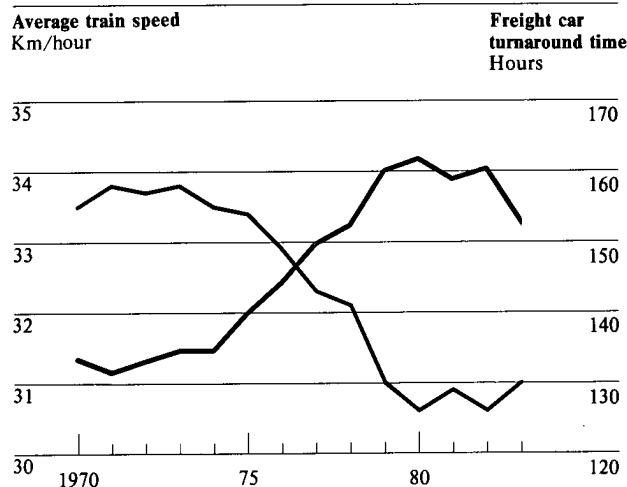
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USSR: Key Performance Indicators for the Railroads, 1970-83



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Kremlin's commitment to relieving transport problems. By December 1982, wage bonuses were authorized to supplement the new discipline campaign, a decentralized freight car repair program was approved, and the main performance indicators were changed to stress shipments (tons originated) and freight car turnaround times instead of the standard traffic measure (turnover measured in ton-kilometers). These discipline and reform measures contributed to an improvement in the efficiency indicators for the railroads. For example, freight car turnaround times dropped by 4.5 percent in 1983.

With the effects of outside influences largely reversed in 1983, rail turnover has dropped back to a slower rate of growth—2 percent so far in 1984. The current rate is probably appropriate for the planned output growth rates of the railroad's main customers in the industrial materials industries. The Soviets reported some underfulfillment of rail shipments in the first six months of 1984 (for coal produced by the Ministry of Coal and selected building materials, notably lumber),

but these appear to reflect localized problems rather than overall system stress. The Soviets still report good results from their measures to improve efficiency indicators. For example, freight car turnaround time reportedly was reduced by an additional six hours (roughly 4 percent) in the first half of 1984.

Looking Ahead. The Kremlin's strategy for improving railroad performance—although more effectively organized and implemented than in the past—does not improve the longer range prognosis for the railroads markedly. The railroads are still congested. Moscow must eventually marshal more resources behind expansion of track and modernization of rolling stock and traffic control before the railroads can cope with the requirements of much higher rates of industrial growth. So far, the capital demands of other economic sectors continue to take precedence over the railways. Even over the short run, the recovery of the railroads may be interrupted because the railroads remain vulnerable to the effects of border tensions and bad weather. The Soviet formula for improving railroad performance has not been effective in combating the effects of these obstacles in the past.

Other Transportation Sectors

Growth of pipeline traffic, following trends in gas and oil production, continues to ease the energy transport burden on the railroads. Rapid growth of gas pipeline traffic—up 15 percent in the half year—continues to pace the growth of overall freight traffic. Oil pipeline traffic was up only 2 percent in the first half of 1984 because of a sluggish production performance in the West Siberian fields.

Freight traffic carried by the centrally directed river and highway fleets, the so-called common carriers, remains small, accounting for less than 10 percent of all transport turnover. The decline in river traffic of 7 percent in the first half of 1984 is not unprecedented and probably reflects a difference in the length of the shipping season between 1983 and 1984. An early opening of the shipping season helped river transport in 1983, but conditions were more normal in 1984. Rivers in any case account for only about 4 percent of all freight traffic in the USSR.

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The declines in highway traffic—by 0.4 percent in 1983 and 4 percent so far in 1984—have no precedent in the last 10 years. The Soviets had hoped to draw down irrational hauls and curb overstatements on mileage logs—used by truckers to pirate fuel—in order to boost the efficiency of the sector. Ideally this would have resulted in better performance in terms of shipments (measured in tons) relative to turnover (measured in ton-kilometers). Declines in turnover could be equated with increases in efficiency as long as shipments fall less or rise. So far in 1984, however, shipments have fallen by 5 percent—faster than the decline in traffic. Consequently, although we have not identified the reasons for the decline in traffic, we do not believe that it results from increased efficiency. The Soviets in December 1983 showed their concern over the faltering performance of common carrier trucking by issuing a decree on highway transport. The decree underscored the need to increase the use of common carrier service and threatened the use of enforcement measures, including the centralization of some trucks owned by industrial enterprises. Traffic hauled by trucks owned by industrial enterprises is roughly two and one half times that of the common carriers. 



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Briefs

Soviets Expand Industrial Management Experiment

The Politburo announced on 23 August that the "Five Ministry" experiment in industrial management would be expanded to additional enterprises in the machine-building, ferrous metallurgy, food, and light industries and consumer services beginning next January. The announcement noted the need for "perfecting" the experiment but expressed satisfaction with preliminary results in improving fulfillment of contractual sales obligations—a major "success indicator." It also claimed improvements in product quality and productivity, reduced production costs, and more rapid introduction of technological innovation in enterprises under the experiment.

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Official commentary since the Politburo announcement indicates that preparations are under way to add other enterprises in the original five ministries (two all-union industrial ministries and three republic ministries in the food, light, and local industries) and enterprises in 15 new ministries. With these additions, participating enterprises will supposedly account for 15 percent of industrial production in 1985.

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The expansion suggests that the leadership views the experiment as the major innovation in industrial management for the 12th (1986-90) Five-Year Plan. It appears, however, that the Soviets will continue to settle for marginal change—greater, though still limited, enterprise control over wages and investment, and use of fewer and more rational success indicators. Despite the generally upbeat tone of Soviet commentary on the experiment, there has been a steady undercurrent of skepticism and criticism. For example, A. N. Aganbegyan, a prominent Soviet economist, recently noted that incentives provided under the experiment to managerial and technical workers have little, if any, effect on the productivity of the average worker. He suggested enhancing the incentive role of wages by linking them to fulfillment of the deliveries plan and the volume of sold output, minus expenditures on materials.

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Major Siberian River Diversion Project

According to a Soviet press report, the State Planning Committee (Gosplan) has ordered the Ministry of Land Reclamation and Water Resources to complete plans "as early as 1986" to divert water from Siberian rivers to water-short Central Asia. The project, probably the most ambitious of its kind in the world, calls for construction of a 1,500-mile canal to link Siberia's Ob' and Irtysh Rivers with the Aral Sea Basin and other Asian regions of the USSR. The report said the project will take 12 years to complete but did not say when construction will begin. (U)

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The merits of this project have been debated in the USSR since the 1930s. In recent years Central Asian leaders have sought to make the project a symbol of the central leadership's commitment to the development of their region. The decision to push ahead now apparently stems in large measure from an exhaustive study that supposedly lays to rest fears that the project would cause damage to the environment. Indeed, proponents argue that the project will *avert* an ecological catastrophe. The Aral Sea, the world's fourth-largest lake, is drying up rapidly, largely because water from the two rivers feeding into it has been diverted for irrigation. Supporters also argue that waters from the canal will:

- Lead to a large increase in the amount of land devoted to grain and other foodstuffs growing in Kazakhstan and Central Asia.
- Stimulate exploitation of other resources and industrial development that will ease the underutilization of manpower in the region.

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Opponents of the project have cited not only possible environmental damage but the enormous expenditures the project will require. Although the press report did not give a cost estimate, earlier Soviet statements indicated that outlays could exceed \$35 billion. Funding for the project is still not assured. Competition for investment resources is now especially intense in the USSR. The food and energy programs, for instance, are currently consuming a huge share of Soviet investment resources, and further large demands for a program with a payoff delayed until the 1990s would surely be controversial.

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**Another Soviet Retail
Price Reduction**

The Soviet Politburo recently announced the fourth reduction in prices of consumer goods in 18 months. The latest cuts, effective 1 September and ranging from 17 to 30 percent, mainly affect children's clothing, synthetic fabrics, and certain types of medicine. The Soviets claim that the move will save consumers 2.2 billion rubles (about \$2.5 billion at the current official exchange rate) a year. This is somewhat less than 1 percent of total annual sales in state retail outlets. The items affected fall largely within the category of "essential goods," defined as those that should have low and stable prices to ensure equal access by all strata of the population.

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Many of these "essentials," however, are goods that Soviet consumers in the past have found undesirable, such as clothing and fabric items made from artificial fibers and children's clothing trimmed with artificial fur. Thus, the Soviets appear to have slashed prices primarily to help reduce stocks of slow-moving goods. This was true of many past reductions, including those of April, September, and December 1983. As was the case with the three previous rounds of cuts, however, the Soviet leadership proclaimed its action with considerable fanfare as part of a program to raise living standards and improve the lot of the consumer.

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[Redacted]

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Civil Defense Failure at Severomorsk?

[Redacted]

A civil defense alert in Murmansk and Severomorsk in response to the Severomorsk naval base explosions in May showed the cities' civil defense programs to be ineffective, according to a [Redacted] military attache in Moscow. The alarm and the noise of the explosions generated widespread panic, with fatalities resulting from citizens stampeding into flooded shelters. Other shelters were found to be inaccessible because doors had rusted shut or because they were in use as warehouses. The incident reportedly prompted a major reexamination of Soviet civil defense procedures. [Redacted]

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Although we are unable to confirm the activation of the alert system, the report probably is indicative of problems encountered during the explosions. The Soviets have contingency plans for a surprise attack, but civil defense plans usually are predicated on a period of strategic warning during which shelters can be readied and the citizenry organized. [Redacted]

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Guineans Grant Soviets Fishing Port

[Redacted]

In July President Conte's government acceded to Soviet proposals for establishing a fishing port on the island of Kassa off Conakry and renovating the port of Fotoba on the island of Tamara for exclusive docking of Soviet-manned Guinean patrol boats. [Redacted] The proposals call for Moscow to provide loading cranes, a refrigerated warehouse, and an ice factory and to sell 10,000 tons of the fish catch per year. Earlier Soviet requests to build a naval facility or a port were rejected by former President Toure. The Guineans have also agreed to grant the Soviets fishing rights over the next three years in exchange for financial compensation and training for Guinean personnel. [Redacted]

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The Soviets probably view an expanded role in Guinea's fishing industry as a means of building influence with the new military regime and of furthering their effort to gain a naval facility in Guinea. Conakry's dependence upon Soviet fish was underscored earlier this year, when the USSR suspended deliveries because renegotiation of the fish accords had stalled; Conakry subsequently extended the old accord. Conakry probably agreed to Moscow's recent proposals because of the prospects of increased funds, infrastructure improvements, and personnel training. The Guinean leadership, which has sought to balance its ties to the East and the West, is unlikely to grant the Soviets a naval facility. [Redacted]

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