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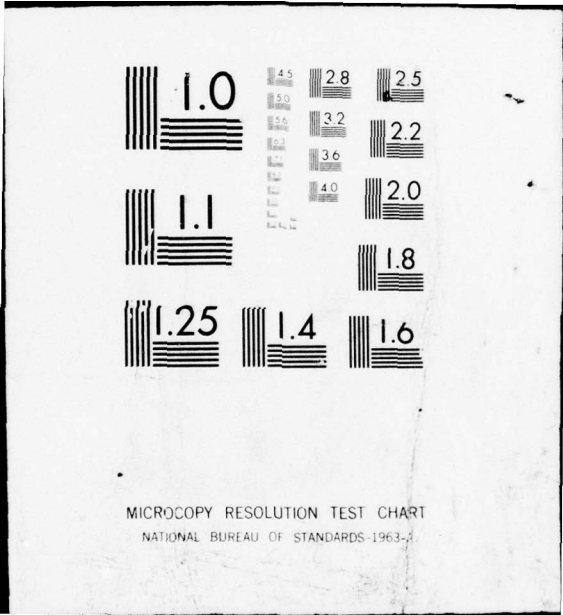
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SOVIET REACTIONS TO U.S./NATO FORCE MODERNIZATION

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Volume I-Executive Summary

SRI International
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September 1977

Final Report for Period November 1975 - September 1977

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SUMMARY

The purpose of this study is to analyze and document information on Soviet reactions to U.S./NATO force modernization. The focus of the research was to review historical precedents and to evaluate current military R&D programs and other aspects of force modernization, to further an assessment of potential Soviet reactions in the 1985 time frame. To this end, a comprehensive review was made of Soviet strategy and military doctrine for West Europe. Particular emphasis was accorded analyses of those aspects of a modernization program that could result in the development of major changes in power balance relationships. In addition, changes in Warsaw Pact force posture at the tactical level of organization were scrutinized to determine where U.S./NATO modernization efforts have had an impact.

The study draws from the research base developed by the Strategic Studies Center of Stanford Research Institute.

The report is in partial fulfillment of research under Contract DNA-001-76-C-0158, SRI Project 4715-002, and was prepared under the overall direction and supervision of Richard B. Foster, Director, Strategic Studies Center, and Harold Silverstein, Assistant to the Director. The Principal Investigator was R.B. Foster; Ronald C. Wakeford was the Project Leader and John C. Scharfen, Deputy Project Leader. Other members of the study team contributing to this report included David Benson, Michael Deane, Arthur Zuehlke, Professor John Erickson, University of Edinburgh, and James Dornan.

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I INTRODUCTION

A. Organization

This report is presented in two volumes, an unclassified Executive Summary and a Main Report.

B. Research Objective

The objective of this effort is to assess Soviet reactions to U.S./NATO theater level force modernization; to analyze the advantages or disadvantages accruing to the U.S./NATO; and to determine the potential impact of these reactions.

C. Basic Approach

In covering each of the elements of the taskings for this study there was a conscious effort to avoid the stereotyped approach to discerning Soviet intentions and reactions. A healthy skepticism was encouraged in considering such fundamental concerns as action-reaction, the efficacy of the new anti armor weapons, the role of tactical air and similar matters about which "conventional wisdoms" have proliferated. While the concept of "force modernization" has strong implications of technology, the study team studiously avoided concentrating on this aspect of the problem exclusively. It is the authors' conviction that the force organization and deployment aspect of force modernization can be equally important. It is further believed that the political implications of U.S./NATO initiatives and Soviet responses can be even more important than those of technology. The study taskings do not emphasize the requirement to postulate what the U.S./NATO modernization program should be. Nevertheless, there are some thoughts presented on that subject.

Analysis was conducted against the background of several geopolitical principles which emphasize the distinction between the Soviet and U.S. approach to strategy and the basic purposes of force modernization programs. The Soviets, with their Pact Allies, are a continental power with an outlook which generates great dependence upon armies of armor with heavy concentrations of artillery. The Soviets, faced with the industrial superiority of the West, have compensated with a force designed to support a preferred strategy for a short, decisive war. The result is a mechanized force structure imbued with the spirit of the offensive, the advantage of surprise, a high ratio of combat to support troops and preemptive maneuver to fix and destroy a U.S./NATO defense before it can mobilize and deploy.

The study addresses theater forces, strategy, operational art and tactics. While broader global strategic considerations were not formally addressed they were always a concern for, in large part, the capabilities of theater forces are a function of the capabilities of strategic forces. For example; a Soviet Union which has achieved a dominant strategic nuclear position vis-a-vis the West will give much less credibility to a U.S./NATO theater force modernization advance than a Soviet Union which is at strategic parity.

Throughout the report there is a central theme which emanates from replies to three basic questions:

- How will U.S./NATO force modernization influence the Soviet approach to military operations in the European theater?
- How militarily dependent is the USSR on a short-war, blitzkrieg philosophy?
- Which aspects of U.S./NATO force modernization would present the greatest problems for the Soviets?

II PRINCIPAL FINDINGS

A. General

There are no indications that there is a simple action-reaction phenomenon associated with a U.S./NATO-USSR/Pact "arms race". There are other determinants equally or more important than U.S./NATO initiatives which influence Soviet decisionmakers, including the momentum of their ongoing programs, their ideological and methodological biases, and their perception of the West's strengths and vulnerabilities. Momentum of ongoing Soviet force development programs appears to be particularly significant and matches or overshadows the significance of responses to U.S./NATO initiatives. The Soviet response is likely to be asymmetrical, that is, not a mirror of the U.S./NATO initiative. Political responses and tactical realignments are more likely than a change in strategy or basic doctrine.

B. NATO Force Modernization

U.S./NATO modernization is being carried out within the overall guidelines of the Long-Range Defense Concept which reaffirms the basic aims of NATO's strategy of deterrence and defense. In an era of general strategic nuclear parity, deterrence is to be provided by the overall capabilities of all NATO forces. The Alliance must be able to respond in an appropriate manner (including the use of nuclear weapons) to aggression of any kind. This strategy calls for a balanced structure of interdependent strategic nuclear, theater nuclear and conventional force capabilities. The essence of the concept is that NATO can provide an adequate force structure to support the strategic concept of the Allies, contingent upon raising those forces currently planned and contingent upon the modernization and improvement of forces and their supporting facilities.

C. Underlying Soviet Perceptions of U.S./NATO Force Modernization

From what may be gleaned of the Soviet view of force modernization they appear to be convinced that it is the U.S. which is now reacting to the Soviet initiative. In truth, U.S. and NATO programs are responsive to Allied estimates of the Soviet threat. The NATO MC 14/3 strategy is defensive and built upon the cornerstone of deterrence which concedes substantial initiative to the Soviet Union.

Nevertheless, the Soviets continue to have a high esteem for the quality of U.S. science and technology as it is applied to military resources. The Soviet collection and analysis effort on U.S./NATO technology guarantees that they have a sound, fundamental appreciation of the impact of the Alliance modernization programs.

At least at the theoretical level the Soviets approach force modernization as an integrated element of an overall strategy which is coordinated with economic, political, tactical and strategic considerations. Such an approach is manifested at the operational level, inter alia, by the standardization of tactics, military procedures and equipment within the Pact and the interdependence of the military and civil sectors of their economies. In view of this Soviet predilection for a cohesive approach to force modernization it is believed that they are most likely to be impressed by a U.S./NATO force modernization program which demonstrates the same integrative characteristics. The credibility of the U.S./NATO force structure will undoubtedly be enhanced in the eyes of the Soviets if it is based upon the integration of technology with considerations of strategy, tactics and doctrine as well as those of politics and economics.

Soviet observations on U.S./NATO force modernization fall into two broad categories: (1) those related to force modernization as a whole, and (2) those related to the modernization of specific weapons or systems.

On the whole, force modernization is viewed as a product of the "imperialist" system. In this sense, it is said to receive its momentum internally, that is, from the profit-seeking motives which dominate capitalists. An example cited is the NATO standardization program. According to Soviet spokesmen, the chief purpose of standardization is to exacerbate the arms race so that the major defense contractors will earn higher profits. As one Krasnaya Zvezda article has asserted, the standardization program envisages none other than the reequipping of the bloc countries' (NATO) armies with the latest types of military equipment. For the military-industrial monopolies, this means large orders and, consequently, corresponding profits.¹

A secondary purpose of standardization, according to the Soviets, is the attempt on the part of NATO to reverse the political disintegration which has recently characterized the Alliance. The Soviets maintain that standardization will force the smaller NATO countries to become dependent on the weapon manufacturers of the larger countries. According to one Soviet commentary, "West European corporations see in the American standardization plan a 'Trojan Horse', with the aid of which their transatlantic competitors intend to fasten onto the NATO market even more firmly."²

Soviet observations on the modernization of specific systems are difficult to assess. Generally, Soviet analysts tend to describe such initiatives rather than to evaluate them. Such reports are usually labelled "based on materials of the foreign press", documented by citations from Western sources, and written so as to clearly indicate the presentations

¹ V. Berezin and O. Nikiforov, "Behind the Scenes at the Hague Meeting," Krasnaya Zvezda (16 November 1975).

² A. Mozgovoy, "The Other Side of Standardization," Sovetskaya Rossiya (7 September 1976).

of Western, rather than Soviet, views. Soviet analysts do not make qualitative comparisons of Soviet and U.S./NATO weapons in terms of actual combat capabilities in the literature available to the West. Anticipating and assessing Soviet responses are not easy tasks but neither are they impossible. There are ample clues in Soviet precedents, in their ideology, and in open and intelligence data to permit some reasonable estimates in these matters.

D. Soviet Military Reactions

- The Soviet Union is deeply committed to its preferred strategy in Europe and will abandon or substantially modify it only under great provocation or a very significant change in the current military balance.
- Within these limitations, the technology of a broad range U.S./NATO force modernization program may considerably compensate for Soviet/Pact conventional force superiority and deny the Pact the alluring prospect of a "short-war" victory and present them with the spectre of a war of attrition with prospects of devastation of Eastern Europe and the USSR.
- Soviet responses to such a comprehensive NATO force modernization might be highly visible. Pre-war deterrence would be served by a Soviet perception that there has been a thorough tactical, technological and training modification of NATO doctrine and nuclear force posture. Whether such a far-ranging NATO force modernization would completely deny the Soviets a strategy for the rapid seizure of Europe is uncertain but still a possibility. There is a possibility that new weapon technology could produce a massive increase in firepower effectiveness that could pose serious problems for the massing of forces required in contemporary armor offensive tactics with an objective of a breakthrough of NATO defenses. At a minimum, Soviet planners would recognize that such a program would cause serious problems of cost and uncertainty for a blitzkrieg strategy for Central Europe. Soviet attempts to cope with a comprehensive modernization program could include the following military responses, most of which are merely an increase in emphasis of current programs (and for each of which there is annotated an estimate of the probability of the response):
 - Further quantitative and qualitative improvement of the USSR/WP force posture, in particular the expansion of Soviet Group Forces Germany. (Probable.)

- Greater emphasis on surprise, speed and mobility in combat operations. Efforts to improve readiness capabilities and reduce NATO warning and detection opportunities. (Probable.)
 - Increased emphasis upon deep infiltration tactics to neutralize NATO rear area command and support activities. (Probable.)
 - Greater emphasis on the Soviet capability to deliver a preemptive, disarming strike against NATO theater targets with nuclear and chemical weapons. Special attention to targetting NATO nuclear stockpile and deployed systems. Increased efforts to protect the Pact population and infrastructure from attack. (Probable.)
 - Continued efforts to develop EW, ECM, and ECCM to degrade NATO command and control and target acquisition systems. (Probable.)
 - Fuller integration and more salient offensive roles for non-Soviet Pact forces in the theater strategy. (Possible.)
 - Further reemphasis of the Soviet forward aviation role from that of defense to deep interdiction and tactical support missions. (Possible.)
 - Increased emphasis on nuclear and CW munitions for tactical operations. (Possible.)
 - Consideration or decision to proliferate offensive CW and TNWs to Pact forces. (Possible but unlikely.)
- The ongoing modernization of the Soviet-Pact forces¹ and some basic asymmetries in U.S./NATO-USSR/WP force structure and posture already mitigate to an important degree the effect of current NATO conventional weapon developments. Further efforts by NATO to introduce more sophisticated weapon systems without an accompanying modernization of employment doctrine, C³ and target acquisition capabilities would likely produce limited Soviet responses at the tactical level. Such responses could include the following (all of which are given a high probability):

¹ "Improvements are also being made in the quality and quantity of Warsaw Pact conventional forces particularly in the offensive capabilities of aircraft, tanks, artillery and missiles." Annex to M-DPC-1 (75) 11, (23 May 1975).

- Further enhancement of Soviet suppressive fire capabilities including nuclear and CW fires to counter NATO ATGMs and artillery.
 - Improvement of already formidable mobile-forward and in-depth air defenses.
 - Technical improvements in armored vehicles, in particular the T-62 and T-72 tanks (such as spaced armor for defeating HEAT rounds; the exploitation of camouflage and concealment, and use of smoke, etc.), to degrade effectiveness of laser and optically-guided munitions.
 - Adjustments in tactics and operational techniques, including: continued emphasis on "combined-arms" assaults with a marginally greater role for motorized infantry, the use of vertical-envelopment by helicopters.
- Soviet responses to U.S./NATO antitank systems have been measured and moderate. Given foreseeable technological developments in the AT field up to 1985 no revolution in Soviet concepts of mobile warfare are envisioned. There are already in evidence, however, some tactical changes in the employment of artillery, armored personnel carriers and tanks.¹
 - Soviet reactions to U.S./NATO weapons modernization to counter artillery concentrations has and probably will continue to emphasize quantitative improvement to existing force structures to overcome Allied ground and air counterfire initiatives.
 - The Soviets are likely to react to U.S./NATO force modernization of tactical air and anti air systems through tactical innovation (over the short term) and continued technological development (over the longer term). Such systems are highly dependent upon increasingly advanced and complex technology. Such complexity will generate long technological lead times in Soviet development but rather quick reactions in terms of tactical innovation.
 - Soviet military reactions to improvements in command, control, and communications (C³) can be anticipated at both the strategic and tactical level since these initiatives impinge upon Allied cohesion, political release of tactical nuclear weapons, and warfighting credibility.

¹ See, for example: Phillip A. Karber, "The Soviet Anti-Tank Debate", Survival, pp 105-111 (May/June 1976).

- Should the U.S./NATO effort produce a superior mid-to-deep range theater interdiction program, the Soviets could respond not only with a direct defense or counter missile effort (which is essentially symmetrical) but also with a program of forward deployment of facilities, weapon stockpiles, etc.

E. Soviet Political Reactions

- Soviet political responses to NATO force modernization may involve a broad scope of actions ranging from propaganda to challenges, political and military, on NATO's flanks or in other theaters.
- Soviet propaganda efforts will likely focus on the issue of a "lowered" nuclear threshold and collateral damage to NATO countries.
- Efforts may be made to enhance fears of escalation and to portray modernization as an aggressive and destabilizing act.
- A diplomatic offensive may be mounted against the NATO Alliance attempting to extract such concessions as no first use of nuclear weapons.
- U.S./NATO concessions in ongoing arms control negotiations are not likely to stimulate significant or even corresponding Soviet concessions. Soviet force deployments are a result of deeply held convictions and preferences at the level of politico-strategic doctrine, which will be abandoned, if at all, with great reluctance.
- Soviet negotiations at such forums as MBFR will press for the withdrawal of U.S. forces from the theater. Apparent Soviet concessions may be offered toward this end in the effort to erode NATO cohesiveness and obviate the effects of modernization on Soviet strategy.
- Bilateral agreements with individual NATO parties, especially the FRG, will likely be pursued with the aim of separating the interests of the United States and NATO countries.
- The USSR may sponsor or initiate terrorism, paramilitary operations, and even minor military challenges on NATO flanks or in other theaters with national or surrogate forces.

F. Consequences and Implications for the U.S. and NATO

- While the short-war/long-war issue has been much oversimplified and often reduced to meaningless proscriptions, several important considerations are manifest.
- First, NATO must be prepared to counter the Soviet capability to launch a rapid, surprise, combined arms assault into Western Europe.
- Second, the technology of an effective U.S./NATO force modernization program can make a substantial contribution to contain such an assault, to permit time for negotiations, reinforcement and counter-offensive as necessary and appropriate. There are limiting considerations however.
 - First, one must recognize that over a long time period any new technology has limitations. Advantages are lost to countermeasures and countermeasures are countered. Numbers and the quality of the soldier are still factors in the calculus of successful military operations.
 - Second, one must not be overconfident that blunting a Soviet short-war blitzkrieg style initiative assures their defeat or containment. While the USSR obviously has problems vis-a-vis the West in a protracted conflict (in terms of months rather than days or weeks) its capability is still substantial.
- There are significant advantages which accrue to NATO in ambiguity and flexibility in the military strategy for Europe. Force modernization must therefore capitalize on these inherent advantages by maintaining a flexible response doctrine and strengthening the credibility of theater nuclear weapons by generating a truly dual capable force trained, equipped and planned for employment in all modern combat environments, conventional, nuclear, CW and combinations thereof.
- Soviet perceptions of U.S./NATO capabilities are as significant as the capabilities themselves. For this reason U.S. and NATO force modernization objectives, with supporting political rationales, must present a credible force structure which is not only technically modern but which demonstrates political mechanisms for early commitment of the full arsenal of NATO's defenses.
- The Alliance's modernization programs should include steps to deal with possible Soviet use of CBW, additional efforts to protect and disperse U.S. nuclear capable systems in Europe, and improvement in NATO C³ and target acquisition and post attack reconnaissance capabilities.

- A substantial NATO deployment of dual-capable, increased accuracy delivery systems, and the development of a coherent doctrine for their use which is generally acceptable within the Alliance, would be a most significant contribution to the rationalization of the NATO defense posture.
 - Given the present manpower and weapons systems inequities in the theater, the integration of the new technology, increased accuracy dual-capable systems into the NATO force posture offers the Alliance good prospects of containing a Soviet assault and of thus denying the USSR the prospect of exercising its preferred strategy.
- The current technological innovations which have had great impact on tactical air operations have been the surface to air missile (SAM), increased accuracy munitions, electronic warfare systems for surveillance, acquisition and defense.
 - Tactical techniques for employing and countering these innovations have proven to be just as significant. One of the most effective ways of countering the Soviet superiority in numbers of aircraft in the European theater is the ground based air defense system.
 - The widespread use of SAMs would free NATO tactical aircraft for other critical missions.
 - Increased accuracy munitions give promise in a wide range of application to include countering Soviet tanks. At present it does not appear that Soviet aircraft are equipped with PGMs or ATGMs. However, NATO can anticipate that Soviet technological development of these systems is underway and will definitely be in their inventories in the 1985 time frame.
 - It appears that NATO currently has a technological edge in tactical air systems which the Soviets will attempt to neutralize or overcome through their own technology and operational tactics.
- The increased effectiveness with either or both conventional and nuclear warheads of surface-to-surface and air-to-surface missiles against airbases demonstrates great potential for reducing enemy aircraft sortie rates, as well as other deep interdiction missions (logistic, command-control centers, and other such targets).
- Given the Soviets' preponderance of force in Europe, their aggressive strategic, naval, and general purpose force buildups of the past decade, and the lack of meaningful theater arms limitation/force reduction agreements, it is not merely prudent but essential that U.S./NATO continue to modernize and improve its opposing forces.

- Through 1985, a U.S./NATO theater force modernization program, currently envisioned, which has great potential for strengthening NATO defenses is the TNW program supported by responsive surveillance, target acquisition, C³ and release decision systems. The modernization of theater nuclear weapons and their delivery systems provides an important link in the coupling of European security to U.S. strategic forces. The more effective the weapons, the greater the credibility and, consequently, the greater the confidence of allies in their reliance on the U.S. strategic deterrent.

III ANALYSIS

A. Scope

The following pages provide a digest of the analytical rationale behind the findings of this study. They are divided into the following categories:

- U.S./NATO Modernization Programs
- The Soviet World View
- The Soviet Strategy in Europe
- Soviet Modernization
- Possible European Reactions

B. U.S./NATO Modernization Programs

1. U.S. Force Modernization

The modernization areas emphasized in the U.S. FY 1977 R&D budget are heavily oriented to European theater improvements in the ground and air forces. About 40 percent of the proposed funds are allocated to tactical warfare programs with balanced emphasis on conventional and tactical-nuclear warfare. Priority programs include the XM-1 tank, advanced attack helicopter (AAH), close air support aircraft (A-10), Maverick and Hellfire missiles, SAM-D surface to air missiles and cannon launched guided projectiles. New command, control, and communications (C³ equipment) are undergoing development to more effectively integrate command support, weapons control, intelligence analysis, target detection, and other functions. Theater nuclear weapons such as the new 8" artillery projectile (AFAP), Pershing

II with terminal homing, Lance, and a number of stand-off nuclear delivery systems (Modular Glide Weapon System [MGWS], Maverick, Condor, and SCRAM) are also in the R&D cycle.

2. NATO Policy and Concept¹

The modernization of NATO's ground, sea and air force is currently being carried out within the framework of the overall policy guidance issued by the NATO ministers in May of 1975. This guidance reaffirms NATO's basic aims and strategy and sets forth a defense concept to serve as the basis for NATO defense planning activities to 1982 at both the national and international levels.

The essence of the concept is that NATO can provide an adequate force structure for deterrence and defense if the NATO nations maintain the forces now in existence and raise those currently planned for, and if they continue to modernize and improve the forces and their supporting facilities. The concept also places a premium on the "optimum use of resources available for defense through a vigorous set of priorities" and through greater cooperation by rationalization, force flexibility and cooperation in the development and production of military equipment.

In brief, the concept:

- Notes that the Warsaw Pact continues to maintain a military capability much greater than that needed for defense.
- Provides that in an era of rough strategic parity deterrence of all forms of aggression must be provided by the overall capabilities of the total spectrum of NATO

¹ Based upon the Final Communique, NATO Defense Planning Committee (11 June 1975).

- Maritime forces - The goals provide for the maintenance of the present level of forces, the acceleration of modernization and replacement programs and the achievement of higher states of readiness in the fields of anti-submarine warfare and survivability. Emphasis is also placed on improvement of maritime air capabilities and on direct defense by shipborne weapon systems against air and missile attack. The goal provides for the improvement of electronic warfare capabilities and the introduction of the new anti-submarine warfare cruisers and support ships together with the associated V/STOL aircraft programs.

3. Optimizing NATO Assets

The agreement within NATO to aggressively pursue the optimum use of resources on a collective basis constitutes a major advance in the defense efforts of the Alliance. In addition to the measures being taken to increase the standardization of weapons and equipment--which is a longer term proposition--a number of shorter term improvements are being carried out to provide for increased operability or flexibility in the deployment of forces. In commenting on the deficiencies within Allied Command Europe, General Haig recently pointed out:

Our principal problems are conceptual and organizational, not material; a matter of will and priorities rather than simply a matter of money. There is no intrinsic reason why Alliance forces cannot operate more effectively together; no physical obstruction to the reconciliation of divergent war plans; no major financial barrier to the greater integration of national command, control and communications systems. These and other areas are ripe for improvement, and we are actively pursuing their improvement today.¹

4. Theater Nuclear Weapons

Under strategic parity and the present imbalance of forces in Europe, NATO's deterrence of warfare at the theater level is dependent

¹ General Alexander M. Haig, Jr., "NATO's Forward Strategy", Le Monde Atlantique Zeme trimester 1976, No. 17, p. 12.

upon a flexible multi-option strategy and upon NATO's evident readiness and capability to use theater and tactical nuclear weapons if need be. The keystone of the strategy is:

...that an aggressor must be convinced of NATO's readiness to use nuclear weapons if necessary; but at the same time he must be uncertain regarding the timing or the circumstances in which they would be used.

5. Impact of Technology

Technology also offers potential for improvement in NATO's defense posture. Since the potential for the technological improvement of military capabilities far exceeds any reasonable expectation of funding all promising possibilities, the rate by which specific capabilities can be improved becomes more a function of dollars spent on research development and procurement than on technological breakthroughs. It is therefore necessary to identify the most critical deficiencies and concentrate priority attention on resolving these. Current U.S./NATO efforts are primarily devoted to the following areas:

- Precision guided munitions from artillery, to air delivered, to theater air/naval/ground launched cruise missiles in both conventional and nuclear modes
- Highly effective antitank systems to be deployed with infantry (and possibly, special antitank) forces
- Airborne warning and control systems in concert with highly capable short range, all weather, air defense systems which may be deployed down to the small unit level with requisite command and IFF components
- Improved battlefield reconnaissance and target acquisition systems
- More discriminating nuclear weapons in terms of yields, effects and ranges providing greater selectivity of options

- Increased survivability of nuclear systems and tactical aircraft (shelters)
- An upgrading of U.S./NATO Command, Control and Communications Systems (C³)
- Intelligence processing and dissemination
- Strategic and battlefield mobility
- New weapons with unique destructive and neutralization capabilities (e.g., high energy lasers)
- Night vision devices
- Microelectronics, Navstar navigation, and infra-red surveillance from space.

These technological improvements when coupled with related changes in doctrinal, organizational and materiel concepts offer the potential for significant improvements in NATO's deterrent and defense posture. In addition to strengthening the defensive capabilities of the forward deployed units, NATO's reinforcement capability could be enhanced considerably. In particular, the improved capability for increased weapons accuracy and the tailored weapons effects of both conventional and nuclear weapons, along with the related intelligence target acquisition and C³ improvements, enhance the development of the tactical nuclear and conventional firepower elements with promise of a truly dual-capable force which could be capable of materially offsetting present imbalances in force ratios.

C. The Soviet World View

1. Geopolitical Overview

Throughout its history, Russia has been faced with several geopolitical and historical factors, which have traditionally impacted on the

nature of the nation's objectives and strategy. One of the most important factors is the nation's geo-position in the heartland of the Eurasian continent. Russia has been vulnerable to and the victim of military threats and invasion from both West and East. The result has been the generation of a national sense of military insecurity.

2. Ideology

This insecurity is reinforced by Marxist-Leninist ideology, which promotes a perception of the world as divided into two opposing social systems: capitalism and communism. In this view, the two systems are locked in a life-and-death struggle, the outcome of which the objective forces of history predestine to favor communism. However, the attainment of victory is not assured. It must be vigilantly pursued with all available resources against a number of enemies, only one of which is the United States. Thus, the Soviets do not view their recent agreements with the U.S. as steps in the convergence of the capitalist and communist systems. While tactical compromises can be made with the U.S., there can be no strategic compromises with capitalism. Such a view precludes compromise on fundamental issues or long-range maintenance of the status quo.

In the view of Moscow, struggle between the two systems is not reducible to a single area of competition. It is, rather, a multi-dimensional conflict, encompassing the political, social, economic, as well as military, ideological, and scientific-technical spheres. The degree to which the struggle is to be joined is dictated by the global and/or regional correlation of forces.

3. Correlation of Forces

Contemporary Soviet analyses postulate that a qualitative shift in the world correlation of forces occurred in about 1969 coordinate with

the achievement of strategic nuclear parity. As a result, according to Soviet spokesmen, the U.S. can no longer deal in international relations "from a position of strength," but must accept the Soviet policy of "peaceful coexistence." In this regard, the political utility of military strength has become a fundamental cornerstone of Soviet policy. Moreover, Soviet leaders anticipate that their international influence and prestige will rise in relation to the Soviet capability to achieve military superiority over the West.

4. The Role of Soviet Military Force

In the Soviet view, military power serves three purposes: (1) deterrence, (2) defense, and (3) expansion. The primary effort is to inhibit aggressive intents of the West, which is allegedly making hasty preparations for war against the communist community. Only the present high level of Soviet military development, argue the Soviets, prevents the "imperialists" from implementing their war plans. However, if war should occur, the Soviet armed forces are given responsibility for defeating the enemy. To these two duties is added a third--to create international conditions unfavorable to capitalism. Soviet military power must be politically utilized so that procommunist elements are free to act, while the ability of the West to respond militarily is seriously constrained. It is contended that Vietnam and Angola are two instances where the United States' perception of its military inferiority vis-a-vis the USSR constrained U.S. involvement. In sum, it is asserted that the Soviet's achieving nuclear parity led to an admission of American weakness, which resulted in the decline of U.S. political will to meet Soviet expansion. The logic leads to a conviction that a higher level of Soviet military strength will force the U.S. to retreat from this systemic competition.

D. Soviet Strategy in Europe

1. The Short War Concept

There is a truism that "nobody wants a long war"; however, the Soviets have taken the short war/blitzkrieg concept of attack as a fundamental principle in the development of a force for conflict in Europe. The military strength of the Warsaw Pact forces opposing NATO lies mostly in their numerical advantage in troops and armor inventories, but they also show major strength in selected areas of technology such as artillery, EW, chemical warfare and air defense. Warsaw Pact planning has followed the strategic objective of inflicting a swift defeat to Allied forces in Europe with impeccable consistency. The Soviet Union has, of course, a "long war" capability. However, their military, political, and economic objectives have led them to an offensive doctrine featuring short duration/high intensity conflict.

The 1976 Soviet blitzkrieg doctrine envisions an attack on narrow fronts to penetrate enemy defenses, to push through reinforcements to strike deeply into the enemy rear to disrupt central command, control and communication centers, to envelop enemy forces and defeat the opposition. The maneuver is rapid, capitalizing on surprise and shock action. Malcolm Mackintosh contends that Soviet "operations are expected to take place at very high speeds, up to seventy-five miles a day across open country,"¹ while others postulate an average sixty-mile-per-day advance.² Such calculations have caused speculation concerning the prospects of a short war in Central Europe with NATO capitulating to an overwhelming Pact superiority.

¹ Malcolm Mackintosh, Juggernaut: A History of the Soviet Armed Forces (Macmillan, 1967), p. 306.

² See, for example, Trevor Cliffe, Military Technology and the European Balance, Adelphi Papers 89, p. 33 (IISS, 1973).

Some contend that this short-war blitzkrieg strategic doctrine requires relatively little logistic support on the part of the Soviets. In any event, the USSR has made significant improvements in their logistical train during the past several years to reflect new knowledge on high materiel consumption rates that can now be predicted for modern conflict. A recent NATO press release¹ noted:

Sustainability of Warsaw Pact forces continues to improve. Previously, the Soviet logistics system was believed designed primarily for a short war; it is now assessed that it is designed for any kind of war. However, after an initial period of combat there would be a reliance on resupply from the USSR. The quantity and quality of reinforcements are also increasing. Several Soviet divisions in the USSR previously thought to be short on some equipment have received increasing quantities; three new Soviet third echelon divisions have been identified.

2. Soviet Strengths

The military strength of the Warsaw Pact forces opposing NATO lies in their numerical advantage in troops and armor inventories. They also enjoy the advantage of standardization in their principal military equipments and what appears to be a more common troop structure and tactical integration of diverse national forces. Soviet forces constitute a larger percentage of troops in the Warsaw Pact than do U.S. forces in those of NATO. Reliance on the blitzkrieg strategy permits them to exploit the advantages which normally accrue to the attacker, the value of speed of attack, surprise and perhaps nuclear preemption. While the blitzkrieg concept requires a heavy commitment to logistic support in the early stages of combat in terms of ammunition, fuel and reinforcements, by doctrine, it does not demand an extensive logistic base for operations of lengthy duration.

¹ NATO Review, Warsaw Pact Military Facts and Trends, p. 30.

3. Soviet Vulnerabilities

If the Soviet logistic base, in fact, has limited staying power it is a military vulnerability which may be capitalized upon by NATO forces. Before this vulnerability may be exploited, however, NATO forces would have to defeat or contain the initial surge of the blitzkrieg, short war capabilities of the Pact. The blitzkrieg has other vulnerabilities as well. Control is difficult and tactical C³ centers are soft targets. The flanks of armor columns are vulnerable to counterattack and the shoulders of the penetration must be defended or attacking forces may be cut off from central control, coordination and support. As Richard Burt and John H. Morse have discussed, U.S./NATO force modernization has great potential for exploiting these vulnerabilities of the blitzkrieg.¹

Soviet political vulnerabilities lie in the untested cohesion of the Pact nations in wartime. Should NATO force modernization in weapons and doctrine promise to inflict substantial damage on East European states participating in or supporting an attack against Western Europe (coupled with the signal that noncooperation with the Soviets would spare them as nuclear targets), a political advantage could accrue to NATO. Large scale interdiction and other military incursions into these states could test the degree East Europeans are willing to support Soviet ambitions in Western Europe.

E. Soviet Modernization

1. General

Soviet force modernization programs are designed to foster and facilitate offensive operations with the priority of the effort focused

¹ Richard Burt, "New Weapons Technologies and European Security," Orbis, p. 514, Summer 1975. John H. Morse, "New Weapons Technologies: Implications for NATO," Orbis, p. 497, Summer 1975.

on Central Europe. With rare exception, the Soviets have the technology to design, test, manufacture and deploy weapons which are as effective and sophisticated as those produced by U.S./NATO. As indicated by Possony and Pournelle,¹ the Soviets' capability to wage a technological war in some respects is superior to that of the West. First, there is centralization of planning to focus their efforts on priority basic and applied research. This focus generates an atrophy of noncritical areas. Military technology and fundamental industry have priority over the consumer sectors. They are credited with the advantages of scientific exchange programs with an industrial espionage and piracy and exploitation of Western technology. They focus their efforts on the decision and design phases of R&D which permits a concentration on selected weapon technology. Simplicity is a key criterion. While the Soviet technological system need not be emulated by the West, it derives strength from its singleness of purpose and concentration of resources upon highest military priorities. Soviet R&D efforts are concentrated on:

- High energy laser
- High-pressure technology
- Controlled thermonuclear fusion
- Surveillance radars
- Radar satellites
- Aerodynamics, ground-effect vehicles and air-cushion vehicles
- Magnetohydrodynamic power generation.²

The Soviet Union is relatively deficient in the following two areas:

- Integrated circuit/semiconductor production technology
- Computers and computer software technology.²

¹ Stefen T. Possony and J.E. Pournelle, The Strategy of Technology, Cambridge, Duvellen, 1970, pp. 21-22.

² Aviation Week, p. 24 (23 August 1976), citing DOD sources.

2. Recent Developments

In the past five years the Soviet Union has produced and deployed to Eastern Europe some 4,000 new T-62 tanks (and some T-72s)¹ while retaining the older T-55s and T-54s in place. The tank strength of the motorized-rifle division has increased by 41 percent. There has been a 100 percent increase in artillery support for forward deployed forces. In excess of 5,000 additional armored personnel carriers have been added. Since 1965 the overall strength of the Soviet army has increased from 1.8 to 2.5 million men, the tank inventory from 30,500 to 40,000, the tactical aircraft from 3,250 to 5,350.

The Soviet and Pact armies have three antitank missile systems in their inventories: the RPG-7 shoulder weapon, the Swatter which is radio guided, and the wire guided Sagger. Both the Sagger and the Swatter are first generation missiles. The Swatter has been mounted on the HIND attack helicopter which, with the aircraft's attack personnel transport capability, provides an airborne infantry antitank capability.² The Swatter (the best of the Soviet AT missiles) has also been mounted on the BRDM reconnaissance vehicle and the Sagger is on the BMP. Research and developmental programs can be expected to improve the lethality of these systems and their immunity from countermeasures, and to produce protective-defensive equipment and tactics.

Soviet air units in forward Pact areas have been equipped with the new tactical fighter, the MIG-23 Flogger (the lightest aircraft with the variable sweep wing), the swing wing Su-17 Fitter C, and the Su-19 Fencer, all of which have ranges, speed, altitude and armament capabilities competitive with U.S./NATO aircraft. Soviet aircraft are being upgraded in penetration capabilities, missile armament, ECM and avionics. An all-

¹ U.S. Mission NATO msg 141033 7 June '76, subject: DPC Ministerial Meeting June 10, 1976: Agenda Item II Intelligence Briefing.

² "The Future of the Battle Tank in a European Conflict," (a report of a seminar held 20 March 1974) Royal United Services Institute for Reference Studies, Whitehall London, p. 3 (May 1974).

weather close air support, interdiction capability is being significantly improved. There is a continuing improvement in tactical and strategic airlift and the helicopter development program is active.

It has been reported that 50 MIG-25 R (reconnaissance model) aircraft have been deployed to Soviet units in Poland and East Germany. These Foxbats are alleged¹ to be conducting reconnaissance flights over Denmark, Norway and the FRG at altitudes and speeds which exceed the capabilities of the U.S./NATO Phantoms and Starfighters but not the F-111's or U-2's.

The ground air-defense units opposite the Central Region are being reinforced with the combat proven, highly effective SA-4, SA-6 and SA-9 missiles² augmenting the already considerable capabilities of the ZSU-23 mobile antiaircraft gun.

There are indications that the estimated 3,500 Soviet tactical nuclear weapons in forward Pact areas have been increased and placed in hardened storage facilities. There are also indications that nuclear artillery is being developed and that there are major trends toward greater theater nuclear weapon accuracy, diversity and flexibility.³ The Soviet CW capabilities, which are extensive and fully integrated into offensive and defensive tactical doctrine, become more impressive when compared to the rudimentary U.S./NATO capability. Night vision devices were mounted on some of the Soviet T-62s captured in the '73 Arab/Israeli war.

¹ As contained in multiple wire service accounts and reported by Chicago Tribune, p. 12 (2 April 1976).

² The SA-9 probably has an improved tracking capability while the SA-9 has new improved performance.

³ U.S. Mission NATO msg. 141033 2 June 76, subject: DPC Ministerial Meeting June 10, 1976: Agenda Item II Intelligence Briefing.

While they were not extensively employed in combat operations they appear to have great capability for illuminating the battlefield at night.¹

The size, equipment and readiness of the Warsaw Pact forces exceeds any rational judgment as to what is legitimately required of a purely defensive force. They have an apparent capability to fight both the short and long war and they appear to be increasingly capable of initiating combat operations with little advance preparation.²

3. Soviet Force Modernization Objectives

What are the objectives of this Soviet force modernization effort which is obviously focused against the central region of Europe? The Soviet motivations are likely to be quite complex. There is the possibility that the Soviets are structuring their forces and conducting their technological programs to launch an attack against NATO Europe involving swift armored thrusts by tanks and mechanized infantry. There is the possibility that they view the utility of this evolving military force as being principally political with the objective of "Finlandizing" Europe. There is the Soviet concern for maintenance of the integrity of the Socialist Motherland and the concomitant need for stability in Eastern Europe. There is the concern that a lack of strength at both Eastern and Western territorial extremities could encourage a hostile China to provoke a debilitating war. There is the possibility that some facets of their program are the products of a self-generated momentum. Finally, Soviet technological programs could be stimulated by the impact of either selected facets of or the general U.S./NATO force modernization program.

¹ "The Future of the Battle Tank in a European Conflict," op cit., p. 9.

² U.S. Mission NATO, msg. 141033 2 June 1976, op. cit.

F. Possible European Reactions

1. General

The reaction of the European members of the Alliance is obviously an important consideration governing the pace and scope of force modernization in Europe. Up to the present, official opinion—which has been involved in planning NATO's force modernization program from the outset—has in general not been in opposition to United States' proposals for improving NATO's military capabilities. There has been less unanimity in allocating shares of the burden of developing, deploying and operationalizing Alliance force modernization projects.

2. Theater Nuclear Forces

The proposed modernization of the U.S. theater nuclear forces in Europe, however, has generated controversy, particularly among non-governmental elites and, to the extent that they are aware of the proposals, the general public. European opinion on nuclear strategy remains basically committed to a "deterrence rather than defense" posture. Since the mid-1950s, most European military thinkers, particularly in the U.K. and the FRG, have looked upon theater nuclear weapons as a part of the overall Western deterrent, and, more concretely, as the link between the U.S./NATO force on the ground in Europe and the American strategic deterrent. Europeans have thus never been enthusiastic about the war-fighting capabilities of the NATO tactical-nuclear force; on the contrary, suggestions that NATO's war-fighting capabilities, whether conventional or tactical-nuclear, be substantially improved have normally been greeted with suspicion, as perhaps presaging a "de-coupling" of the U.S. strategic deterrent from the defense of Europe.

Those traditional attitudes are now in a state of evolution. European opinion now reflects the impact of growing Soviet strategic power

upon the balance of forces. Whatever Europeans may say for public consumption, NATO's statesmen believe that U.S. strategic forces will be utilized against the USSR only in extremis. Consequently, there is a new interest throughout Europe, including the U.K. and the FRG, in measures to increase the credibility of the NATO deterrent and to deal with a Soviet attack in Europe should deterrence fail. Modernization of NATO's tactical nuclear force is seen as one way to achieve these objectives--although the Schmidt government in the FRG continues to assert publicly that tactical nuclear weapons should be utilized only as a last resort, and official opinion in Britain still reflects the hope that in the event of a Soviet attack a very restricted use of tactical nuclear weapons would suffice to terminate hostilities.

There appears to be little evidence of serious East European concern for the consequences of a NATO-Pact war for the Soviet allies populations and industry. U.S./NATO emphasis upon the reduction of collateral damage in Western Europe and the lack of declaratory policy which would highlight the vulnerabilities of Eastern Europe to mid and deep retaliatory interdiction tend to provide reassurance to the East Europeans. Political considerations may forestall capitalizing on this vulnerability in times of relative quiescence. However, it does appear to be a strategic weapon of some consequence for the West.

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