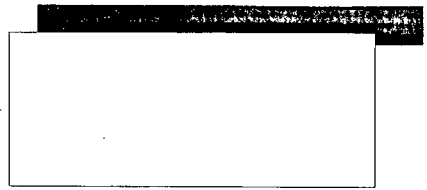


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Warsaw Pact Tactical Forces: Capabilities and Readiness for Nuclear War

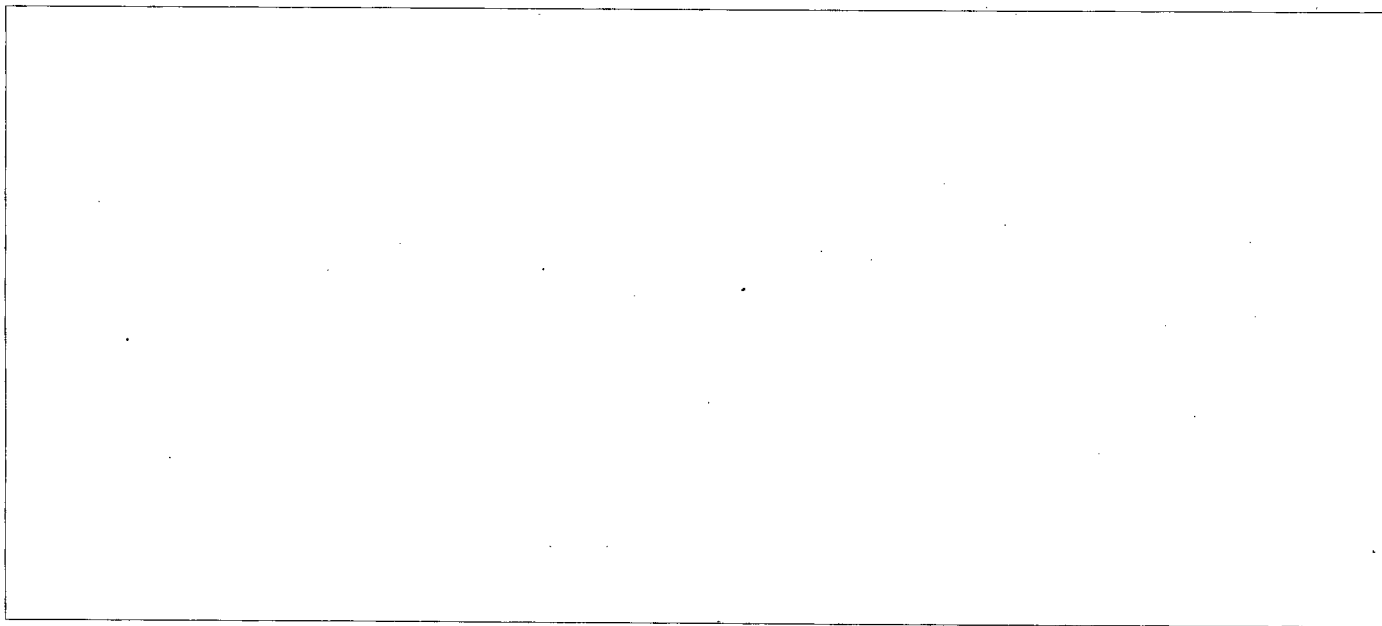
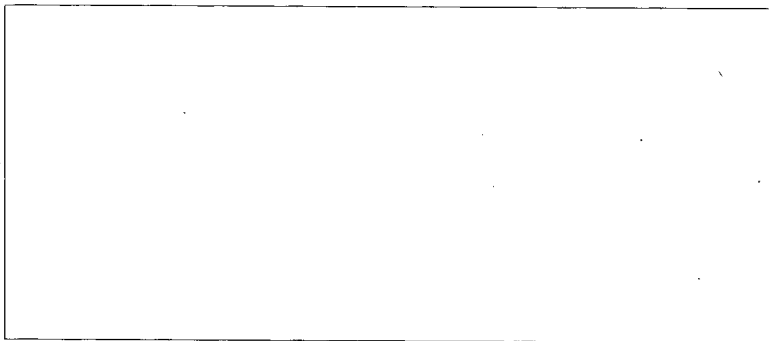
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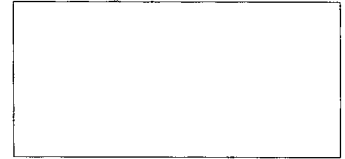
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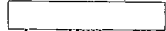
Warsaw Pact Tactical Forces: Capabilities and Readiness for Nuclear War

A Research Paper

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SOV 85-10107CX

June 1985

Warsaw Pact Tactical Forces: Capabilities and Readiness for Nuclear War

Key Judgments

Information available
as of 1 May 1985
was used in this report.

Soviet military writings [] indicate that—because the Soviets believe a conventional war with NATO is likely to escalate to a nuclear conflict—Warsaw Pact tactical and theater nuclear forces would be directed, before the outbreak of conventional hostilities, to complete their final preparations for a full-scale theater nuclear war. The order to complete plans and to prepare the nuclear forces would be given once the Soviet leadership decided war was imminent. We judge that these preparations could be completed in two or three days but expect the Soviets would prefer to take over a week, conditions permitting, to preserve concealment. []

These same sources portray two situations in which the Soviets contemplate using nuclear weapons even if NATO has not already done so: if the leadership believed NATO was about to resort to nuclear weapons, or if Pact reverses in conventional combat threatened a decisive defeat. []

Soviet military planners have identified certain actions that they believe would indicate a NATO decision to release nuclear weapons. These include:

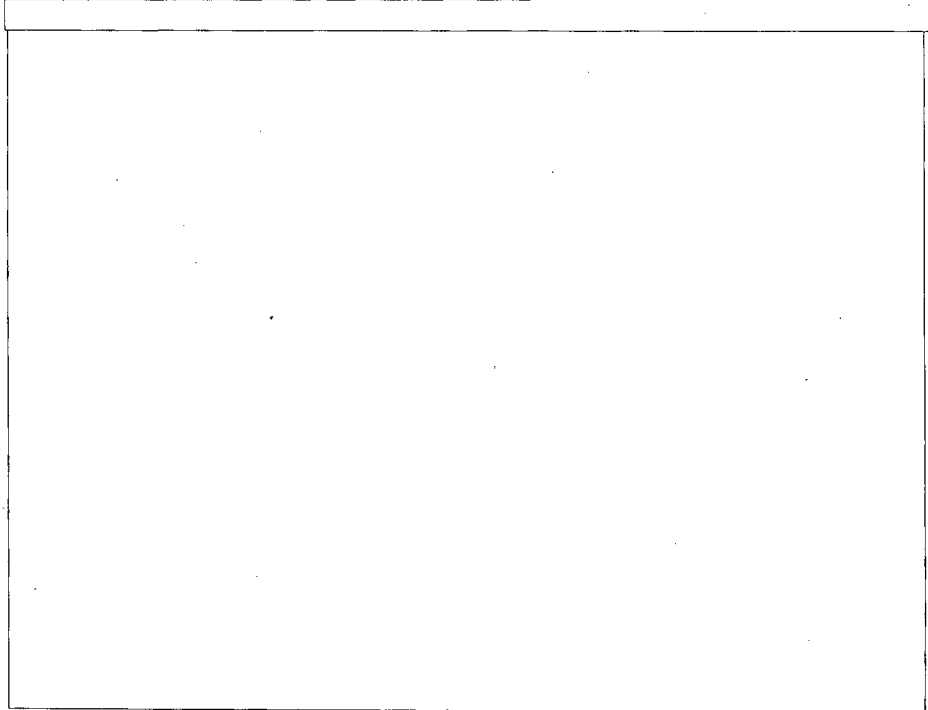
- Loading nuclear weapons on strike aircraft.
- Transferring nuclear weapons to non-US NATO forces.
- Changing codes in nuclear force communications.
- Increasing aerial reconnaissance.
- Transmitting specific Emergency Action Messages.
- Redeploying forces to operate under nuclear conditions. []

We believe the reconnaissance systems available to the theater forces through the 1980s would be inadequate by themselves to allow the Soviets to predict *with confidence* a NATO nuclear attack and preempt it. Collection and interpretation also would be hampered by several largely intractable obstacles—the weather in Europe, gaps in the collection efforts (especially those of aviation), the mobility of NATO targets, and the increasing depth of deployment of NATO's nuclear delivery systems. []

Despite these difficulties, if most theater nuclear preparations are made during the period of tension preceding a war, NATO might at best have only two or three hours' warning of a Warsaw Pact strike. Once at full readiness, theater nuclear forces could join the strategic forces in a planned massive strike in Europe within a few hours of the decision to use nuclear weapons. If necessary—for example, to respond to a surprise attack—the front forces could launch a smaller strike within 30 minutes. Front prestrike activity



would be substantial and widespread, but if hostilities had begun it would be largely obscured by normal combat activity.

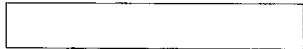


Ongoing improvements in Soviet tactical nuclear forces may compound the difficulties for both NATO and the Pact. The changes of concern to NATO include:


- Growing use of nuclear-capable missiles to deliver improved conventional munitions. Observable procedures for conventional strikes are likely to be indistinguishable from those for nuclear attacks.
- Front acquisition of new missiles—the SS-21, improved SS-1 (Scud B), and SS-12 Mod 2. Their longer ranges and shorter reaction times will further reduce the fronts' preparation time—and NATO's warning time.

For the Pact, the improvements will mean additional demands:

- Increased requirements for front reconnaissance. For its longer range missiles, the front must collect information on more distant targets and must integrate it with data from collectors (such as strategic aircraft and satellites) controlled at theater and national levels.
- More complex coordination of planning and targeting. This will follow as the increasing capabilities allow front systems to hit more targets previously reachable only by strategic forces.





The basic system of attack preparation will remain much the same, however, even with these improvements in front nuclear forces. The Pact almost certainly will still have to perform a number of conspicuous actions in the hours before launching a decisive—therefore massive, by Soviet doctrine—initial nuclear strike. 



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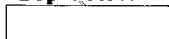


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Warsaw Pact Tactical Forces: Capabilities and Readiness for Nuclear War

In Soviet writings, the problem of readying forces to initiate large-scale nuclear war in Central Europe is always addressed in terms of the doctrinal imperative to forestall any NATO nuclear strike by making a decisive Warsaw Pact attack first. Attention is consistently devoted to acquiring the information and taking the steps required for the transition from conventional to nuclear war.

The Soviets expect NATO to resort to its nuclear weapons if it faces defeat in a conventional war, and they are therefore predisposed toward a preemptive attack at certain critical phases, when they consider NATO likely to use nuclear weapons.

This study addresses two questions:

- What are Soviet capabilities to detect indications of NATO preparations to initiate nuclear war in the European theater, to assess these indications, and then to preempt?
- How much warning would NATO have of Soviet preparations to initiate nuclear war in Europe?

It focuses on the way in which a Warsaw Pact "front" would generate a nuclear strike in a European conflict and examines the process from the prehostility phase to the transition to nuclear war. The study describes:

- Observable activities that could provide timely evidence that the Pact was considering initiation of nuclear combat.
- The timing of major events in Pact preparation of a nuclear strike, showing the amount of notice that each event would provide.
- The current Pact system of preparation for nuclear strikes and the trends indicated by recent developments.

The study concentrates on the front because it is the Pact echelon that has the heaviest responsibilities for operational planning and execution and the one for which we have the most detailed information. The largest Pact field formation, it is roughly comparable to a NATO army group with its associated air forces.

A front may consist of three to five ground armies (each including three to five tank or motorized rifle divisions), air forces with several hundred tactical aircraft, and from 300,000 to more than 500,000 men. In a European war, most Pact fronts would come under high commands of forces in one of at least two theaters of military operations (TMOs) facing NATO. A TMO is defined as a particular territory, with associated airspace and sea areas, including islands, within whose limits the armed forces of a country or coalition operate as a military organization engaged in strategic missions.

Our most authoritative evidence on nuclear strike generation is Pact military literature—military articles, staff training programs, and manuals. Pact military exercises also are important sources of data, although they often concentrate on particular aspects of generating nuclear strikes instead of on the process as a whole. Human sources have been used carefully, with attention to individual limitations of access or memory.

Information used here generally is from materials less than 10 years old. Sources from the 1960s were reviewed to fill gaps and to gain insight into Pact military thought on theater nuclear war, but this paper does not explicitly trace the substantial evolutionary development in Pact procedures.

Doctrine on the Use of Nuclear Weapons

The decision to use nuclear weapons is the prerogative of the highest wartime level of the Soviet Government and Communist Party. It would be made, under normal circumstances, by the Politburo and conveyed down the chain of command by the Supreme High

Command (VGK).¹ The Soviets seek to retain effective control over the release of nuclear weapons at a level as high as possible—ideally the Politburo or the wartime equivalent of the State Defense Committee. Writings of the mid-1960s indicate, however, that, if control were interrupted by a NATO preemptive nuclear strike, the authority to retaliate might devolve as low as army commander. [redacted]

Since the 1960s, Pact military literature [redacted] have nearly always portrayed NATO as the precipitator of nuclear escalation. But they also clearly show that the Pact objective is to detect NATO preparations and launch its own preemptive strikes. In addition, these sources indicate that the Soviets envisage resorting to nuclear warfare if, in conventional combat, its forces suffer major reverses that threaten the loss of strategic advantage and make their situation appear uncontrollable by conventional means. [redacted]

Military literature [redacted] since the early 1970s show that the Soviets have explored ways of conducting limited nuclear strikes in response to a recognizably limited NATO strike. In studying that contingency, however, the Pact strategists appear to be largely reacting to Western ideas. Most of them doubt that massive exchanges could be avoided, once the nuclear threshold had been crossed. Consistent with those doubts, in exercises the Soviets normally plan the delivery of massive nuclear strikes shortly after the limited strikes. [redacted]

¹ The VGK is a Soviet wartime command body, headed by the General Secretary of the Communist Party of the Soviet Union, that acts as the senior Warsaw Pact military command. The General Secretary routinely is designated Commander in Chief of the Soviet Armed Forces in peacetime and is, by statute, the Commander in Chief of the Combined Armed Forces of the Warsaw Pact member states. The VGK, which is probably made up of senior military and political authorities, would provide military-strategic leadership for all Pact operations. Intermediate high commands in the TMOs would directly control Soviet and non-Soviet Warsaw Pact forces. The VGK controls the operating forces (through its executive agent, the Soviet General Staff), while largely civilian bodies—the Politburo and the State Defense Committee—would provide more general guidance for the conduct of the war. [redacted]

Authoritative Soviet writings consistently portray it as Soviet policy to make a massive, decisive—and preferably preemptive—strike, as soon as the VGK is convinced that the situation justifies it. In this preemptive strike, the tactical nuclear forces of the fronts would join with the strategic forces in a nearly simultaneous, integrated mass initial strike against NATO targets throughout the theater.² If NATO struck first, the Soviets would seek to retaliate immediately by firing at previously assigned targets with all operable weapons, following up with remaining weapons retargeted at the most valuable remaining NATO targets. [redacted]

The sections that follow discuss the activities of the different elements involved in the planning and execution of a front's nuclear strikes. Table 9 summarizes this discussion. [redacted]

Planning and Controlling the Nuclear Strike

Each echelon of command below the VGK, including command elements of strategic forces controlled by the General Staff, prepares the targeting plan for nuclear strikes within its zone of responsibility. These plans must be consistent with the concept of operations of the next higher echelon of command and must be approved by that authority. The General Staff, acting for the VGK, would integrate and give final approval to the plans. [redacted]

Military literature indicates that (with VGK authorization) the high command in a theater of military operations can order a strike by all subordinate forces and can confirm or cancel execution until some 10 minutes before launch. A front headquarters controls the actions of its subordinates, both to prevent their premature use of nuclear weapons and to ensure that the strikes are coherent and effective. To the degree practical, front staffs monitor the specific weapons

² The term strategic forces applies to those—primarily based in the USSR—that are controlled at levels above the front. Integration of strategic nuclear forces with front systems does not necessarily imply the onset of intercontinental nuclear exchanges. [redacted]

allocation plans of subordinate units. Under a system of "parallel planning," staffs at all levels use preliminary instructions from higher authorities as a basis for their own detailed plans. The superior command later reviews the plans and issues final orders [redacted]

As much strike planning as possible is to be done before the outbreak of hostilities. The TMO high commands retain control (for example, by authorizing release of nuclear weapons for use by launch units), but the fronts do most of the planning—within rigidly prescribed operational guidelines. [redacted]

Pact nuclear forces maintain plans that are intended to enable them to begin operations with only two days of preparation. They have an overall nuclear strike plan that can be put into effect immediately, if necessary, but it is open to adjustment as the situation changes. In a period of tension, therefore, the Pact could launch a massive or a limited strike on short notice, under the direction of the Soviet General Staff [redacted]

Front and army staffs are to continuously update their nuclear strike plans, primarily through their Nuclear and Fire Planning Groups (NFPGs). The work of a front's NFPG falls into four major categories:

1. *Maintaining current data on friendly and hostile forces.* The NFPG keeps track of the location, targeting, and readiness status of the front's own nuclear weapons and of the strategic forces' plans for nuclear strikes against targets in the front's zone of operation. It also coordinates its targeting with that of adjacent fronts. [redacted]

In addition, the NFPG maintains current information on the nature, location, and readiness status of enemy forces to ensure that the front is covering all appropriate targets and would not waste its nuclear weapons on unoccupied areas. Soviet characterizations of war against NATO indicate that some 70 percent of the targets of interest to fronts and armies would be located at depths from 15 to 120 km (figure 1). [redacted]

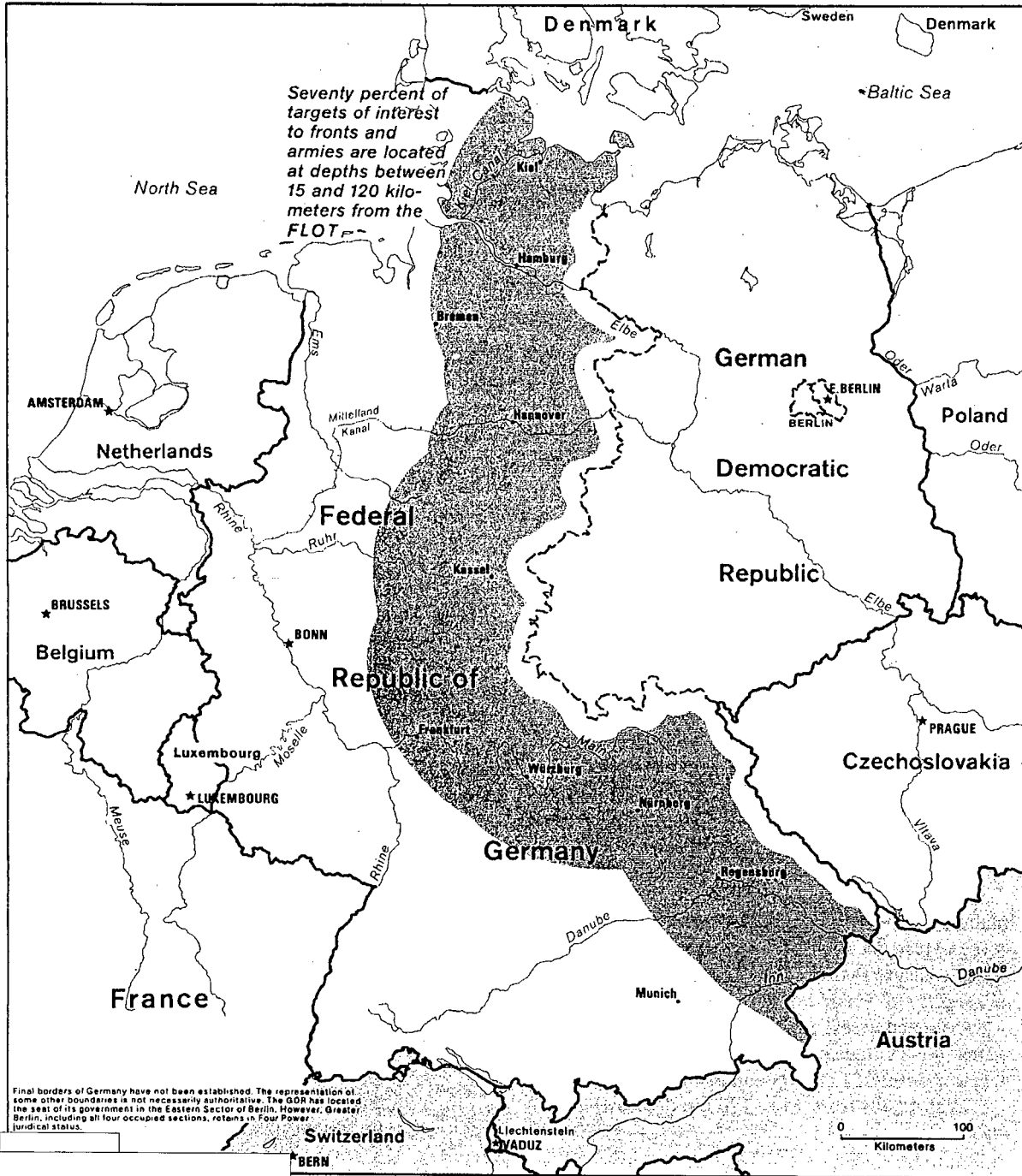
2. *Allocating specific nuclear weapons to strike individual targets.* Soviet nuclear strike planners are enjoined to choose "scientifically" the optimal combination of weapons and targets for achieving the degree of damage required to neutralize or destroy the target. They select the combination of weapon system yield and kill mechanism that will do this with the fewest weapons, using computers for the calculations. With those calculations, NFPG planners allocate their nuclear weapons to specific NATO targets, according to target priority.³ It is relatively simple to target a fixed facility, but for mobile NATO targets the front planners must constantly update the targeting of their nuclear weapons. [redacted]

3. *Controlling weapon and delivery vehicle preparation, movement, and readiness.* The staffs of a front and its subordinate units are responsible for ensuring that nuclear strike units always have enough weapons in position and available for use on short notice. According to Soviet writings, the front must exercise the maximum feasible central control over the preparation, movement, and readiness status of missiles, aircraft, and nuclear artillery. [redacted]

4. *Planning and controlling reconnaissance operations.* Front staffs are responsible for ensuring that the intelligence effort against enemy targets produces data sufficiently precise to allow effective nuclear strikes. The data precision required depends on the characteristics of each Pact weapon system. In the early 1970s, for example, location data accurate within 30 meters were required for artillery, 100 to 150 meters for tactical missiles, and 175 to 200 meters for operational-tactical missiles.⁴ NFPG planners generally would assign more than one weapon to cover large-area targets, such as NATO missile deployment areas. [redacted]

³In Soviet terms, "tactical" missiles are ballistic missiles that have ranges as great as 120 km and are assigned to divisions (which are considered to be "tactical" units). "Operational-tactical" missiles have ranges from 300 km to as much as 1,000 km, sufficient to strike targets to the depth of at least an army operation. [redacted]

Figure 1
Depth of Targets for Front Reconnaissance



Front Reconnaissance—Human Sources

The human sources controlled by a front include clandestine agents as well as the personnel of the Special Purpose Forces (SPF). In wartime, additional "reserve" agents would supplement those already in place. Fronts are to direct the agents to provide information about targets of a Pact nuclear strike.

[redacted]

The SPF is organized in brigades at front level and battalions at army level. [redacted]

Pact military literature indicate that a front would use some 40 to 70 SPF reconnaissance groups of about 14 men each. These small groups are to be inserted behind NATO lines, generally by air, with the mission of locating targets deep in NATO territory. Most are equipped primarily for reconnaissance, but (according to Pact literature) some carry weapons as heavy as antitank guided missiles. With such weapons, they could engage some types of NATO nuclear organizations, such as weapon supply points and missile launch units. [redacted]

Pact planners calculate that neither an agent nor an SPF team would be capable of more than limited target coverage. SPF groups, however, are better able

than agents to search for suitable targets that have left their garrisons. Human sources of both types would have only limited mobility and would be hindered by NATO counterintelligence activities (which the Soviets expect to increase in periods of tension) and by possible communications problems. Pact literature asserts that each agent or SPF group could maintain surveillance of one or two targets.

[redacted]

Analysis of this literature suggests that priority goes to: detecting NATO launch preparations, providing precise coordinates for the targets of Pact nuclear weapons, and watching those targets continuously until just before the nuclear strike. SPF combat actions—ambushes, raids, and so on—have lower priority. A front command probably would not order an SPF unit to risk combat action unless it believed NATO had decided to launch a nuclear strike. At such a time, the NATO weapon systems would be at advanced states of readiness—and most vulnerable to ground weapons. [redacted]

NATO would not be able to observe the functioning of the front's NFPGs, but some of the supporting and implementing actions by other organizations are, in principle, detectable. [redacted]

The Front Reconnaissance System

Demands on Reconnaissance

To support a nuclear strike, a front would receive data from the General Staff and from the high command in the TMO, but it would also have to rely—heavily—on its own reconnaissance resources (see insets). The most rigorous demands on Soviet front reconnaissance forces, according to Pact writings, are for the detection of enemy nuclear forces (table 1); this is because of the substantial destructive capability of even a few surviving NATO nuclear weapons. Other target categories—such as enemy rear support and transport—have less stringent requirements, presumably because

they present a less decisive proximate threat to Pact forces. [redacted]

Authoritative Soviet writings calculate that a front's area of operations will contain about 1,000 reconnaissance targets and that some 350 of these will be of high value—suitable for attack by the front's nuclear weapons. These must be identified and precisely located. Of the 350 high-value NATO targets:

- About 280 (80 percent) would be mobile; their locations must be tracked.
- About 100—most of them area targets to be hit by several Pact weapons—would be included in the initial nuclear strike plan. [redacted]

Front Reconnaissance—Signals Intelligence

The Warsaw Pact would rely heavily on intercepted communications for the information it needs to:

- Locate nuclear targets.
- Monitor the activity of NATO nuclear forces.
- Acquire direct evidence of immediate NATO preparation for strikes, including high-level decisions and commands directing nuclear strikes.

According to Pact writings [redacted] a front may have more than 500 signals intelligence (SIGINT) positions that could monitor NATO forces and would allot about half of them to targets for a nuclear strike [redacted]

[redacted]
[redacted]
[redacted] Pact planners believe they can interpret the meaning of even encrypted messages [redacted]
[redacted]

In addition, the fronts (like all other Warsaw Pact command levels) would watch for signs that NATO had decided to initiate nuclear war or was preparing to launch nuclear strikes. Soviet writings have listed many of these indicators (see inset, page 7) and have indicated that, if one alone were detected, the Pact nuclear forces would order *at least* an immediate increase in readiness status [redacted]

Reconnaissance Planning

In preparing for offensive operations, the front's Intelligence Department produces a comprehensive reconnaissance plan, which allocates front reconnaissance resources to specific tasks. These tasks include support of attacks on NATO forces in conventional stages of a war and support of nuclear strikes after the war enters the nuclear phase. The reconnaissance plan is modified as needed. [redacted]

The Soviets consider the detection, location, and monitoring of targets for nuclear destruction to be the most difficult task in the generation of a nuclear strike. They would dedicate the lion's share of front reconnaissance resources to it. For example:

- Pact writings from the late 1970s state that reconnaissance should cover enemy tactical missiles every one to two hours and operational-tactical missiles

Front Reconnaissance—Aerial

Reconnaissance aviation units are the front's most flexible and responsive resources for locating targets for its nuclear strikes.^a The air forces of a front include tactical reconnaissance regiments for covering targets at depths up to a few hundred kilometers, and operational reconnaissance regiments for those at greater depths. Reconnaissance aircraft carry a variety of sensors, including cameras, infrared sensors, radars, and SIGINT equipment. Their crews (as well as the crews of any combat aircraft assigned to reconnaissance missions) would also attempt to detect and locate targets visually [redacted]

Soviet writings discuss mass aerial reconnaissance sorties by more than 100 aircraft per front. However, even the well-equipped fronts in Eastern Europe could not reach this level unless they assigned reconnaissance missions to some of the aircraft of combat units [redacted]

In addition to reconnaissance data provided by their own aircraft, front authorities receive information collected by reconnaissance satellites controlled by higher command echelons. [redacted]

[redacted]

every three to four hours. [redacted] Warsaw Pact writings indicate that about two-thirds of a front's clandestine agents would support the targeting of the Pact's nuclear forces.

- After the Special Purpose Forces (SPF) groups were inserted behind NATO lines, some 90 percent of them would monitor the targets for Pact nuclear strikes.
- In the final mass reconnaissance before a strike, nearly all serviceable reconnaissance aircraft (and possibly some combat aircraft) would be sent out for last-minute confirmation of target locations.



Table 1
Requirements for the
Front Reconnaissance System

NATO Targets	Required Probability of Precisely Locating Each Target
Nuclear forces	0.9 to 1.0
Air forces	0.9
Command posts	0.8
Ground forces	0.8
Other	0.4 or 0.5

Source: Pact writings. These probabilities are required of the system as a whole. That is, the combined efforts of Pact agents, SPF groups, and electronic and aerial reconnaissance are expected to keep the front planners informed of the whereabouts of all (or almost all) NATO's nuclear forces. Information is expected to be less complete for other targets.



- About half of the front- and army-subordinate SIGINT positions would be assigned to these targets.

The Soviets have calculated the number of targets each form of reconnaissance can cover and the probability of its locating targets with the precision required to deliver nuclear weapons. Those calculations are shown in table 2.

Front planners would use several forms of reconnaissance concurrently to locate targets for nuclear destruction, according to Soviet classified military literature. After radio direction finding had detected a target, for example, an SPF group or reconnaissance aircraft might be sent to locate it more precisely and to keep track of it. We believe the need to use multiple systems would cause the Pact to begin reconnaissance activity before hostilities and maintain it throughout the combat phases, increasing the activity just before launching its nuclear strikes.

Once hostilities had begun, all front reconnaissance collection systems would be used in a multisource effort against all categories of targets for the nuclear strike. Specific collectors would be assigned to specific targets according to the reconnaissance plan. Table 3

Soviet List of Indicators of NATO Preparations To Use Nuclear Weapons

Any one of the following NATO activities could spark a reaction by Pact nuclear forces. The least reaction would be an immediate increase in readiness condition:

- Issue of nuclear weapons from storage and supply points.
- Delivery of nuclear weapons to missile, air, and artillery units.
- Increased readiness of nuclear missile and artillery units.
- Loading of nuclear weapons onto delivery aircraft.
- US transfer of nuclear weapons to other NATO countries.
- Massive weather reporting for air and missile units.
- Increased radio communications controlling nuclear attack units.
- Changes in the codes on NATO radio nets.
- Transmittal of Emergency Action Messages.
- A reduction in conventional strikes by NATO tactical aviation during conventional warfare.
- Increased aerial reconnaissance.
- Massed takeoff of NATO aircraft.
- Increased engineer preparation of dispersal areas.
- Reinforcement of air defense of important areas.
- Evacuation of civilians.

illustrates the allocations of front reconnaissance resources planned to support nuclear strike targeting, as discussed in Pact writings and exercises. The tabulation below illustrates the variety of collection resources that a front might devote in final reconnaissance against a single typical NATO target for a nuclear strike—one Lance tactical missile battalion, with its elements deployed over an area of 300 to 400 square kilometers:

- 1 radio intercept post
- 1 group of radio direction-finding posts
- 2 aircraft sorties
- 1 clandestine agent
- 1 SPF group.



Table 2
Soviet Estimates of the Capabilities of the
Warsaw Pact Front Reconnaissance Systems

Sources	Capacity	Time Required		Probability of Locating Each Target
		For Preparation of Reconnaissance Source	For Response	
1 agent	1 or 2 targets		45 to 70 minutes	0.6
Special Purpose Forces group	1 or 2 targets 250 square km	7 to 12 hours ^a	25 to 35 minutes, beginning 4 to 6 hours after insertion	0.6
Radio direction finding	150 fixes per hour		12 to 25 minutes	0.8 ^b
Aircraft sortie	2 to 5 targets	30 minutes or more	From near-real time (for visual) to as much as 40 minutes after landing (for conventional pho- tography)	0.6 ^c

^a This includes time required for inserting the SPF group behind NATO lines.

^b This high (0.8) estimate is probably the probability of detection only, not of locating the target precisely enough for targeting Pact weapons. The Pact planners would use information from radio direction finding to direct the efforts of other reconnaissance sources.

^c This figure is apparently the product of an 80-percent probability of penetration and 70- to 80-percent probability of locating each target.

Source: Soviet writings.

Responsiveness of Reconnaissance

Pact writings show that the reaction times of the different reconnaissance forces vary from many hours to almost real time. For example:

- The Soviets expect the activating and placing of agents to take as much as a day, hampered by imperfect communications, poor mobility, and intense NATO counterintelligence.
- SPF groups need 10 to 12 hours for preparation and insertion in their areas of operation—preferably at night. If assigned aircraft are available, that figure could fall to as low as seven hours.
- Aviation could react quickly to the outbreak of fighting, and it is likely that all available reconnaissance aircraft could be airborne within half an hour. In a mass sortie, aircraft are expected to reconnoiter their targets in about 40 minutes.

- When they are set up, SIGINT units can react almost immediately, but during combat some of them would be down while relocating.

Even after reconnaissance systems are in place and operating, Pact writings indicate that many still would require as long as half a day to begin generating information. For example:

- Writings from the early 1970s assert that SPF groups deep in the enemy rear might require four to six hours after landing before they could start sending data.
- The responsiveness of aerial reconnaissance systems depends on the sensors carried on aircraft and drones. Electronic sensors—ELINT, SIGINT, radar, and video—and radio reporting of visual observation from aboard reconnaissance aircraft can

Table 3
Front Reconnaissance Resources for Use
Against Targets for Nuclear Destruction

Reconnaissance Forces	Number
Agents	53
Radio intercept posts	260
Radio direction-finding posts	17
Aircraft sorties	1,325
Special Purpose Forces reconnaissance groups	72

Note: These resources are considered to be used during an offensive operation lasting roughly 12 days.

Sources: Pact writings and exercises.

[redacted]

provide data in virtually real time, although with varying accuracy. Conventional imagery would require flight time after the image is taken, plus 40 minutes after an aircraft has landed.

- SIGINT units can provide virtually real-time data and are capable of locating approximately 200 transmitting stations per hour. The accuracy of location, however, falls drastically with the distance of enemy transmitters from the locating stations.
- Radio intercept operations also can provide near-real-time information on the readiness status of the targets. [redacted]

Sequence of Reconnaissance Activities

The front reconnaissance system would not be operating at full capacity before the start of a war or during its early hours, even though the targets it is supposed to track would be moving. The Soviets wish to avoid major border violations that would warn NATO of an impending attack. Writings depict prewar reconnaissance as being confined to SIGINT, peripheral air reconnaissance missions, and clandestine agents. Indeed, writings from the mid-1970s state that any prewar penetration of NATO borders must have specific General Staff approval. SPF units would be inserted only after hostilities began. [redacted]

The front reconnaissance system would support both conventional operations and nuclear strikes throughout a war. According to Soviet writings, a mass aerial reconnaissance sortie would immediately follow the start of combat to update all intelligence data, including that for targeting Pact nuclear weapons. This would not necessarily reflect a decision to launch a nuclear strike; but an initial mass effort in support of a conventional attack would reduce the front's capability to mount another one later, if the Pact decided to prepare a nuclear strike. Front reconnaissance aviation forces probably could manage one more major effort, but, if the conventional phase were to last 10 days or more, their ability to muster a second mass reconnaissance sortie probably would be negated by day-to-day losses. Considering attrition of reconnaissance aircraft, a second mass sortie appears unlikely, and any additional sorties very unlikely. [redacted]

Limitations

Overall, Soviet writings and exercises show a lack of confidence that a front can meet the requirements for precise data shown in table 1, even using all its reconnaissance forces together. Serious reconnaissance limitations therefore would force the front planners to use imprecise data in targeting even their accurate nuclear systems. For example, they frequently would have to detect an element of a NATO missile or nuclear artillery unit with SIGINT or an agent, and then try to locate it precisely with aerial reconnaissance or an SPF group. To completely destroy a missile or artillery unit whose elements had dispersed would require detonating many large nuclear weapons over an extensive area. Planning for strikes of this kind—using large numbers of warheads yielding up to 500 kilotons each—probably will continue into the 1990s, despite expected improvements in Pact reconnaissance systems. [redacted]

Soviet writings reflect substantial concern for detecting NATO preparations for the use of nuclear weapons and also depict front reconnaissance performance as inadequate to support the destruction of all

NATO's tactical nuclear force. Moreover, these writings suggest that during conventional combat the Pact might lose reconnaissance resources faster than NATO would lose nuclear forces. The mobility and concealment of NATO weapons, plus the relatively low probabilities of locating targets given in Soviet literature, imply that even a well-executed Pact preemptive strike would leave intact some—and possibly most—of the NATO nuclear forces in the theater.

Front Nuclear Logistics

The Soviets have an extensive system for maintaining nuclear warheads and missiles in peacetime and replenishing weapon stocks during a war. Over the past three years, new operational procedures have improved the ability of this system to respond to the approach of hostilities. In particular, the Soviets have been working to reduce the time required to send mobile nuclear logistic units to the field.

Missile and Artillery Units

A front's nuclear logistic system is essentially a filled pipeline in peacetime. The system's elements store and control all components of nuclear missile and artillery weapons, passing them to combat units as required. All logistic units are mobile and able to operate in the field, moving airframes, propellants, and warheads with their own equipment.

The front system has three tiers of logistic support; from rear to forward area, these are:

- *Independent Missile Transport Battalions (ORPDs)*, which receive and store missile airframes and warheads from central storage in the USSR and deliver them to the next echelon in the system.
- *Mobile Rocket Technical Bases (PRTBs)*, which store and prepare these components, as well as propellants, and deliver them to launch units at the front, army, and division echelons. (In some contingencies, launch units also receive deliveries directly from the ORPDs.) The PRTBs probably store and control nuclear artillery rounds as they do the missile warheads.

- *Launch units*, which store and maintain their own missile systems (except for the nuclear warheads, which remain in the custody of the PRTBs). It is evident from Soviet writings that launch units now store missile airframes and liquid propellants for Scuds in their garrisons.

Missile logistic units would deploy to the field as war approached and, once war began, would relocate as necessary in the wake of the frontlines. Operational-tactical missile brigades would be 40 to 60 km behind the line of contact, and tactical missile battalions would be within 15 km. Pact writings indicate that in a rapid advance the PRTBs might move every two or three days; they are expected to be only 70 to 100 km behind the frontline of troops.

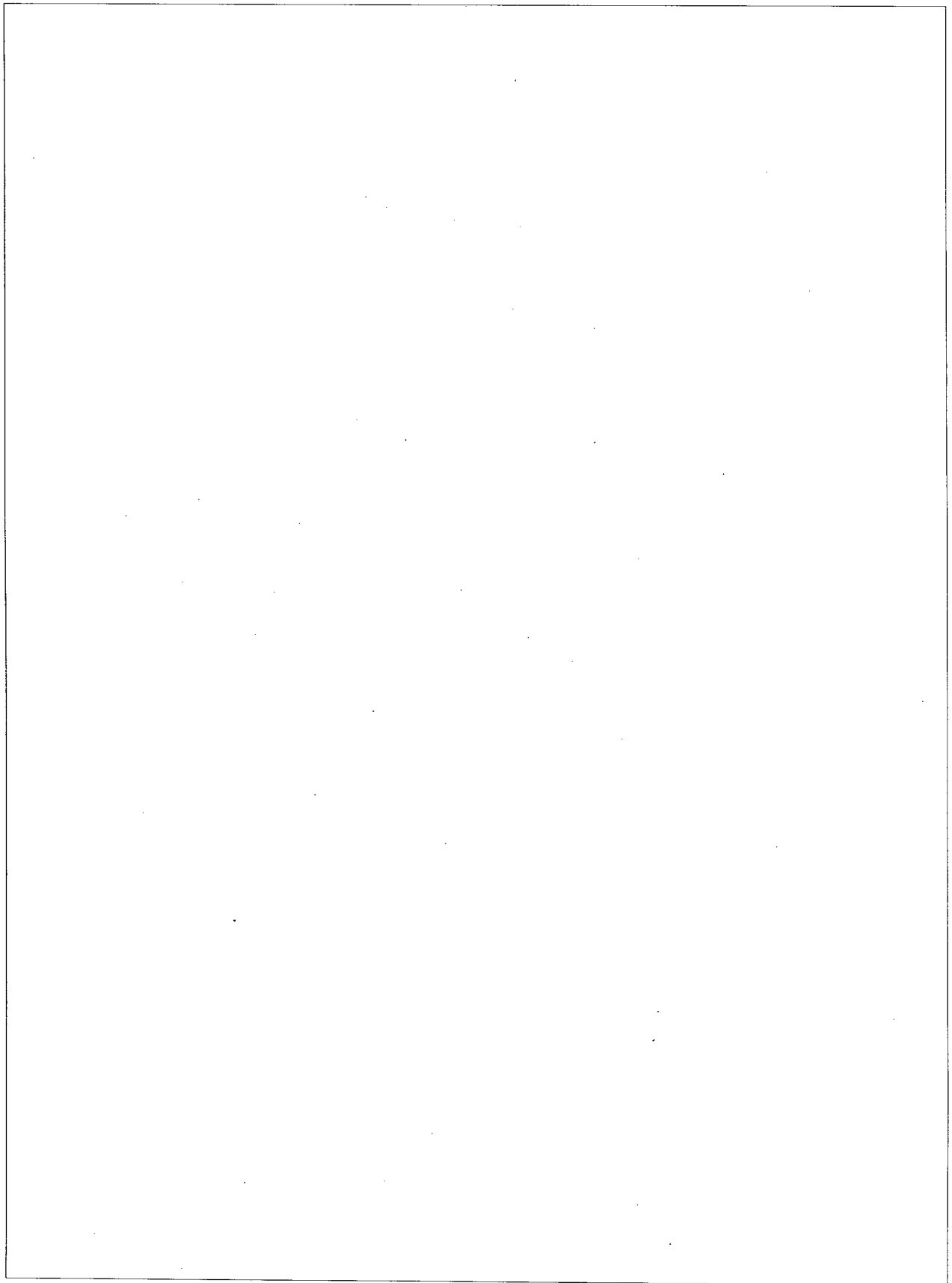
Most, if not all, of the missile airframes needed for two waves of missile launches in the initial mass strike are already stored, available for use, in the launch units. If any more were needed for the initial strike, the PRTB might move them forward an hour or two before the first launch. It could begin preparing missiles for further strikes well before hostilities.

Relocating the mobile logistic units is a major—and potentially conspicuous—undertaking. Pact writings show that an ORPD would have at least 200 men and about 190 vehicles (support vehicles, missile transporters, and mobile warhead storage and transport vehicles).

Improvement of Reaction Time

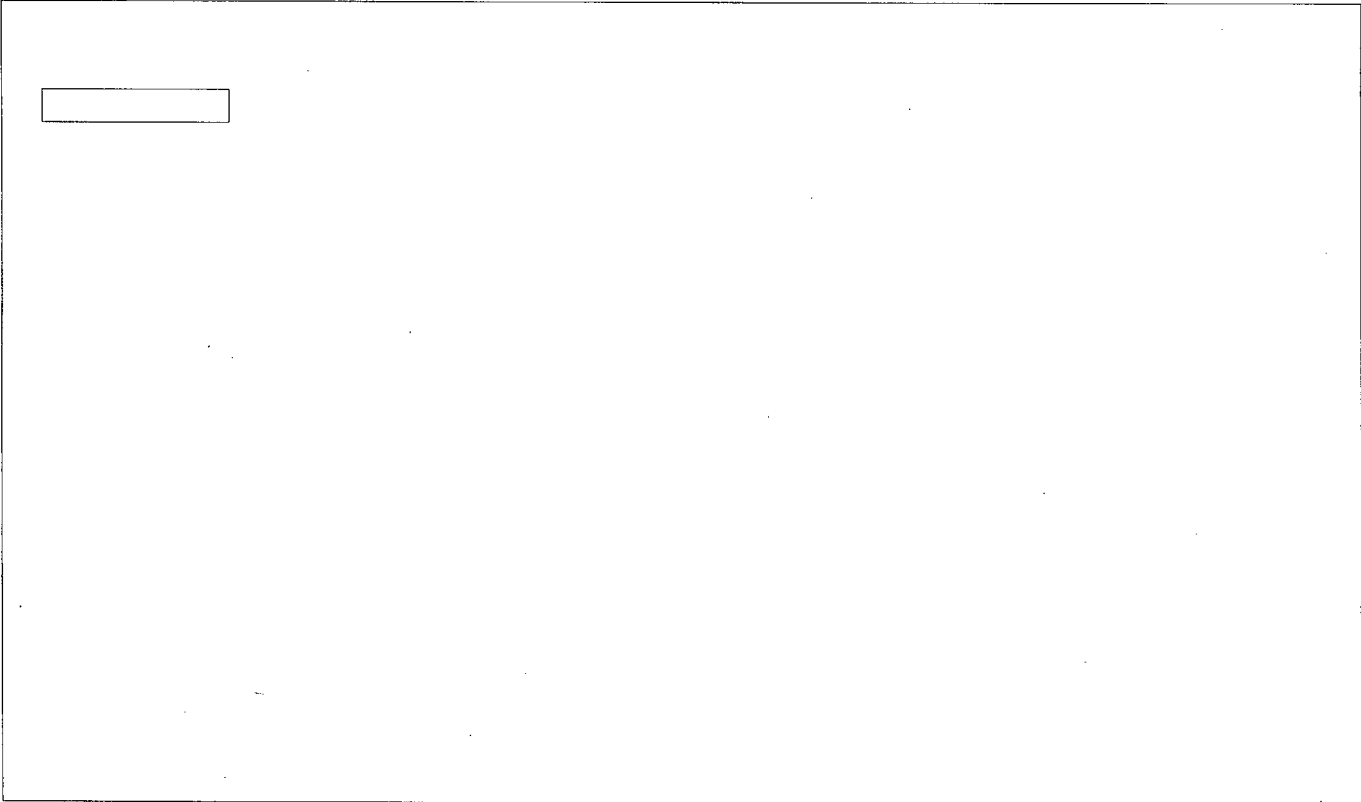
The Pact has steadily reduced the time required for missile forces to reach readiness in peacetime. The current arrangements for storing missiles, propellants, and nuclear weapons in PRTBs and launch unit garrisons are the result of measures started in the late 1970s to reduce reaction time. The physical modifications made to the PRTBs and garrisons

Top Secret



[Redacted]

[Redacted]



[Redacted] References in the early 1980s to stringent new time norms and a new specialized missile technical support system reflect further improved capabilities to deploy from garrison and reach full readiness. For example:

- The new time norms are designed to bring an operational-tactical missile brigade from peacetime conditions to full readiness in the field in four to eight hours, depending on the distance the launchers move. In the late 1970s, a day or more was needed.
- Time norms for tactical missile battalions have been similarly reduced from 12 to 14 hours to 3 to 8 hours.

• [Redacted] before the improvements—estimated that it would take some six hours to move out all the missiles and warheads stored at his PRTB [Redacted]

[Redacted]

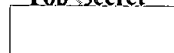
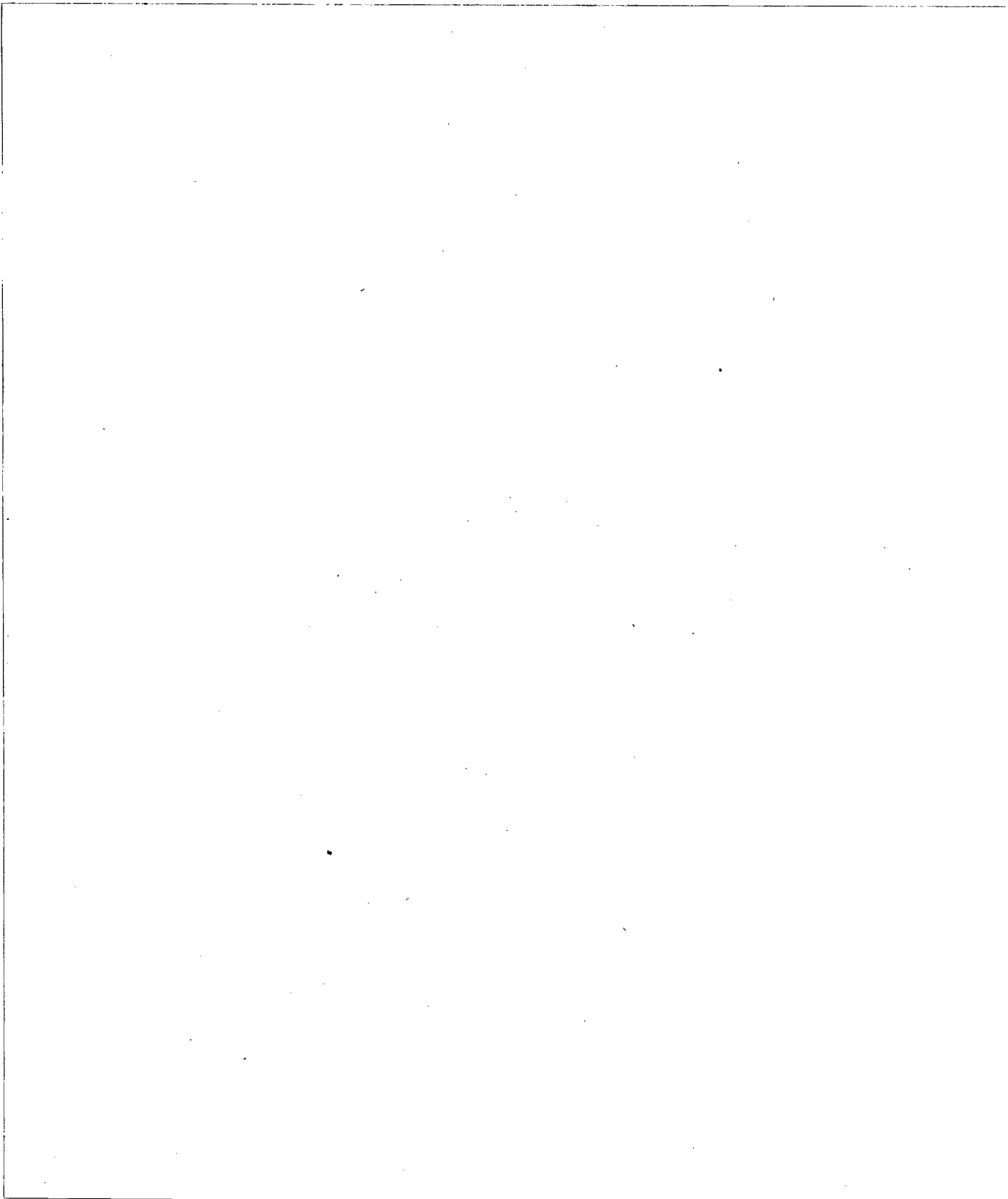
Control of Nuclear Weapons

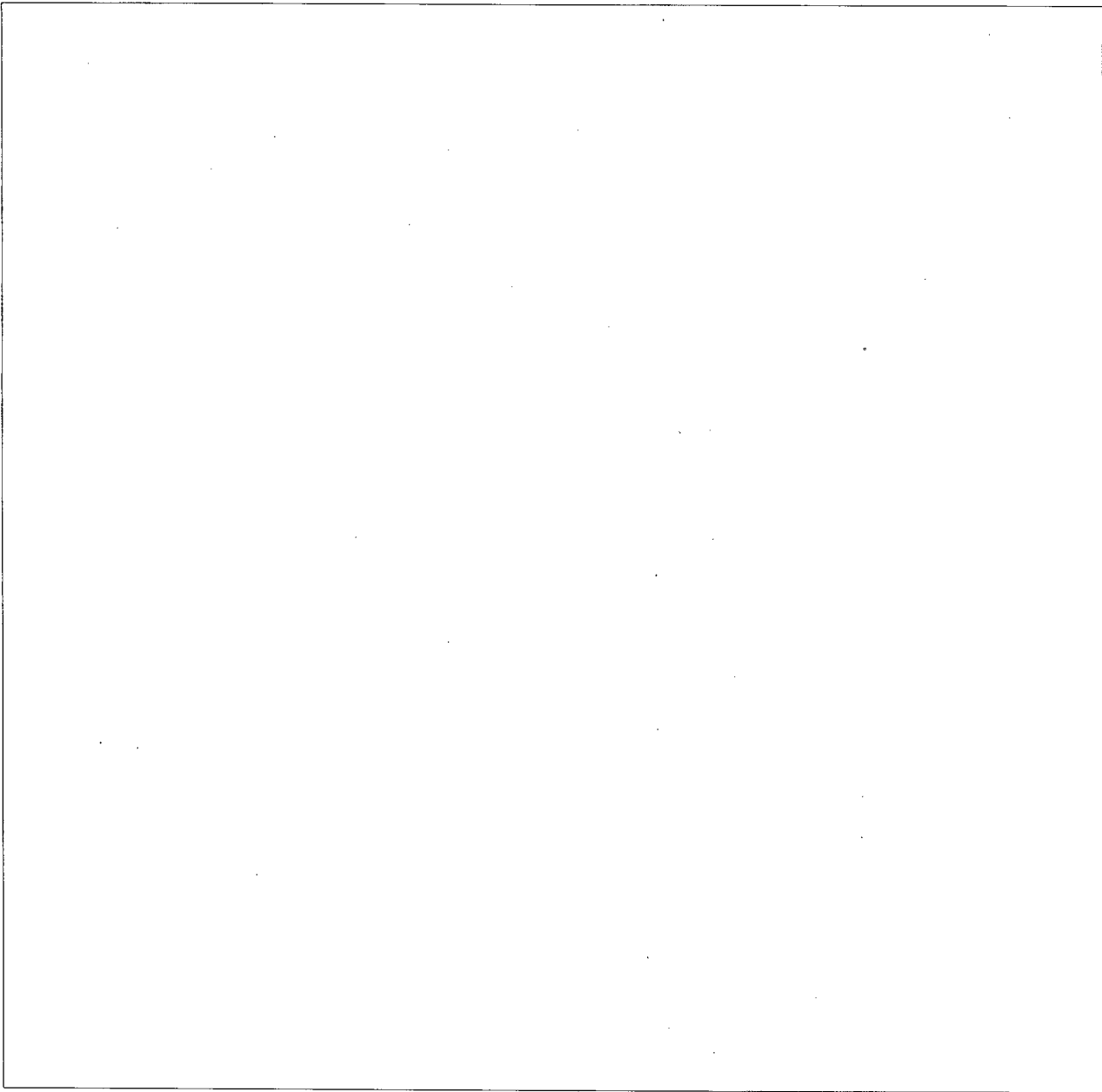
[Redacted] Pact writings indicate that PRTBs retain custody of nuclear warheads until the front commander or higher authority orders their release. The Soviets believe that, by keeping the other components of the missiles for the initial launch at delivery units, they will minimize the prehostility road traffic involved in bringing launch units to full readiness and thus make them less vulnerable to detection. Well before hostilities, the PRTB must still move its warheads to the launch units for mating to missiles, but the warheads are relatively small, and their movement involves far fewer and less conspicuous vehicles. [Redacted]

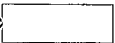

Aircraft Units

A parallel nuclear logistic system supports the front's air units. Soviet materials from throughout the 1970s show that nuclear weapons are stored and maintained by the PRTBs of front air forces, with subordinate elements supporting individual aviation units. Nuclear

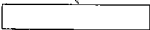
[Redacted]





weapons for front strike units apparently are stored at about 10 Soviet front aviation bases in Eastern Europe.  In addition, there are unused nuclear weapon storage facilities at about 12 fighter-bomber airfields, presumably to be used in wartime to support relocated nuclear delivery units. 

Warsaw Pact writings assert that aircraft in air regiments with nuclear strike missions would relocate to dispersal airfields to increase their survivability. The warhead-handling units would relocate along with the regiments' other ground support elements.



Writings from the early 1970s stated that front strike aircraft would fly to their dispersal fields with their first nuclear bomb loads already aboard. For further strikes, the units would obtain weapons from the nearest nuclear storage depots. [redacted]

Soviet literature makes ambitious—and probably unrealistically short—estimates of the time required for preparing nuclear airstrikes. Table 4 shows Pact readiness conditions for aircraft in strike regiments. Information from the 1960s and 1970s suggests that an individual weapon can be removed from storage, prepared, and loaded on an aircraft in little more than 60 minutes. A Pact writing from the early 1970s indicated that, if the bombs were already in storage at an airfield, an entire front aviation regiment could return from a sortie and turn around in 60 to 90 minutes to launch another nuclear strike. Comparison with nuclear weapons preparation and loading times reported by observers of similar activity in Soviet strategic bomber units suggests that those estimates represent performance under ideal conditions. [redacted]

Preparation for Nuclear Combat

Before Hostilities

Soviet doctrine stipulates that either side—NATO or the Warsaw Pact—might initiate the use of nuclear weapons at any time. Classified writings and exercises, however, show that Soviet military planners expect war to arise from a political crisis, giving them up to several weeks for prewar preparations. Even one week would give the nuclear forces ample time for technical preparations and for the updating of plans after Soviet political authorities decided that war was likely. [redacted]

Soviet writings indicate that Pact nuclear forces would attempt to become fully ready for launch during the prewar preparations. They would try to reach advanced readiness conditions before combat began, to maintain that readiness during conventional combat, and to adjust it to the constantly changing situation. They would make sure that when individual launch units went to reduced readiness conditions—to move or to perform unavoidable maintenance—enough others would be ready so that the potential

**Table 4
Aircraft Readiness Conditions**

Readiness Conditions	Readiness Requirement	Aircraft Status	Aircrew Status
3	Ready to take off within 30 minutes	In hangar	At airfield
2	Ready to take off within 10 minutes	In hangar, fully armed, ready for takeoff	In alert rooms near aircraft
1	Ready to take off within five minutes		Pilots in cockpit; ground personnel standing by aircraft

power of the initial nuclear strikes could never fall more than marginally. Operational constraints nevertheless would still require that some major actions be performed in the hours immediately before a strike. [redacted]

Targeting. Pact writings state that the period before hostilities would require continuous adjustment of targeting plans. Reconnaissance would still be under peacetime limitations, but the number of targets for Pact nuclear strikes would increase drastically when NATO combat units left their fixed installations for scattered concealed locations. As reconnaissance detected those new targets, the strike plans would have to be adjusted accordingly. Writings from the 1970s show that the Pact would immediately retarget its weapons as often as necessary to cover all known enemy nuclear delivery systems. [redacted]

Except for clandestine agents already in place, the available front sources—ground and airborne SIGINT, aerial imagery, and radar—would provide little information before hostilities about NATO's operational rear echelon. For such information, a front would depend on higher commands until the beginning of combat enabled its own reconnaissance

forces to move into action. The Soviets expect to be hindered by intensive concealment efforts on the part of the NATO forces that are to be engaged first during the front offensive operation. [redacted]

Writings and exercises show that radio communications are the front's primary method of controlling the movement and readiness of its missile units. Noting that heavy radio traffic might reveal launch unit locations, Pact writers recommend that retargeting of targets other than NATO nuclear weapons be held to a minimum. [redacted]

Readying Missiles. For maximum readiness, front commanders and planners have to balance the ideal target coverage against the technical penalties incurred when missile systems are held at advanced readiness. In earlier writings some Pact authors described their missile systems as having substantial technical limits, including limited operating life of gyroscopes, poor cross-country capabilities of vehicles, and poor systems for handling liquid propellants. Some of these difficulties have since been eased by better propellant storage systems, better warhead-handling facilities, and automated land navigation equipment to fix new locations of the launchers. [redacted]

Pact nuclear forces generally would not advance their readiness beyond some 10 to 15 minutes from launch until a strike decision was made. Writings of the late 1970s assert that until shortly before launch, missile units would remain concealed from reconnaissance in a condition several minutes from launch. Holding at this stage avoids recycling time and wear on electronic subsystems with limited operating life. [redacted]

According to Pact writings, any front missile unit, even when on the march, could be called on to launch a nuclear strike in less than an hour. When a front command was ordered to use nuclear weapons, it

would order those of its missile units that were at launchsites to advance their readiness conditions and those units on the march to occupy unprepared sites and ready their missiles for launch. The units would operate against a specified time at which the front's strike was to begin (table 5). The Soviets believe that nearly all launchers could launch their missiles within 20 minutes of receiving the command (figure 7). Introduction of the more modern SS-21 missile system (now replacing the FROG)—and eventually of the more easily handled solid-propellant SS-23 to replace the Scud—should further shorten these times, especially for launchers on the move. [redacted]

Readying Artillery. The Soviets have stationed nuclear artillery in Central Europe only in the past few years. [redacted]

Few Soviet classified writings on nuclear artillery are available, [redacted] ready units could respond to a firing command in less than 15 minutes [redacted] movement of nuclear artillery units would be controlled in a fashion comparable to that for tactical missile units. [redacted]

Dispersal. Some front nuclear combat units would disperse and go on alert, probably during the first day of preparations. Many of the nuclear weapons to be used in the initial nuclear strike would be moved during peacetime—probably at night. Soviet writings of the late 1970s indicate that nuclear weapons would be issued and prepared when the strike units occupied missile sites and airfields. The front's NFPG would generate nuclear strike plans for approval at VGK and TMO level and, over two to five days, nuclear strike and logistic units would disperse and come to

Table 5
Example of Timing of a Front Missile Strike

Time	Action
1520	Staff pinpoints target coordinates from current information
1530	Air army begins final reconnaissance (scheduled for 45 minutes)
1535	Front commander approves allocation of weapons against targets pinpointed at 1520 and any newly detected targets; orders launch units to update their targeting
1540	Front intelligence directorate provides coordinates for two new targets; front transmits coordinates to a front missile brigade and to a subordinate army
1615	All missile units have reported readiness condition 1
1620	Command is given to deliver the initial nuclear strike at 1630
1630	Strike is launched

Note: These times are examples based on Soviet sources; see also table 8.

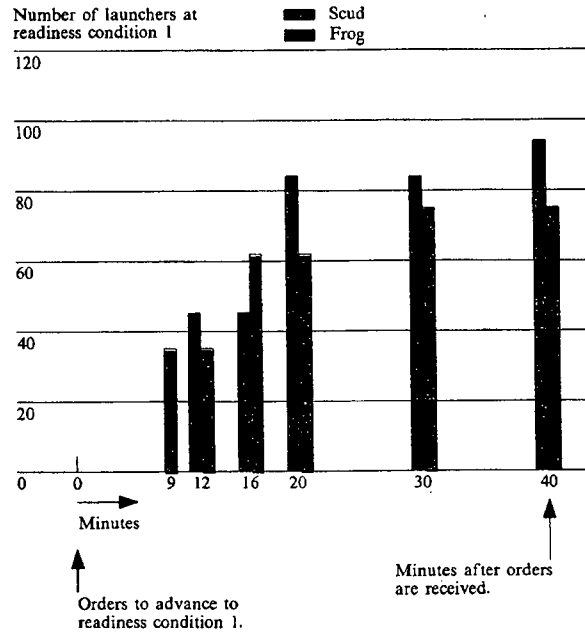
appropriate readiness levels. Once they were in the field, radio communications

would be the front's principal method of issuing orders for weapons release.

Warsaw Pact writings describe procedures intended to reduce the possibility of a completely successful surprise NATO nuclear strike. For example, after missile units deployed early in the prehostility phase, a front would place a quarter to a third of its delivery vehicles "on alert." A front typically would keep on alert at least one battalion—one-third—of each operational-tactical missile brigade and a flight of three or four aircraft—about one-tenth—of each aviation regiment assigned a nuclear strike mission. Writings from the late 1970s indicate that alert aircraft would be 15 to 20 minutes from takeoff and alert missiles 10 to 12 minutes from launch—a status comparable to Soviet readiness condition 2 (table 7).

Warsaw Pact writings show that individual nuclear strike units would move frequently, to elude detection by NATO reconnaissance, while the

Figure 7
Generation of a Front Missile Strike



Note: This information is based on Soviet writings of the late 1970s. The response time of the newer SS-21 and SS-23 missile systems will be shorter.

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overall force maintained constant coverage of the assigned targets. Staffs at front level and below devote substantial effort to planning the movement of nuclear units, including route and site reconnaissance and site preparation. Pact writings and exercises show that these maneuvers are planned in detail before hostilities and are to be planned at least a day ahead during combat. The front staff probably would control the relocation of front- and army-subordinated operational-tactical missile brigades, and the army or division staffs would be responsible for that of tactical missile battalions. A unit usually would relocate by leapfrogging to provide a stable number of available launchers. Writings reflect particular concern that the missile units should be able to launch their missiles even while on the march and at night

[redacted]

[redacted]

of fighting and could provide target information quickly. The insertion of SPF groups would take time, and many hours would pass before reception of their first data. [redacted]

After the early mass sortie, the Pact plans to maintain a lower but steady rate of reconnaissance flights. Writings indicate that early in a war the fronts would allocate a few hundred reconnaissance aircraft sorties per day to monitor general as well as nuclear targets. Writings also stress destroying NATO nuclear weapons during the conventional phase as they are detected. [redacted]

As the conventional battle progresses, the movement of the forward line of troops (FLOT), of Pact nuclear launch units, and of nuclear targets—as well as attrition on both sides—would force adjustment of the original nuclear strike planning. Writings and exercises suggest that Pact planners *do not* expect their nuclear forces to suffer significant losses during conventional combat. During that phase, most of the front's missile units would be held under cover at launchsites, ready to launch in less than 20 minutes. Only the units on the march probably would be at lower readiness. [redacted]

The Conventional Phase

Pact writings show that once conventional combat began, front nuclear planners would focus on assuring the survival of their nuclear strike units and on adjusting plans rapidly in a fluid situation. Conditions would become more complicated, but writings reflect the belief that the start of combat would ease the problem of data acquisition. Major front-subordinate reconnaissance forces—aviation and Special Purpose Forces—would begin operating up to some 1,000 km into NATO territory. Even so, the Soviets expect events to outrun their detailed prehostility plans within the first day or two. [redacted]

When combat began, according to Soviet writings, front air forces would mount a mass aerial reconnaissance sortie to regain the target data lost when NATO forces moved to their combat positions. This sortie could represent either an effort to obtain general intelligence data or an element of the "final reconnaissance" (to confirm the target locations shortly before the initial nuclear strike). This ambiguity would complicate NATO's interpretation of the sortie's significance. [redacted]

Pact writings portray these front mass sorties as comprising more than 100 aircraft and collecting data for 30 to 35 minutes. To generate a sortie of this size, a front would have to use a substantial number of its combat aircraft, because its reconnaissance units generally do not have enough specialized aircraft. Reconnaissance aviation could react quickly to the outbreak

Ambiguous Signs of Pact Preparation of a Nuclear Strike

Changes in Soviet methods of conventional warfare promise to complicate NATO's efforts to recognize Pact preparations for nuclear strikes. [redacted] since 1979 have devoted steadily increasing attention to the use of nuclear-capable missile forces for delivering conventional munitions. The Soviets had developed that concept by the late 1960s. [redacted]

[redacted] More recently, they have been examining ways of using missiles and artillery together to counter such advanced NATO/US conventional systems as PLSS and Assault Breaker,³ which they consider significant threats to Pact forces at both tactical and operational depth. [redacted]

[redacted] Pact forces are now training to use

³ PLSS (Precision Locating and Strike System) and Assault Breaker are systems that integrate ground-based control centers with aerial reconnaissance, strike aircraft, and tactical missiles. The Soviets believe such systems are intended to operate under operational-level commands in deep strikes against Pact forces. Soviet writings indicate that the Pact considers these systems to be reconnaissance strike complexes. [redacted]

[redacted]

Table 7
Scud and FROG Readiness Conditions

Readiness Condition		Minutes to Launch ^a	Minutes to Prepare (from previous condition)	Technical Hold Time ^b
Number	Description			
6	Scud on transporter, checked out		115	12 months
5	Scud fueled		50 to 55	6 to 12 months, depending on climate
	FROG on transporter, motor checked			2 years
4	Missile on transporter, warhead attached	Scud 60 to 65 FROG 26 to 30		6 to 12 months 1 year
3	Unit has missiles on launchers either in march status in deployment area, on the march, or in new area; communications are maintained	Scud 20 FROG 16		Scud 6 to 12 months, including time at 4 and 5. FROG one year, including time at 4
2	Scud at launch point	Scud 12		Scud several months ^c if checked out, power off
	FROG near pad	FROG 9		
2A	Scud erected	Scud 7		Scud 7 days ^c
	FROG on pad fully ready	FROG 6 to 7		
1	Scud fully ready, guidance checked, instruments on	Scud 4		
	FROG aimed and erect	FROG 2		

^a Times shown are for an individual missile. Scud data probably reflect older models; reaction times probably are shorter for units equipped with the newer models.

^b Technical hold time is the period during which a missile can remain at a particular readiness condition before its physical components lose their reliability.

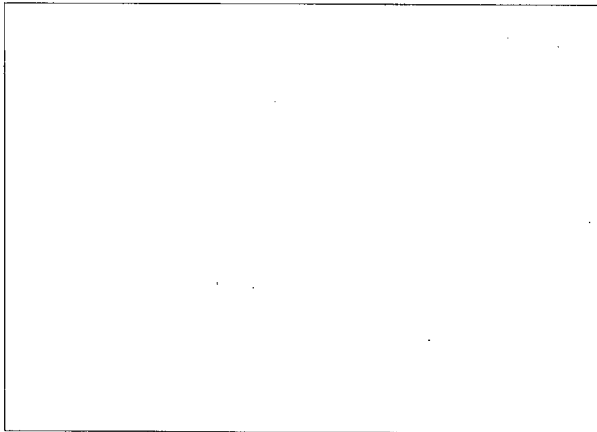
^c Hold is limited to 24 hours by crew fatigue factors.

“reconnaissance strike complexes” (RSCs), which are made up of small groupings of missiles—usually battery size—plus artillery units.

These missile groupings are detached from their parent units to an ad hoc fire control authority for limited periods and purposes.

The missile forces available to Pact commanders have been growing to such an extent that the diversion of some missiles to an RSC would not seriously reduce a front's nuclear force.

Use of tactical missiles in an RSC makes it more difficult than before for NATO to recognize a Soviet decision to initiate a nuclear strike. The RSC is intended to improve the effectiveness of long-range *conventional* fire, but its activities could closely resemble those associated with nuclear combat.



changes in procedures in NATO nuclear communications. Pact writings do indicate that if a few, or even only one, of the items listed in the inset on page 7 were detected, this would be grounds for increasing the readiness status of front nuclear forces.

NATO Observation of Pact Preparations

Writings and exercises indicate that certain actions would precede a Pact initial strike. These potentially observable strike preparations would be clustered within an hour or two before the launching of a strike, because of Pact commanders' reluctance to expose their weapon systems to attack and their need for current targeting data on mobile NATO targets.

The Transition to Nuclear War

Pact Observation of NATO Preparations

According to various writings, the Pact calculates that the chances of NATO's initiating a nuclear strike would be highest in a critical situation—for example, if NATO faced the immediate loss of vital defensive positions or needed to support a counterattack. Writings show that the Pact expects its intelligence resources to detect NATO's decision to use nuclear weapons either when the political decision is made or when nuclear release authorization is passed within the military forces.

According to Pact writings of the late 1970s, the Soviets consider that successful preemption depends on centralized positive control of the relocation of missiles and aircraft. As soon as a NATO decision or preparation to launch nuclear strikes was detected:

- The front would disperse its nuclear strike aircraft to increase their survivability.
- Pact missile units on the road would be ordered to occupy unprepared sites immediately and prepare to launch. (Most units would already be dispersed and in concealed launch positions.)

Aircraft movement and the transmission of orders to missile units on the march would be detectable by, if ambiguous to, NATO intelligence.

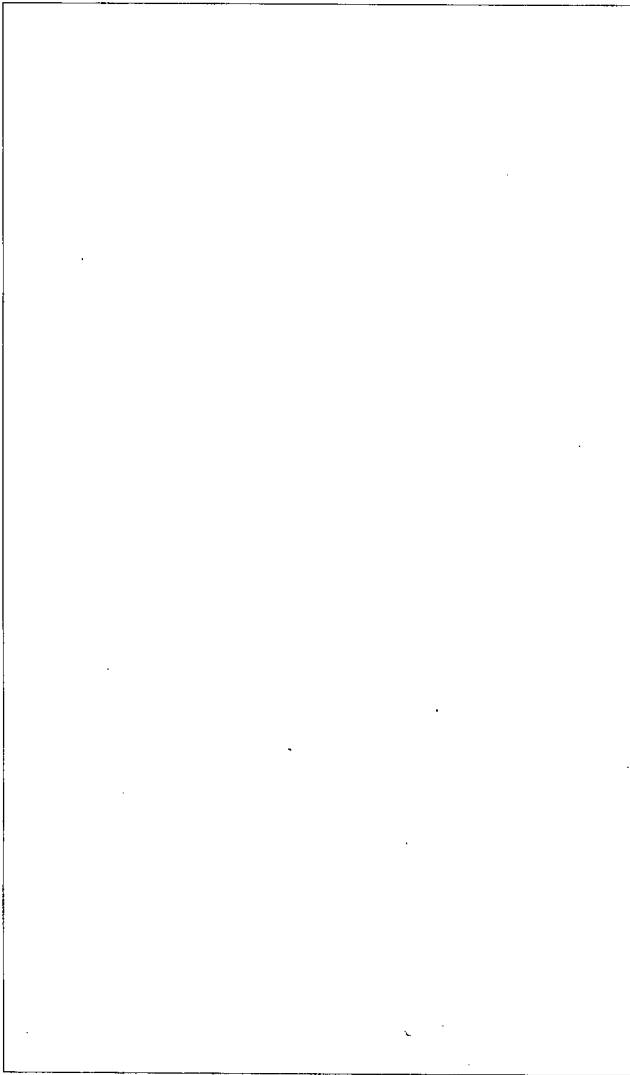
We have no explicit evidence of the basis for Pact planners' confidence that they would detect NATO nuclear preparations in a timely manner. The national-level intelligence systems subordinate to the VGK are more likely than front reconnaissance to acquire the higher level indicators, but front reconnaissance has a capability to detect signs of NATO military preparations for a nuclear strike. A mid-1970s Pact writing asserts that NATO's last-minute preparations would not take long and would give no clear-cut signs. It also asserted, however, that NATO would need a period of preparation for several final measures.

NATO's clearest sign of Pact preparations for a nuclear attack (especially if the conventional phase had lasted more than a day) would be a mass reconnaissance sortie directed primarily against deep nuclear targets. Although Pact strategists have debated the wisdom of such a sortie—because of its potential to warn NATO of imminent attack—it remains an integral part of Soviet planning and training. Writings consistently show that the highest Soviet authorities believe they must conduct an intensive final reconnaissance before a mass nuclear strike.

Available Pact literature does not state how many or which of these actions must be detected to justify a preemptive strike.

Pact commanders might initiate preemptive nuclear strikes if they recognized NATO transmissions passing launch commands or saw sudden

[redacted]



Pact writers discuss two variants of the final mass aviation reconnaissance—one before the initial nuclear strike is launched and one coincident with air-strikes during the strike itself. [redacted]

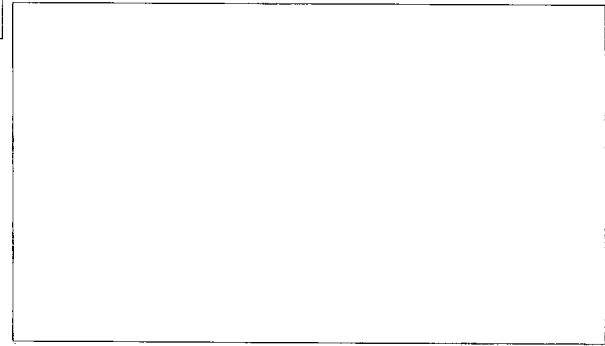
[redacted]

[redacted] The reconnaissance aircraft would attempt to locate mobile targets and confirm the locations of previously identified targets. Aircraft in both sorties also would try to locate targets for the second round of missile strikes within the initial mass strike. According to writings of the late 1970s, most aircrews would have to do this by visual observation, because the short time available would not permit imagery processing and because there is no specialized equipment on combat aircraft (which would be supplementing reconnaissance aircraft for these mass sorties). [redacted]

The front's planners presumably would determine the actual size and schedule of the reconnaissance sorties on the basis of target data already available. Thus, the timing of the final sortie is likely to depend on earlier Pact successes in overcoming NATO concealment measures [redacted]

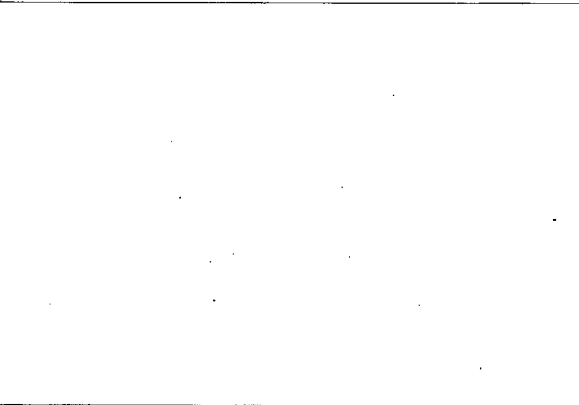
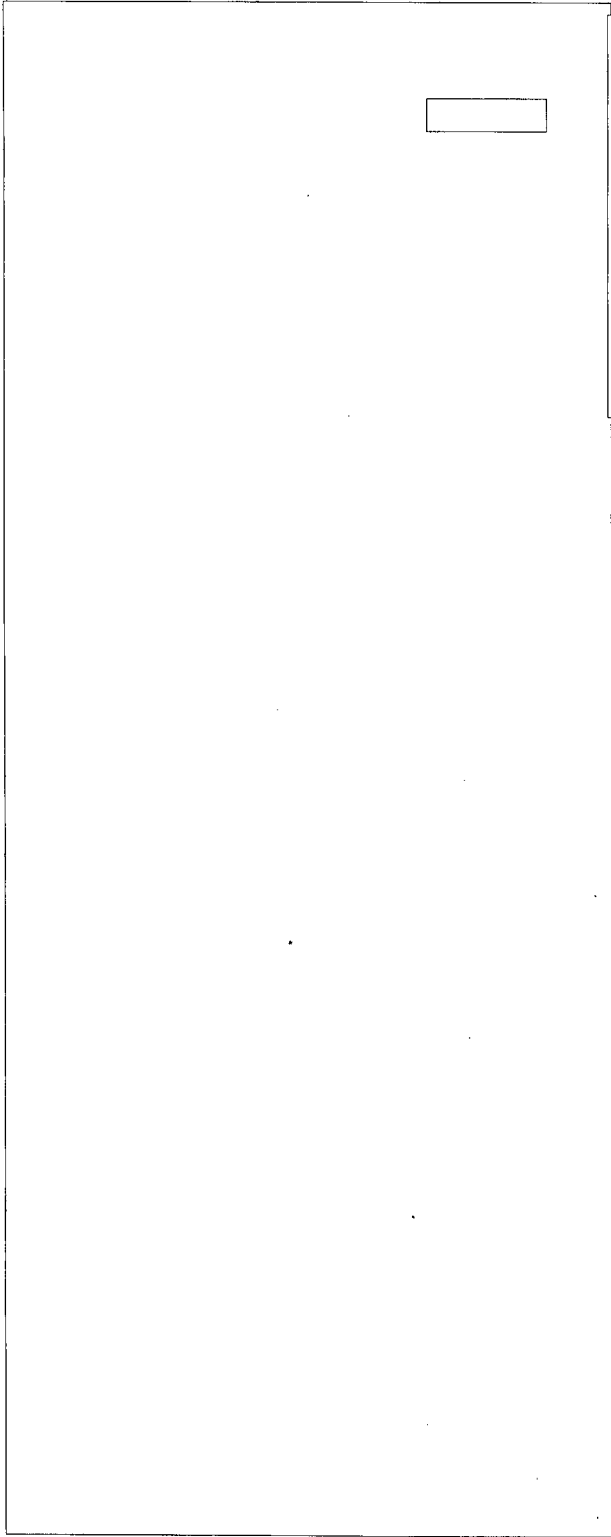
Soviet writings indicate that disastrous losses of reconnaissance aircraft are expected during the mass final reconnaissance. Possession of air superiority would reduce those losses considerably, but, if nuclear combat were approaching, we believe the Pact would launch the mass final sortie even without superiority. [redacted]

[redacted]





This final reconnaissance is intended to confirm that the targets have remained where last located, and it might also find critical new targets. It is intended to provide Pact strike planners with information on the current status of all types of targets, but Pact writings emphasize that its most valuable contribution would be information on mobile targets. One authoritative writing indicates that a front mass reconnaissance sortie could verify the locations of more than 50 targets in the hour before a strike [redacted]

[redacted]

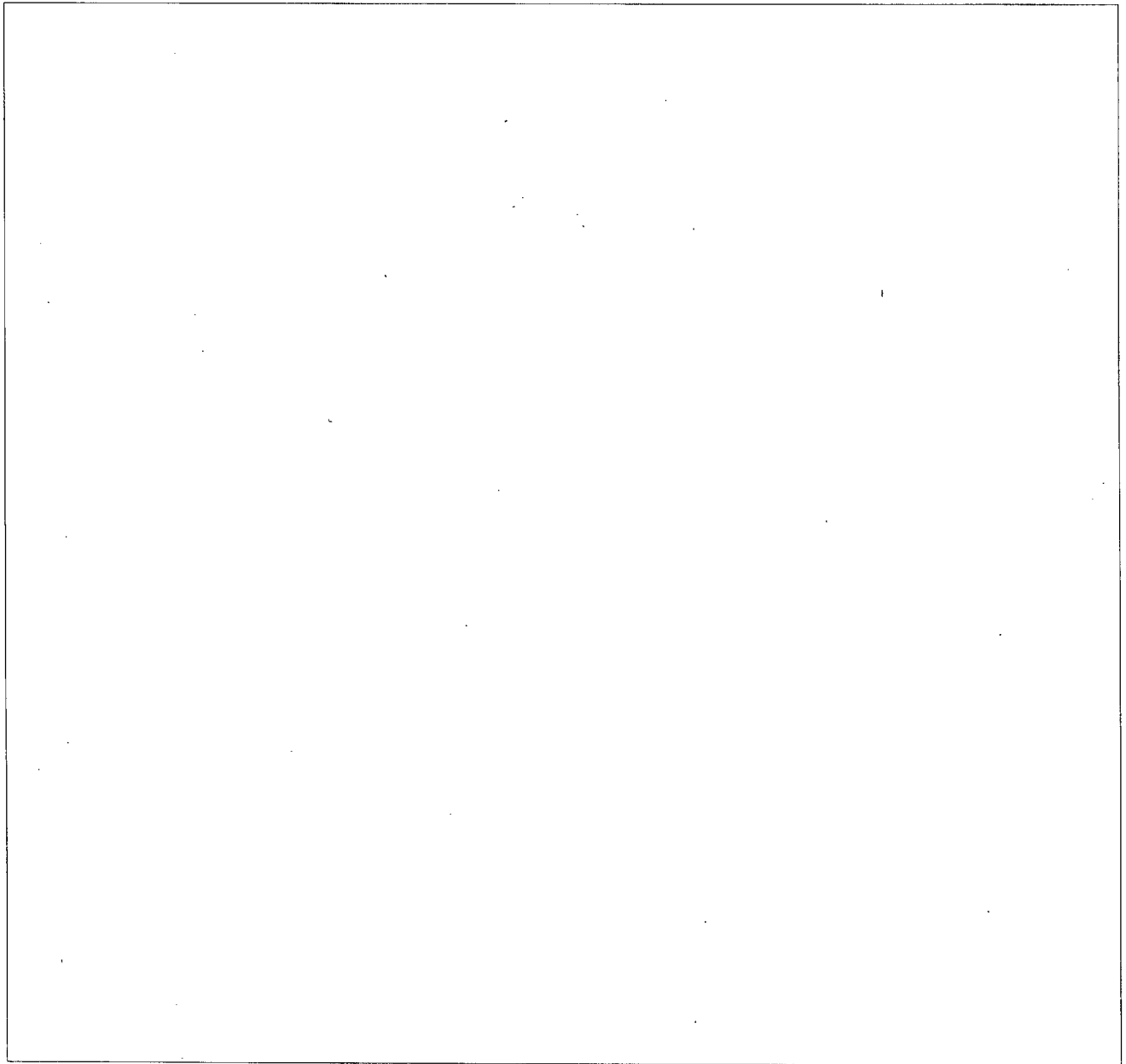


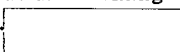
Implications

By carrying out the most time-consuming part of their preparations before hostilities, front nuclear forces could limit the unambiguous warning of a strike to a few hours. Once their plan was approved and the forces dispersed, they would be in a good posture to deliver sizable nuclear strikes even if NATO tried to preempt. There would be no need for large (and observable) movements of nuclear weapons from the USSR or within Eastern Europe before hostilities, and frequent changes in nuclear readiness in individual units would be normal practice—and therefore of little warning value. 

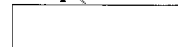
Immediate preparations might begin on the basis of a VGK assessment that critical points in conventional combat were approaching. Writings and exercises are unclear about what Pact authorities would consider to be persuasive evidence that NATO had decided to launch nuclear weapons, but the Pact nuclear forces' planning and control system is designed for quick response in critical periods. It is intended to promote confidence among Pact leaders that, whenever they decide to order a nuclear strike, the system will have a massive one ready. 

Before hostilities and during the conventional phase, adjustments in Pact tactical nuclear forces would have only a marginal effect on front nuclear readiness and would provide few reliable signs of an approaching nuclear strike. Most components, especially the

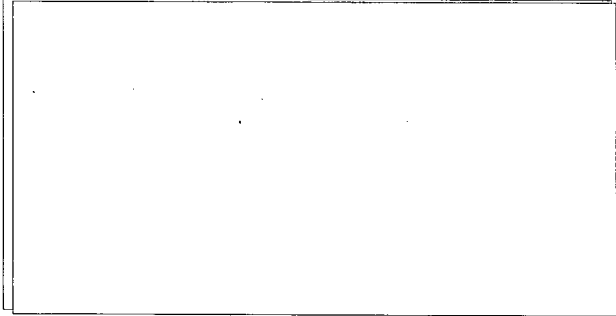


missiles, would be close to launch at all times. Individual units might relocate for survivability and to keep pace with the front lines, and NATO might detect some of this movement. It would be a formidable task, however, to interpret that movement or the Pact communications controlling the various units' changing readiness and target assignments. 

NATO's best opportunity to detect an imminent Pact strike would arise from the substantial activity in the brief transitional period between the decision to use nuclear weapons and the front's first launches of



them. But even in this period, detection might depend on NATO observers' isolating a change in broad patterns without having a complete picture. [redacted]



We believe it is unlikely that the Soviets could predict a NATO nuclear attack with confidence and preempt it. They have problems—of recognizing either that NATO had decided to launch nuclear strikes or that immediate preparations were under way—and they probably will continue to have these problems through the 1980s. Consequently, Soviet commanders would be basing their launch decisions on information from imperfect, limited reconnaissance resources facing several largely intractable obstacles—European weather, sporadic collection (especially that by aviation), target mobility, and increasing depths of deployment of NATO nuclear delivery systems. [redacted]



~~Top Secret~~



~~Top Secret~~