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Soviet Doctrine for Offensive Chemical Warfare Against NATO

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An Intelligence Assessment

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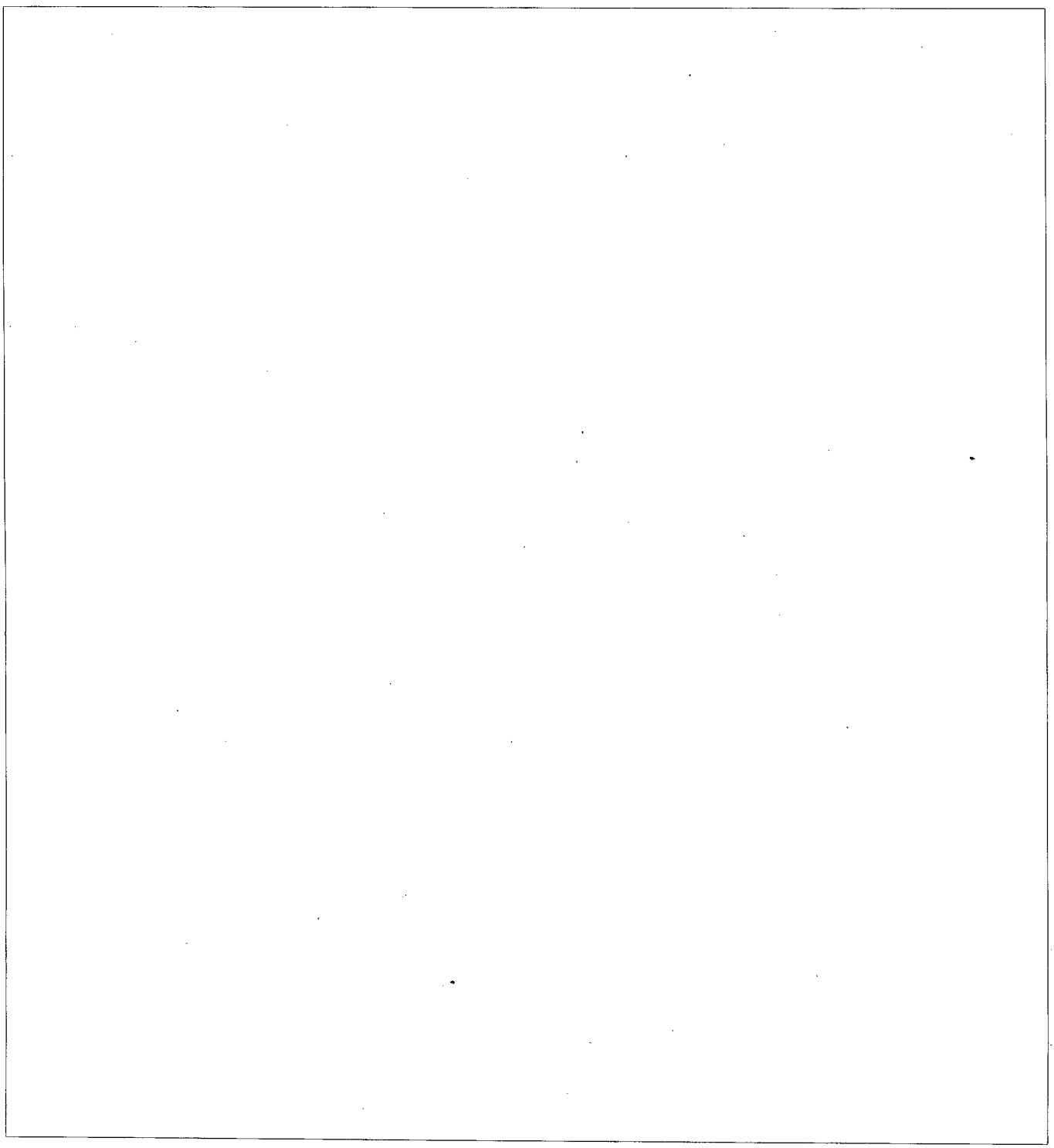

Directorate of
Intelligence

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Soviet Doctrine for Offensive Chemical Warfare Against NATO

An Intelligence Assessment

This paper was prepared by , Office of Soviet Analysis. Comments and queries are welcome

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Soviet Doctrine for Offensive Chemical Warfare Against NATO

Key Judgments

Information available as of 1 May 1984 was used in this report.

An exhaustive examination of available intelligence for the past two decades shows a sharp decline since the mid-1970s in Soviet emphasis on using chemical weapons against NATO. The evidence for this judgment includes some of our most authoritative information on the Soviet military and the non-Soviet Warsaw Pact forces.

Before the mid-1970s, there was a strong, clear emphasis on offensive use of chemicals:

- Soviet officers received extensive training in military academies.
- War games regular practice in integrating large numbers of chemical weapons into Warsaw Pact plans for nuclear strikes against NATO.

After the mid-1970s, this emphasis virtually disappeared, despite the continued—and even increased—availability of high-quality intelligence:

- Discussions of offensive chemical operations in Soviet writings ceased.
- Offensive chemical training at the Soviet General Staff Academy apparently ended.
- Offensive chemical training

Because we have no direct evidence of a Soviet decision to reduce reliance on chemical weapons, we have weighed the possibility that the Soviets have deceived us or concealed their plans to use chemical weapons in a European war. In our view, the Soviets could not conceal, for nearly a decade, the planning and training required at all echelons for large-scale use of chemical weapons against NATO. They would need to make preparations and exercise their plans in a manner that would be reflected in at least some of the large and diverse amount of intelligence available to us. We are confident we would have detected at least some offensive chemical warfare activity if it had occurred. Our information continues to reveal other aspects of war planning—nuclear targeting and command and control, for example—that the USSR would be equally motivated to conceal.

Several considerations may have influenced the doctrinal change:

- As prudent planners, the Soviets must take into account statements by US and NATO officials that a large-scale chemical attack could force NATO to early use of tactical nuclear weapons. Soviet writings demonstrate confidence in the Pact's relative advantage in a purely conventional war with NATO.

- Moreover, although the Soviets are aware of the decline in the US chemical posture, they seem to believe that the United States and its allies have an effective capability to respond in kind, at least to a limited chemical attack. These considerations do not apply to use in Afghanistan and Southeast Asia, where the victims have no means of retaliation.

- The Soviets have increased the quantity and quality of their nuclear warheads and delivery systems and have developed improved conventional munitions. This may have made chemicals less necessary after 1975 as a gap filler, to offset the Soviets' self-described insufficiency of tactical nuclear weapons.

- Soviet writings show the General Staff prefers the predictability of nuclear weapons effects to the unpredictability and unreliability of chemicals. All things being equal, the Soviets would prefer to rely on nuclear weapons, which they regard as more effective.

* Accordingly, we now believe that the Soviets are unlikely to initiate extensive use of chemical weapons during a war with NATO. The Soviets, nonetheless, retain a relatively large stockpile of chemical agents, have an active research and development program, and continue to train extensively in chemical and radiological defense. We believe, however, that these activities represent a prudent Soviet effort to be prepared to deal with whatever contingencies might arise, to include retaliatory chemical strikes in response to any NATO first use. These activities provide a deterrent to NATO use, help prevent technological surprise as well as allowing the development of more useful chemical agents, and ensure at least a residual capability to employ chemical weapons if required.

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Soviet Doctrine for Offensive Chemical Warfare Against NATO

Introduction

Over the past several years, the Intelligence Community has had difficulty in determining with confidence Soviet doctrine for conducting offensive chemical warfare during a NATO–Warsaw Pact conflict.[1] Although the precise size of the Soviet chemical stockpile is not clear,[2] there is abundant evidence that the Soviets have a relatively large arsenal of chemical agents and munitions, production facilities, and an active research and development program. There is also evidence that they place strong emphasis on training for operations in contaminated—chemical and radiological—environments.

In the past, the Community has agreed that the Soviets probably expect to use chemicals once the nuclear threshold has been crossed. Community debate has focused primarily on Soviet intentions for massive use of chemical weapons during nonnuclear war and answers to two key questions: (a) Do the Soviets plan to use chemicals before NATO does? (b) Would the Pact employ massed chemical strikes during nonnuclear conflict with NATO? The answers depend in turn on a set of subsidiary questions, including Soviet views of how NATO is likely to respond to any Soviet use of chemicals: (a) How would the Soviets calculate the risks of chemical use? (b) Are the Soviets deterred by NATO capabilities or intentions to respond with chemical or nuclear weapons? Direct evidence on these questions is limited, and what evidence exists is often ambiguous or obscure.

We reviewed all available Soviet and non-Soviet Warsaw Pact classified military writings from the mid-1950s to the early 1980s, studying them for information on policy and doctrine for offensive chemical warfare.[3] We believe this effort was the most intensive examination of this evidence—which includes some of the most sensitive and authoritative information available to US intelligence—ever conducted.

The Evidence for a Changed Emphasis

The role played in Soviet doctrine by chemical weapons evidently has diminished sharply since the mid-1970s. Writings from the 1960s and early-to-mid-1970s placed a much stronger, clearer emphasis on chemical warfare than is seen in subsequent writings. Until about 1975, chemicals clearly had an integral and important part in Soviet planning for a general war with NATO. Voluminous Pact writings address plans for offensive and defensive use of chemicals at front, army, and divisional levels, by tactical and strategic aviation, and by non-Soviet Warsaw Pact forces. Such writings called for massive use of chemical weapons. Chemicals were to be used with other weapons of mass destruction[4] in surprise strikes against targets with a high density of personnel and limited protection. They were expected to play an important part in the initial massed strike and in

[1] For purposes of this paper, chemical weapons are limited to lethal agents such as nerve, blood, and blister gases. We have no evidence concerning Soviet intentions regarding the use of incapacitants and are not addressing conceivable uses of such nonlethal chemicals during a conflict with NATO.

[2] A study on the Soviet chemical stockpile will be issued by the Office of Soviet Analysis later this year.

[4] This term is used by the Soviets to denote weapons with the potential to cause massive damage and casualties. It encompasses nuclear, chemical, and biological weapons, and may now include some novel weapons as well. The use of weapons of mass destruction requires special release procedures and a political decision at the highest level—by the Soviet Politburo.

follow-on strikes to exploit Pact breakthroughs of NATO defenses.

training materials, and doctrinal writings from that period routinely discussed allocations of nuclear and chemical bombs and warheads in which chemicals made up a substantial—occasionally predominant—proportion of the weapons load. Perhaps most important, during the 1960s and early 1970s there is clear evidence of training for offensive employment of chemicals at all levels. All combined-arms officers destined for command and staff assignments in the armed forces were given extensive practice in planning and controlling massed strikes using both nuclear and chemical (as well as conventional) weapons. Classroom training and war games at principal military academies featured such practice.

Live firings of chemical munitions were occasionally seen during that period.

Deemphasis in Writings and Training. Since the mid-1970s, there is a dearth of such discussions in Warsaw Pact doctrinal writings. Investigation of all evidence reveals virtually no mention of the use of chemical weapons, either in connection with nuclear weapons or during a conventional phase. There is no direct evidence in the writings of a doctrinal debate which would help explain and date a decision to deemphasize chemical weapons, or provide a Soviet rationale. We judge that the lack of direct evidence is not only because of gaps in our source materials, but also because such a decision was probably evolutionary and noncontroversial given Soviet perceptions of the clear military superiority of nuclear over chemical weapons.[3] The writings, even from the 1950s and 1960s when chemicals had an important role in Soviet plans, persistently reflect concern over the effectiveness and reliability of chemical weapons. We believe that these concerns help explain the deemphasis we have identified.

[3] We believe that if the Soviets had been trying to deceive us, they would have wanted to orchestrate a semipublic debate and, perhaps, even leak a decision rather than depend upon Western intelligence to piece together clues in time for the "deception" to have a useful effect.

In contrast to the earlier period, when detailed allocations to Pact units of chemical weapons for wartime missions were provided in Pact writings we have almost no indication of such allocations in writings since the mid-1970s. This is in spite of our continued access to the same kind of writings that would address such matters, *if* they were still of concern to Soviet authorities.

There is also no evidence in fairly recent classified writings of any significant level of practical training or exercising in the employment of chemical agents and munitions. In fact, the writings supply no indication of even *simulated* allocations or employment of chemical weapons since the mid-1970s, despite extensive information of this type for nuclear weapons.

Finally, the subject of planning, organizing, and controlling large operations involving the use of chemical weapons apparently is no longer a part of the curriculum at the most important Soviet academies—in particular the Voroshilov General Staff Academy in Moscow. Membership in the General Staff Service—and attendance at Voroshilov—is a requirement for assignment to command and chief-of-staff positions above regimental level and for all important staff positions above divisional level. After the mid-1970s, writings addressing training no longer contain the detailed discussion and instruction for the integration of chemical weapons into fire plans so evident in earlier writings—although such discussions continue to address nuclear, conventional, and, increasingly, improved conventional munitions. We continue to see the process of planning, training, and exercising for the employment of nuclear weapons, but the whole system by which the Soviets prepared their most promising middle-grade and senior officers to include chemical weapons in major combined-arms operations seems to have atrophied.

Training in the offensive use of chemicals is apparently still taking place in classroom instruction and war games at the Timoshenko Chemical Defense Academy in Moscow—and probably at special chemical

training centers elsewhere described such training. There have been some instances since 1975 of activities—for example, spraying from small aircraft—that could be construed as tactical training for use of chemicals, although it is more likely for the defensive training of troops. Defensive training for operations in a radiologically or chemically contaminated environment is frequent and routine at all levels.[6] We believe it unlikely, however, that the Soviets would depend on such limited training, primarily for chemical specialists, to prepare their forces for large-scale use of chemical weapons. Given the conservative and methodical philosophy with which the Soviets prepare for war, if the Pact were still planning extensive use of chemicals against NATO, we believe we would have seen evidence in recent years of practical training at all levels of instruction (not only the chemical specialty schools).

[6] See discussion of Pact defensive efforts and chemical defense troops.

[7] Where we have seen mention of chemical weapons or allocations it often has been difficult to determine exactly what was meant by "chemical" or "special." We know from many sources that the Soviet definition of chemical weapons generally includes such nontoxic agents as smoke and incendiary weapons including flamethrowers and napalm. "Special" weapons, of course, may be nuclear, chemical, or biological. In recent writings, there sometimes is a question as to whether improved conventional munitions such as "smart bombs" are included. The context of any apparent reference to chemicals in Soviet writing is therefore vital to understanding exactly what is meant. In most cases, the context or scenario suggests that the Pact was responding to prior NATO use or that the nuclear threshold already had been crossed.

Organizational Change. Since the mid-1970s, changes in command and staff organization at theater, front, and army levels also seem to reflect a diminished emphasis on chemical weapons in operational planning.[8] Previously, Nuclear and Fire Planning Groups were established as needed at front and army levels and, perhaps, for other levels as well. The Chief of the Chemical Troops for whatever level established these groups was a member. In an effort to streamline the nuclear planning process, these groups have been permanently established, but the Chief of Chemical Troops is not included among the members of the permanent Nuclear and Fire Planning Groups. Moreover, there is no indication that these groups now are involved in planning chemical weapons strikes—although these groups should be responsible for planning the massed use of chemical weapons, if such planning were occurring.

Why the Change in Chemical Doctrine?

We have no direct evidence concerning what considerations led to the doctrinal changes described in this study. We believe, however, that the modernization and expansion of Soviet nuclear forces, and the Soviet General Staff's generally skeptical attitude toward the efficacy of chemical weapons, had a major influence. The deterrent effect of NATO's nuclear and chemical arsenals also may have played a role by making the use of chemicals a risky business for questionable gains.

Buildup of Pact Nuclear Capabilities. During the 1950s and 1960s, the Soviet armed forces lacked sufficient nuclear launchers and warheads to fulfill all major requirements for a war with NATO. Despite the sharp growth during the 1960s of the Pact nuclear

inventory, Soviet writings into the early 1970s continue to betray a concern about this shortfall. Commanders were exhorted to conserve their nuclear weapons for the most important targets and to use them carefully so as not to waste them. Moreover, Pact writers saw qualitative inadequacies in the nuclear weapons available to them. Until the mid-1970s, for example, the Pact lacked accurate, low-yield battlefield systems, especially nuclear artillery, that could provide coverage for its troops.

Thus, in our judgment, chemical weapons were used as gap fillers in planning for mass strikes against NATO forces and to balance NATO's advantage in tactical nuclear weapons. Soviet officers were told to expect to have to use combinations of chemical and conventional weapons for lower priority targets or in situations where sufficient nuclear weapons would not be available. Finally, Soviet planners anticipated that, as a conflict with NATO dragged on, stocks of nonstrategic nuclear weapons would be exhausted, and Pact formations would have to resort to larger numbers of chemical weapons.

Since the 1960s, the Pact has carried on a steady expansion of its nuclear-capable theater or battlefield delivery systems. This program, coupled with the introduction of new and more capable tactical missiles and aircraft, has allowed the Pact to match or surpass NATO in numbers of warheads and delivery systems. Nuclear artillery had been NATO's last area of clear numerical superiority. The addition by the Pact of heavy artillery brigades composed of 203-mm guns and 240-mm mortars and the provision of a nuclear capability for the ubiquitous 152-mm gun-howitzers has closed even this gap. Introduction of these systems has allowed the Soviets to fulfill an ever larger percentage of their fire requirements with nuclear rather than chemical munitions—and, indeed, we can trace an uneven but increasing trend in the ratio of nuclear to chemical weapons allocated for operations during this period.

Targets typically stressed—both in Pact writings and by Western writers—as appropriate for chemical weapons include NATO command and control facilities, nuclear launchers, nuclear weapon depots, rear-area storage sites, ports, and airfields. the Pact now has drawn up detailed plans to destroy most such targets with multiple nuclear warheads. This is a far more effective way to deal with these vital targets than to leave them to the vagaries of chemical effects.

Chemicals also apparently have been replaced for some purposes in Pact plans by the improved conventional munitions (ICMs) that have been developed and fielded over the last decade. Warsaw Pact writings have for several years displayed a keen interest in the capabilities provided by ICMs, especially the cluster or cassette weapons containing multiple submunitions or subprojectiles such as bombs, artillery shells, or warheads mounted on missiles. Pact writers believe that ICMs of this type are many times as effective as unitary warheads. Pact writings discuss their use against the same kind of "soft" targets—command posts, nuclear missile launchers, air defense weapons, airfields, and troop concentrations—that have traditionally been identified as appropriate for chemicals. On the basis of evidence from writings it appears that Pact planners may see ICMs as a better alternative for destroying or neutralizing such targets without the risks that accompany the use of chemicals. Since about 1974, the use of missiles with ICM warheads increasingly has been simulated at the same time that the use of chemical weapons has diminished.

Unpredictability and Hazards of Chemicals. Many Pact writings from the 1960s and early 1970s address the advantages of chemical weapons over other types—principally in attacking personnel while limiting damage to buildings or terrain. Some Soviet writers, especially during the earlier years, were enthusiastic about the utility of chemical weapons in war. Many Pact writings, however, reflect a belief that the disadvantages and dangers of these weapons may outweigh their advantages. This was true even during the 1960s.

These writings suggest that Pact planners believe that the effects—both intended and collateral—of chemical weapons are less predictable and more difficult to

manage than those of nuclear weapons. Climatological factors—such as temperature, wind, and precipitation—and terrain features complicate the use and may reduce the effectiveness of chemical agents. Pact discussions of the use of chemicals emphasize the hazards these factors present to one's own troops; planners are repeatedly warned that any use of chemicals requires extremely careful calculations and planning, which may be undone by a sudden shift in atmospheric conditions. Further, Pact writings note that far more chemical munitions than nuclear ones are needed to achieve the destruction of a given target—a factor that was especially important during the years when fewer missile launchers were available. Finally, even minimal warning and preparation by the enemy can significantly reduce the level of damage from chemicals, whereas the same is not true for nuclear weapons.

Pact forces receive a relatively high level of training in chemical defense and operations in radiologically or chemically contaminated environments, and Pact planners are painfully aware that protective masks and clothing make movement clumsy and inefficient and impose a tremendous heat penalty on wearers. Masks worn by Pact troops restrict both vision and hearing; communication is difficult, and some weapons cannot be fired while wearing the mask. Thus, chemicals have the potential to disrupt and slow the operations of the attacking force as well as the victims.

Given the pace of advance that Soviet planners hope to achieve in Central Europe and their perception that conventional forces are weighted heavily in favor of the Pact, we believe the Soviets probably would seek to avoid for as long as possible the complications that attend the use of chemical—and nuclear—weapons.

Soviet Views on US and NATO Intentions and Capabilities. We have some essentially accurate Pact assessments of the US chemical stockpile from the mid-1970s that stress its vulnerability to age and obsolesence. Moreover, the Soviets have access to a wealth of freely available information on the political debate surrounding modernization of the US chemical stockpile.

Yet, Pact classified writings indicate a continuing concern about NATO's chemical capabilities even though the United States has not produced chemical agents and munitions since the late 1960s. Soviet writings from the 1960s seem to reflect a genuine concern that the USSR was behind the United States in chemical technology, and considerable significance was read into the fact that the United States had not ratified the 1925 Geneva Protocol.[9] Their classified writings continue routinely to ascribe an extensive, credible offensive chemical capability to the United States and NATO. These writings, as well as open statements by Soviet officials, reflect a deep suspicion about US development of binary weapons.[10] The Soviets probably also believe that the United States has an active R&D effort on other aspects of offensive chemical use.

[9] The United States in 1975 ratified the 1925 Geneva Protocol prohibiting "the use in war of asphyxiating, poisonous, or other gases and of all analogous liquids, material, or devices..." and the 1972 Geneva Convention banning the development, production, and stockpiling of biological agents and toxins.

[10] A mid-1970s Soviet assessment of the US binary program emphasized the limitations of these weapons—notably lower reliability and effectiveness per unit weight, the additional storage space and transport capacity they require, and the extra time needed for the chemical reaction to take place during firing.

for further discussion of this issue. Other Soviet writings, however, ascribe a dark motive to the US program. These authors assert that, with binary munitions, the United States has developed a method of producing and storing toxic agents that could evade any international convention it might sign and facilitate secret preparation for chemical warfare.

Warsaw Pact estimates assess most US missiles, artillery, and other offensive systems as chemically capable. They view several of the NATO Allies—Britain, West Germany, the Netherlands, Belgium, and Denmark—as having forces with potential chemical warhead options, based on possession of US-provided chemically capable systems. Pact assessments ascribe an entirely independent capability to France (which is considered a normal NATO member by the Pact), and the Soviets evidently also suspect that West Germany may retain some chemical capability as well.

Pact planning also seems to be predicated upon the assumption that NATO is prepared to use chemical weapons in a major war in Europe. classified writings depict massive and effective NATO chemical strikes, capable of paralyzing up to 60 percent of Pact forces in the affected area. These writings indicate significant concern about Pact capabilities for massive decontamination.

We cannot know for sure whether Pact commanders actually believe in the scenarios their planners create. The Soviets are cautious planners, however, and we suspect that they assume that NATO is at least capable of responding in kind to *limited, selective* use of chemicals. Their perception of NATO capabilities to respond with chemicals after *massive, decisive* use of chemical munitions by the Pact is less clear. They must presume, however, or at least consider as a worst case proposition that NATO would retaliate for any massive use of chemicals with nuclear strikes. The Soviets also must be aware of statements by high US and NATO officials that NATO could be forced by a Soviet chemical attack into early use of theater nuclear weapons as the only adequate response to prevent total defeat. Sensitive Pact writings also predict that NATO would use nuclear weapons to forestall defeat on the conventional battlefield, and writings indicate the Pact is well aware of NATO exercises that portray this chain of events.

Release and Control of Chemical Weapons

The vast bulk of authoritative Pact writings treat chemical weapons, along with nuclear ones, as weapons of mass destruction whose release requires a Soviet political decision at the highest level—either the Politburo or the wartime Supreme High Command (VGK). There is no reason in theory why the two types of weapons could not be released separately, but we have no evidence that chemicals have been released or used before nuclear weapons. We are inclined to think that their release, although not necessarily employment,

would be simultaneous. Following a general authorization, some evidence—mostly from the early 1960s—suggests that the orders concerning employment of chemical weapons would be given at army, or even lower, levels. According to the classified writings, there is only one situation in which the use of nuclear, and presumably chemical, weapons would be preauthorized: in the event of a surprise attack by NATO that disrupts the Pact's system of command and control. In this case, the initial nuclear strike could be ordered independently by front, and perhaps even army, commanders.

we believe the VGK retains control of all militarily significant quantities of chemical agents and munitions.[1] Soviet doctrine would not allow transfer of peacetime control of chemical weapons to the allies wartime authorization for use of chemical and nuclear weapons would have to come directly from Moscow—and, in fact, no East European government or military officials would be involved in this decision.

How Chemicals Might Be Used in Europe

The sharp drop in Soviet discussion, planning, and training for integration of chemical weapons in *massed strikes* seems—in our view—virtually to rule out their use in this fashion early in a European war. Further, the almost total lack of recent evidence concerning Soviet plans for offensive use of chemical weapons makes speculation on how they might be used difficult. A few references in the writings do, however, suggest some possibilities.

The "Transitional" Battlefield. The vast majority of Soviet and Pact classified writings portray Pact chemical strikes either along with or subsequent to the first nuclear strike. Available Pact writings do not specifically address the issue of using chemicals on the conventional battlefield, but they do suggest a direct association between the two types of "weapons of mass destruction." Nevertheless, a few, mostly ambiguous, references—primarily from the mid-1970s or before—suggest the possibility that, after the decision to go nuclear has been made, toxic chemicals might be used, in advance of the initial nuclear strike, on the *transitional* battlefield.

Some Pact writers have discussed NATO's use of chemicals in this way, or mused in a general sense on the potential effectiveness of chemicals employed just before a nuclear strike. Where the writings have addressed Warsaw Pact actions, the reference is usually ambiguous. It is often unclear just what was meant by the word "special" or "weapon"—whether chemical, biological, or nuclear use is implied, and whether the reference involves a weapon or some piece of equipment or nonlethal chemical agent. Often, these references suggest, too, that NATO has already commenced use of weapons of mass destruction.

Limited Use. it is possible that the Pact may undertake a selective and small-scale use of chemicals on the European battlefield—most likely just before, or simultaneous with, its initial nuclear strike. The likely purpose of such limited strikes would be to neutralize targets where Pact planners want to limit the amount of physical destruction that occurs, or hit targets peripheral to the main operation.

A small number of limited chemical strikes—especially if mounted in areas peripheral to the main thrust of Pact operations—and to the nuclear strikes—would avoid the problem of interference between nuclear and chemical effects discussed in Soviet writings. Also, such an attack would not demand the degree of coordination required for massive strikes involving hundreds of missiles, aircraft, and artillery pieces. At the same time, the front Nuclear and Fire Planning Group still would have to plan allocation of the

[1] The one exception is Romania, which—apparently because its leaders doubt they will receive nuclear weapons from the Soviets during wartime—evidently has a modest, domestically produced stockpile of chemical weapons.

weapons to deliver chemicals.

The discussions available to us in Pact classified writings on the use of chemicals in limited attacks are dated in the 1960s and are ambiguous, and we know of no evidence since then that would confirm plans or even consideration of such use. We believe, however, that there is sufficient risk of such actions that NATO planners and operators need to take them into account.

Pact special forces could use chemicals in clandestine or sabotage operations behind enemy lines. Warsaw Pact writings from the early 1960s through the early 1970s reflect a concern that US special forces might use chemicals in this way. Writings concerning the duties of Pact special reconnaissance forces mention "special measures" and "special weapons," possibly implying chemical warfare.

the Chemical Defense Academy in the late 1960s instruction there addressed in general terms the delivery of nuclear, bacteriological, or chemical (NBC) weapons by special forces

East European military use of chemicals among the missions of their national special forces.

In considering whether to authorize such operations—or limited use on the conventional battlefield—we believe that Soviet leaders would be reluctant to risk opening a "weapons-of-mass-destruction" phase unless the payoff for chemical use was substantial.

The First-Use Question

The declared Soviet policy on the first use of chemical weapons is essentially the same as that of the United States: in ratifying the Geneva Protocol of 1925, the USSR pledged that it would not use chemical weapons except in retaliation for use by an enemy. The USSR also has indicated that it is responsible only to the other signatories of the agreement. Soviet actions in Afghanistan and Southeast Asia raise questions whether the USSR would feel bound by these pledges during a future war in Europe. But evidence from classified Pact writings, instructional materials, and other sources indicates that the Soviets adhere to the same line concerning chemical weapons in their internal communications that they do in public.

The lack of recent evidence concerning offensive use of chemicals makes a firm judgment on the Pact's practical policy difficult. The few writings that deal with use of chemicals during a conventional phase of warfare usually imply first use by NATO.

Beginning in the 1960s, classified Soviet writings on occasion contain a modified position—"no first use" *unless there is a clear, direct threat of use by the West:* in other words, *preemption.*

they do not believe the Pact intends to use chemical weapons first—but that the policy is to retaliate in advance if necessary.

the Pact would begin preparations to retaliate immediately upon detection of NATO preparations to use weapons of mass destruction. In the nuclear arena, where the Soviets have a similar policy regarding first use, evidence from classified writings of recent years strongly indicates that they are deeply concerned that they will not have time to preempt.

Appendix

Warsaw Pact Preparations for Operations in a Contaminated Environment

Since the mid-1970s, when we believe that Soviet emphasis on the offensive use of chemicals on the European battlefield was fading, the Soviets continued and even expanded their efforts in a number of areas related to chemicals. We believe, for example, that the Soviet chemical R&D programs are of high scientific quality and that progress is being made in the development of improved agents and protective equipment. The Soviets also have continued to expand and upgrade the capabilities of their own chemical defense troops and those of the other Pact countries.

The Chemical Defense Troops. Soviet chemical defense troops are estimated to number approximately 45,000 men in peacetime, with perhaps 20,000 more in the non-Soviet Warsaw Pact forces. Chemical defense units are organic to ground force troop formations from front through regimental levels, and serve with air and naval units as well. Much of the Western press analysis alleging Soviet intentions and preparations for massive use of chemicals in a European war is derived from the existence, size, and pervasiveness of this organization.

Such analysis, however, often reflects a misunderstanding of two key features of the chemical troops. Their major functions are defensive or protective in nature and, despite their name, includes protection against *all* NBC weapons' effects.

The principal tasks of the chemical troops, according to classified writings, are:

- Locating nuclear bursts.
- NBC reconnaissance, using helicopters and ground assets.
- Monitoring radioactive and toxic chemical contamination.
- Assessment of the radiation and chemical situation following the enemy's use of weapons of mass destruction.
- Provision of protective means and equipment to operational forces.
- Decontamination, both radiological and chemical, of troops, equipment, buildings, and large areas of terrain.
- Laying of smokescreens and use of flamethrowers and other incendiaries.

Other writings from the mid-1970s suggest that they also are expected to carry out safety measures while "special" weapons are being used. The chemical troops do not appear to have a major offensive role themselves, although they may be used to spray chemicals from decontamination vehicles or to lay chemical minefields. they play a role in the storage or delivery of toxic agents to the troops, both in the USSR and recently in Afghanistan, although most other evidence suggests that the regular logistic organization is responsible for most such work.

Over the last two decades, the activities of the chemical troops, as reflected in classified writings have increasingly been oriented first toward nuclear reconnaissance and protection. We suspect that their name, with its chemical emphasis, is a holdover from an earlier period when their principal functions were in fact chemical protection. Writings from the late 1960s reflect a debate over changing the title of the "Troops for Chemical Protection" to "Troops for Protection From the Effects of Weapons of Mass Destruction." Evidently, the organization evolved to reflect its actual functions, but the traditionalists won the debate on the designation. In any case, the complete removal of chemical weapons from both NATO and Pact inventories would not change the Pact's requirement for chemical troops because of their responsibilities in the nuclear arena.

Defensive Training

The chemical defense troops, of course, receive extensive classroom training in chemical protection and decontamination, but regular Pact troops in virtually every area of the armed forces also undergo regular drills in the familiarization and use of their protective gear and practice its use during field exercises. There appears to be considerable variation in the quality of the training and the seriousness with which it is treated. Nevertheless, there is no question that, because of such training, the Pact is comparatively better prepared to operate in a contaminated environment—either nuclear or chemical—than many of its likely opponents.