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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D.C. 20505

HR70-14

24 March 1978

MEMORANDUM FOR: Colonel William Odom  
Dr. Samuel Huntington  
National Security Council

SUBJECT : Soviet Concepts for Employment of Nuclear  
Weapons in a Conflict with NATO--Evidence  
from Warsaw Pact Military Exercises

APPROVED FOR  
RELEASE -  
HISTORICAL  
COLLECTION  
DIVISION HR70-14  
DATE: 07-18-2012

1. In response to your request, this memorandum provides preliminary observations regarding the employment of nuclear weapons in Warsaw Pact military exercises whose theme is conflict with NATO. All basic information on these exercises has been derived from primary sources of high reliability.

[REDACTED] Only information from exercises since 1970 has been used. In accordance with your instruction, interpretations of this information represent my personal views and have not been coordinated within CIA or elsewhere. These observations are preliminary in nature; clearly the subject deserves more attention.

2. I believe that the evidence herein presented supports the following conclusions:

- Since at least 1970, the Soviets have considered that a period of fighting using only conventional weapons will likely occur prior to either side employing nuclear weapons.

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- A primary goal of Warsaw Pact forces during this conventional phase is the destruction of NATO nuclear capabilities: nuclear weapon delivery systems (including SSBNs and aircraft carriers), nuclear storage facilities, and control systems.
  - The Soviets consider that they have the advantage during the conventional phase of conflict.
  - Planning for nuclear strikes is continually being carried out during this conventional phase.
  - The primary goal of intelligence operations during the conventional phase is to provide warning of NATO intent to use nuclear weapons and to provide targeting information on these weapons.
  - Soviet planning for nuclear weapon employment is flexible. Initial nuclear operations may be limited, particularly if the initial NATO nuclear operations are.
- The Soviets are, however, prepared to use massive nuclear strikes if necessary to obtain their objectives.
- The Soviets intend to make considerable use of SRF, LRA, and Navy assets in theater strikes.
  - They are very concerned over the problems of reconstitution, decontamination, and the psychological effects of the use of nuclear weapons.
  - The degree of linkage between intercontinental and theater nuclear operations is unclear. I strongly suspect that much of what the intelligence literature labels the "intercontinental" phase of the exercises I have studied actually is not. I

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believe that this misinformation is due to a decided underestimation of the extent to which the Soviets are willing to employ SRF, LRA, and Navy nuclear strikes in the theater (which the Soviets consider strategic).

3. The overall scenario for Soviet/Warsaw Pact military exercises in the Western Theater of War (Teatr Voynyy-TV) generally develops as follows. A period of rising tension occurs during which NATO forces prepare for military operations. In general the Soviets consider that they can detect these measures and take steps to increase their preparedness. NATO generally initiates the attack. In some cases the NATO attack represents opportunism in the context of a larger scenario wherein the Soviets are already engaged in fighting the PRC in the Eastern TV. (In at least one case the Soviets, in response to a NATO buildup, attacked first.) During the initial few days both NATO and Warsaw Pact forces use only conventional weapons. After limited initial successes, the NATO advance is halted, and the Warsaw Pact makes a strong counterattack. The NATO forces are then repulsed, their situation becomes untenable, and they resort to the use of nuclear weapons. This initial employment of nuclear weapons can take several forms. Limited initial use by NATO may draw limited or even no nuclear response by the Warsaw Pact forces so long as they maintain their momentum. In a few cases, the Soviets detect NATO preparations for large nuclear strikes, and attempt to launch a preemptive nuclear attack (with varying degrees of success). In general, the situation is considered to escalate rapidly, resulting in a nearly simultaneous initial exchange. This initial operation leads to a series of nuclear exchanges which may be limited at first and then escalate, or may be massive from the beginning. During the period of large-scale nuclear strikes, heavy use is made of SRF, LRA, and Navy assets to deliver nuclear strikes in support of Soviet theater objectives. The attachment presents and documents evidence supporting these conclusions

Office of Strategic Research

Attachment:  
As Stated.

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Soviet Concepts for Employment of Nuclear  
Weapons in a Conflict with NATO--Evidence  
from Warsaw Pact Military Exercises

Since at least 1970, Warsaw Pact military exercises in which NATO is the enemy have featured an initial phase of conflict in which only conventional weapons are employed, with a later transition to operations involving the use of nuclear weapons. The combined arms exercise, DVINA, held in March 1970 under the direction of Marshal Grechko, was the largest Soviet exercise in several years (in terms of actual forces used). It featured a period of fighting in which only conventional arms were used. A series of similar exercises that year, including FRAKIYA-70 in Bulgaria, TARAN in Czechoslovakia, and SIGETVAR in Hungary, also featured a conventional phase of operations prior to the use of nuclear weapons.

In October 1970, a major exercise, "Brotherhood in Arms," was held in East Germany. Troops and Staffs from all Warsaw Pact countries took part under CINC Combined Armed Forces Yakubovskiy. A classified Soviet review of this exercise described it as having fully proved the scenario in which initial combat operations are conducted employing only conventional weapons, with simultaneous planning for the use of nuclear weapons at any phase. This exercise was described as the most important of the 1970-71 training year. Soviet military documents of this period indicate that planning for operations must include options employing only conventional means of destruction. They indicate that the transition to the use of nuclear weapons is highly likely, but that the duration of the non-nuclear phase of conflict can vary widely. They further state that the most important staff problem is planning for the use of nuclear weapons. Citing experience gained from war games, they note the need for better reconnaissance to aid in countering NATO nuclear weapon delivery capabilities during the conventional phase of operations. They note that experience gained from operational exercises shows that the most difficult problem, besides detecting the time of

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enemy nuclear strikes, is the location of enemy nuclear forces. It is anticipated that with the onset of hostilities, 75 to 80 percent of the targets of rocket troops and aviation (nuclear means of attack, command posts, army groupings, and nuclear weapon stockpiles) would move. [redacted] the primary initial means of monitoring the locations of these targets. Later in the conflict, aircraft and commando reconnaissance forces would play a large role. [redacted]

Destruction of these targets was also the primary goal of the initial nuclear strike. In classified Soviet documents of the period the expressed aim is stated as follows: "The goal of the initial nuclear strike is the destruction of the major portion of the enemy's means of nuclear attack, the defeat of his main groupings of forces, and the disorganization of control." [redacted] However, it is noted that it is extremely important to preclude the unauthorized use of nuclear weapons, especially in the heat of battle and when forces are cut off from higher headquarters. Proposed solutions include: requiring authentication of nuclear release messages, delaying the move of nuclear delivery systems to readiness condition one as long as possible, and the use of positive control devices. [redacted] These documents also indicate considerable Soviet concern over the problem of reconstituting forces which have been hit by nuclear strikes. [redacted] Citing experience from Soviet exercises, they note that nuclear attacks present two immediate problems; the restoration of control and the handling of casualties. [redacted] Rapid restoration of control is accorded first priority, especially control over forces with nuclear weapons. [redacted] They note that survivability of control functions is a necessity, and thus alternate control centers must exist. [redacted] They also note that the use of nuclear weapons may create a serious morale problem. [redacted] The need for quick tasking of troops to exploit the gains of the initial nuclear strike is noted. [redacted] A proposal was made that, due to time expediency, whole regiments and divisions in first echelon armies would have to be replaced, rather than rebuilt. [redacted]

Soviet thinking in this period regarding the course of nuclear conflict is best illustrated in a Top Secret review by Yakubovskiy of the major combined forces operational war game held in July 1970

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in the Southwest TVD. The scenario for this exercise involved initiation of hostilities by NATO, followed by three days of conventional conflict.\* By this time, the NATO forces were being beaten by the Warsaw Pact forces, which led to a military-political crisis in NATO, and a decision by NATO to go over the use of nuclear weapons. In general, Yakubovskiy noted that "the transition to actions using nuclear weapons is most likely in a situation that is critical to the enemy." NATO preparations for a nuclear strike were difficult to detect. Yakubovskiy noted that the initial Pact strike might be a single large strike; or piecemeal, as targets were located. Even when a massed strike was intended, lack of detected targets could necessitate grouped and individual attacks. The projected initial nuclear strike by NATO was massive; [redacted] The Soviet nuclear planning included the First Southern Front employing [redacted] in the initial strike; the Second Southern Front employing [redacted] initially, [redacted] in support of the immediate objective, [redacted] for the subsequent objective, and [redacted] in front reserve; and the Southwest Front using [redacted] in the initial strike and pursuit of the immediate objective, [redacted] in subsequent strikes, and [redacted] in reserve. In addition, [redacted] were to be delivered by Stavka (Supreme High Command) strategic nuclear forces in the zones of these three fronts. In criticizing the planning, Yakubovskiy noted that in some cases, too large a strike by the Pact forces hindered their own subsequent advance. [redacted]

In 1971, a series of Warsaw Pact exercises was held which again featured a period of conventional warfare prior to the onset of nuclear operations. In SIGNAL-71, held in East Germany in February, the principal task of the Warsaw Pact forces was to

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*\* In this document, it is explicitly expressed that the basic purpose of naval operations is to destroy the enemy's naval nuclear forces, i.e., aircraft carriers and SSBNs. At the onset of hostilities, NATO was considered to have three aircraft carriers and six SSBNs operating in the Mediterranean. During the conventional phase of the conflict, two of the carriers and five of the SSBNs were considered to have been destroyed. [redacted]*

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repel an enemy offensive without the use of nuclear weapons, conduct an offensive, and subsequently skillfully employ nuclear weapons and exploit the results of the strikes. A similar command staff exercise held in Czechoslovakia in that same month involved NATO resorting to the use of nuclear weapons after three days of conventional hostilities. In March, in an exercise held in Romania, nuclear weapons were not used until the seventh day of combat. [redacted]

In March of 1972, a major General Staff-directed multi-force exercise was held which incorporated NATO attacks deep into East Germany. After three days of conventional warfare, the enemy assault was halted, which led to NATO use of nuclear weapons. (The NATO strike apparently included attacks by strategic bombers against air transport (VTA) bases in the Soviet Union.) The initial Soviet nuclear strikes were very limited, and directed only against the deepest point of the NATO ground forces incursion. However, by the end of two days, the situation had escalated, and the Soviets carried out a massive attack with SRF, LRA, and Navy assets. During the exercise, great attention was paid to the problems of overcoming the effects of nuclear strikes on the Warsaw-Pact forces. One field army of five divisions was considered to have sustained strikes of eight to 11 weapons, totaling approximately [redacted] yield, on each of its divisions. [redacted]

In 1973, another series of exercises (BASHTYA-73, held in Hungary; SEVER-73, held in Germany; FEVRAL-73, held in Poland and the Byelorussian MD; and NEUTRON-73, held in Czechoslovakia) featured a conventional phase of operations prior to the employment of nuclear weapons. In a review of the SEVER-73 exercise, it was noted that front staffs required three hours to collect information and make decisions following a NATO nuclear strike. [redacted] In a Central Front CPX in March, following a NATO attack using conventional weapons, which was repulsed, the Soviets planned a nuclear strike based on evidence of intended use of nuclear weapons by NATO. The simulated NATO war plan incorporated a tactical nuclear strike including the use of weapons delivered by carrier-based aircraft. These nuclear operations were to be preceded by a strike with

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napalm against Soviet Sigint units to prevent their providing warning of the upcoming nuclear strike. [redacted] The ensuing NATO and Soviet nuclear strikes were virtually simultaneous. [redacted] The Soviet strikes involved coordinated use of missile and aircraft nuclear delivery systems; the aircraft were timed to be over NATO targets approximately 10 minutes after FROG and SCUD missile strikes. [redacted] The SOYUZ-73 exercise in the Southwest TVD featured NATO forces striving to attain objectives using conventional means. In a report on this exercise, Yakubovskiy (who directed the exercise) noted that the enemy would, if necessary, resort to the use of tactical nuclear weapons, and, if necessary, the entire arsenal of nuclear weapons available in the theater. This would be done in case of failure, loss of initiative in actions, or threat of destruction. It was further noted that three days and more were required to restore the combat effectiveness of Pact units which were struck with nuclear weapons. [redacted]

Classified Soviet documents of this period evince a growing concern over NATO use of nuclear mines. Specific training in the reconnaissance and destruction of such devices was advocated. Helicopter operations and the use of special detachments to capture and destroy them were recommended. [redacted]

Soviet concepts for nuclear operations in the theater at this time were amply demonstrated in a major General Staff-orchestrated exercise in the Western TVD in April 1973. A NATO attack led to three and a half days of conventional fighting, at the end of which NATO forces were reeling under a Soviet counterattack. NATO was forced to resort to the use of five nuclear mines [redacted] to half the advance of two Soviet armies. Five and a half hours later, three nuclear missiles were used by the NATO forces in a similar fashion. This was recognized as a limited use of nuclear force and was so stated in reports to the General Staff Central Command Post. The Warsaw Pact forces, which still were achieving their objectives, did not respond to these limited strikes with nuclear strikes of their own. However, later intelligence information, [redacted]

[redacted] indicated that NATO

[redacted]



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was preparing to make unlimited use of weapons of mass destruction. This information included evidence of NATO bringing nuclear weapon delivery systems to full readiness, moving chemical weapons from depots, and inoculating troops as protection against biological agents. These indicators, together with the worsening NATO position, led to a Soviet estimate that NATO would soon launch a major attack with weapons of mass destruction. The Soviets anticipated 350 NATO nuclear strikes in the initial attack, concentrating on Warsaw Pact airfields, command posts, and armored units. This led the Soviets to launch a major nuclear strike on the fifth day of combat, with a NATO counterstrike at nearly the same time. The Soviets envisaged heavy losses on both sides as a result of this exchange; 30 to 50 percent of the Soviet personnel and equipment, and 40 to 70 percent of the NATO divisions.

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A major General Staff-directed exercise in February 1974 featured simultaneous operations in four TVDs (Far Eastern, Central European, Northwestern, and Southwestern). The PRC was pictured as the aggressor, with NATO the opportunist. Following an attack on the Soviets by the PRC, and subsequent fighting, a US-backed Turkish invasion of the Balkans took place. This, together with gathering evidence of other NATO preparations, led to a Soviet preemptive attack, using conventional weapons only, against NATO forces in the Central Region. Nuclear operations may have begun in the Far East. In the Western TV, the Soviets may have made first use of nuclear weapons at sea to halt Turkish advances into Romania. NATO forces initiated the use of nuclear weapons in the Central Region following the collapse of their

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counteroffensive on the second day of combat. These initial NATO nuclear operations were limited, and did not draw an immediate Soviet nuclear response. The Soviets delayed nuclear operations in the Central Region for several days after the first NATO use. They launched a massive nuclear attack only when convinced that NATO was about to do the same. The Soviets contemplated units receiving heavy losses: 60 percent of their personnel and 35 to 100 percent of their aircraft.

In an exercise in March of 1974, the Southwest Front (in Czechoslovakia) received 145 simulated nuclear strikes in one and a half hours, including 600 kt strikes against Prague and Brno. The front staff was preparing its nuclear fire mission at the time, and responded.

Continuing concern over NATO use of nuclear mines was noted in the same month, where the use of two nuclear mines inflicted heavy casualties on two Soviet tank battalions. Initial Soviet nuclear operations were limited, making use of four to seven nuclear missiles by each division in attacks against NATO command posts, nuclear weapon depots, and nuclear-capable missiles.

In a similar exercise in April 1974, the initial strike by frontal rocket forces was used for air defense suppression. nuclear rocket strikes were used to destroy HAWK batteries. Pact aircraft delivered the bulk of the nuclear strikes. Strikes by successive waves of aircraft and further rocket forces attacks were used primarily against missile battalions (four to six strikes each), command posts (one weapon apiece) and armored divisions (eight to 12 weapons each).

In SOYUZ-74, a major command staff exercise in the Western TV in May, the first phase of operations employed conventional weapons only. In the second phase, NATO, having failed to achieve success in actions with conventional means, went over to the employment of nuclear weapons. The Soviets considered themselves to have

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sustained heavy casualties, and practiced extensive decontamination operations. Features of the exercise included the use of special detachments to destroy NATO nuclear land mines and the use of transportable shelters to protect command post personnel from weapons of mass destruction. [redacted] Polish nuclear targeting data in May provided the following damage estimates: Against a light mechanized division spread over an area of 15 square kilometers, one 40 kt airburst was estimated to result in a 33 percent loss in combat effectiveness; against a division command post covering one square kilometer, a 10 kt airburst was estimated to produce a 47 to 50 percent loss in effectiveness; against an airfield of four-square-kilometer size, a 30 kt warhead was estimated to produce a 92 percent loss in effectiveness; and against a Nike-Hercules site occupying one square kilometer, a single warhead of 20 to 100 kt yield should produce a 91 to 100 percent loss in combat effectiveness. [redacted]

In July, in the Soviet/East German CPX YUG-74, a NATO invasion of East Germany was repelled, and nuclear weapons were used to support the Soviet counteroffensive (details of the initial use of nuclear weapons in this exercise are unclear). Of interest was the use of helicopter-borne teams to seize and neutralize NATO nuclear munitions, and the use of nuclear strikes against NATO stockpiles of nuclear mines. [redacted]

In August 1974, in a CPX involving GSG, a NATO nuclear strike was used to support an incursion into East Germany. This strike caught some Soviet units in garrison, and resulted in heavy casualties. Fifty-percent losses were reported in some units, and the Third Shock Army was virtually destroyed. Soviet reconstitution took one to two days, and included the 20th Guards Army, which had been second echelon, taking over in the Third Shock Army's area of operations. There was a limited immediate Soviet nuclear response to the NATO attack (eight FROG strikes); however, the Soviet counterattack [redacted] was heavily supported by use of nuclear weapons. [redacted]

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A classified Soviet document of this period noted that a major problem was combat against enemy means of nuclear attack during the conventional phase of operations. It advocated the use of all available means--aircraft, artillery, armor, special operations groups, and airborne landing forces--in support of this objective. [Redacted]

In an exercise in February of 1975, NATO preparations for an attack against the Warsaw Pact were detected, but there was uncertainty expressed in Soviet pre-attack assessments as to whether NATO would employ nuclear weapons in support of this attack. It was noted that SAC bombers were poised, and Pershing Sites were at [Redacted] readiness. The Soviets planned a preemptive nuclear attack for the second day of operations, but who made initial use of nuclear weapons is unclear. [Redacted]

[Redacted]

Another feature of 1975 exercises was further use of special operations troops to locate and report the status of NATO nuclear weapon delivery systems. [Redacted]

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In a Top Secret document reviewing the 1975 training year as a whole, CINC Warsaw Pact Yakubovskiy noted that on the basis of experience gained from these exercises, several activities would have to be concentrated on in the following training year. These included: reduction of the time delays involved in reconnaissance, delivering larger nuclear strikes on the main axis, restoring the combat effectiveness of units after being hit by nuclear strikes, and increasing the survivability and mobility of staffs. On this latter point it was recommended that greater use be made of armored command staff vehicles, airborne command posts, and command ships. [REDACTED]

In a separate guide for the conduct of Warsaw Pact exercises promulgated by Yakubovskiy to take effect as of 1 January 1976, three key training needs were expressed. These were the organization and conduct of reconnaissance, the control of troops in a nuclear environment, and the restoration of the combat effectiveness of troops following nuclear strikes. [REDACTED] These themes were stressed in exercises of that year. [REDACTED]

In a General Staff-directed joint forces exercise in February 1976, the continuing Soviet concern over NATO nuclear mines was evinced. Information from General Staff headquarters indicated that there were 367 nuclear mines in the Southern FRG. There was direct interest on the part of the General Staff headquarters in the NATO employment of these mines and in the use of helicopters to destroy them. [REDACTED]

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In December 1976, a CPX involving GSFG, GRANIT-76, featured a NATO invasion of the GDR, followed by a Pact counterattack and campaign across Europe.

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initial nuclear exchange involved virtually simultaneous nuclear strikes by both the Pact forces and NATO.

[Redacted]

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In a Top Secret review of the 1976 training year, Yakubovskiy noted that communications reliability and training for operations under nuclear conditions had improved, but that there were still shortcomings in reconnaissance, especially of enemy means of mass destruction. He noted that during the 1977 training year, further work was needed on the problems of conducting operations, both with and without the use of nuclear weapons, improving communications set-up time and the use of computers, protecting troops under conditions of surprise enemy nuclear attack, and restoration after receiving nuclear strikes. [redacted]

In 1977, these themes were emphasized in ZAPAD-77, the most comprehensive Pact command staff exercise ever held. Following the outbreak of hostilities between the USSR and the PRC and Japan in the Far East, an opportunistic attack was launched by NATO. Eight days of conventional operations followed, the longest phase of conventional combat yet observed in a Pact exercise.

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In a Top Secret review of the 1977 training year, Marshal Kulikov noted that while the training plan was fulfilled as a whole, weaknesses still remained in reconnaissance, troop control from mobile command posts, and reconstitution after enemy use of weapons of mass destruction. He noted that matters relating to the maximum weakening of the nuclear groupings of the enemy before the employment of nuclear weapons were not always being resolved aggressively. He further noted that the Pact forces were underestimating the casualty-producing effects of nuclear weapons and their after-effects, especially their moral-psychological influence on troops. [redacted]

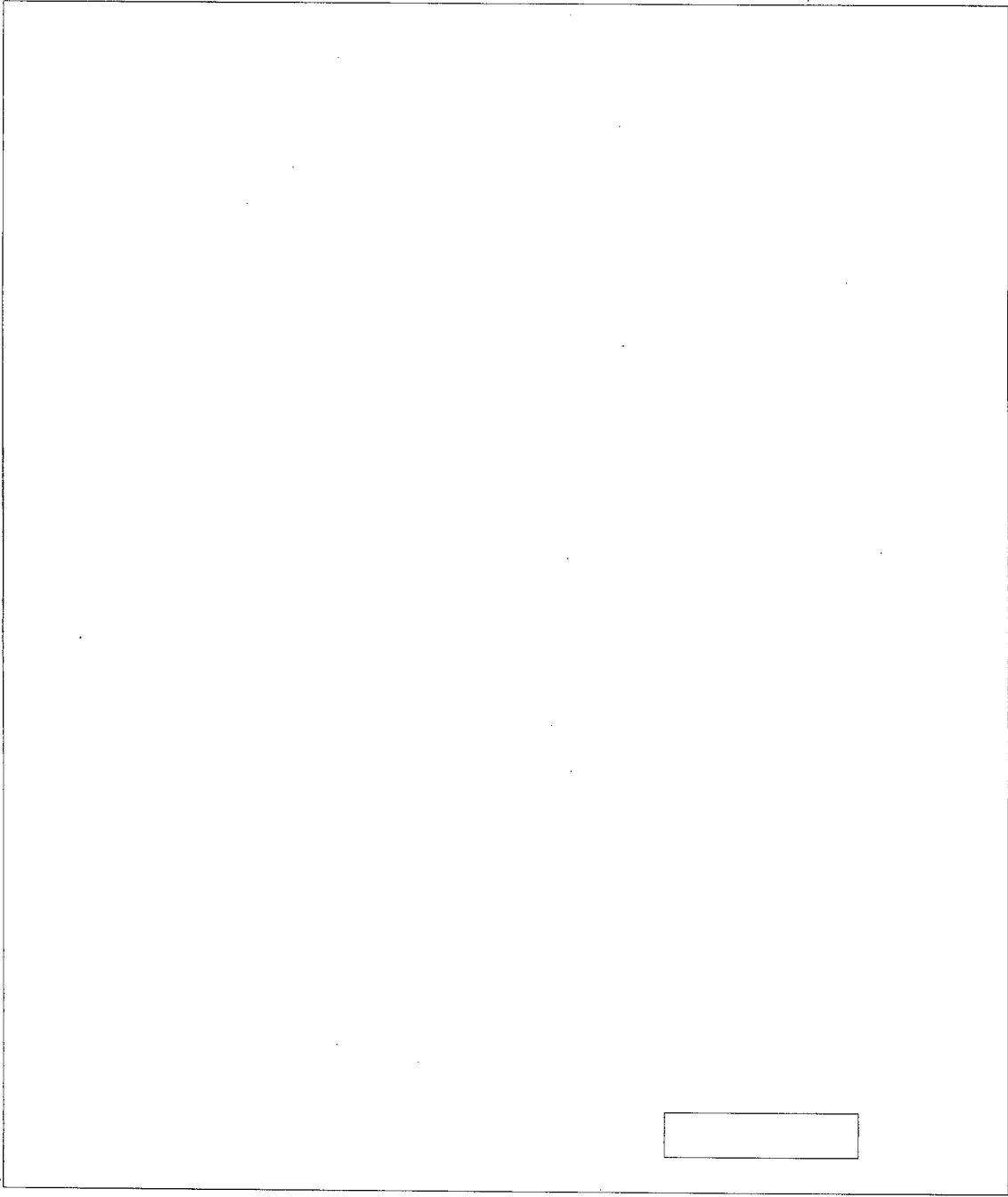
[redacted] there were no indications that NATO would exercise any moral restraint in the use of nuclear weapons, and a concern that [redacted] officers would do so, thus hindering their ability to take decisive actions. [redacted]

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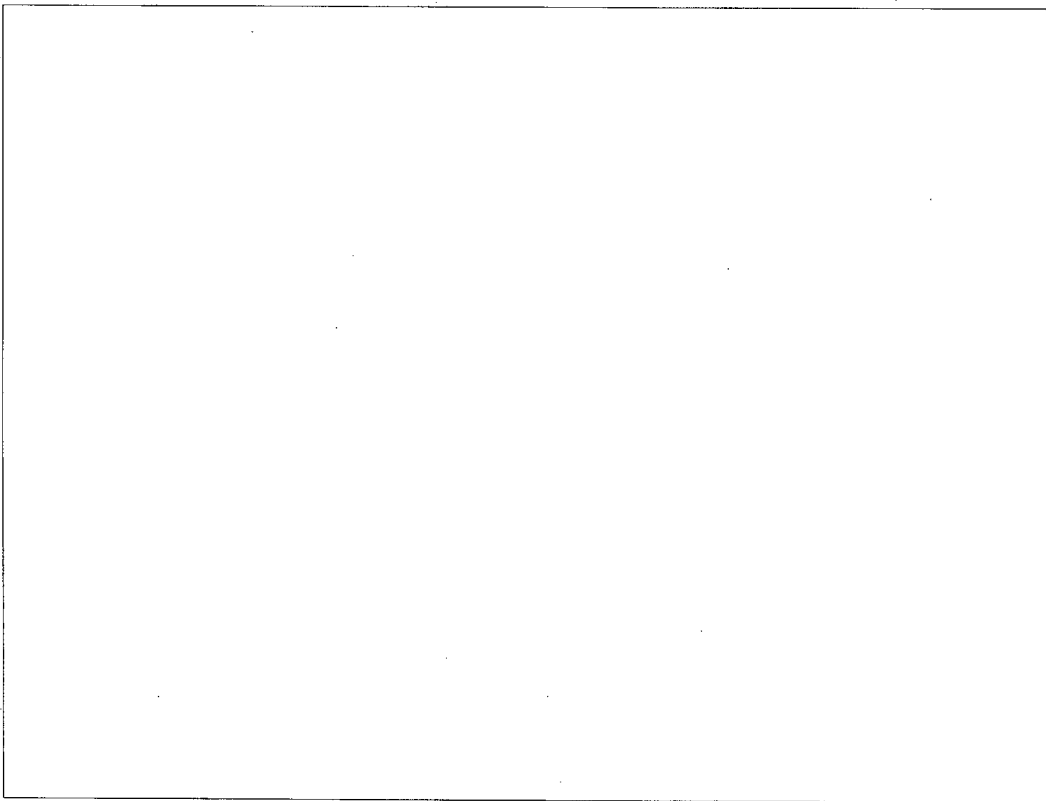
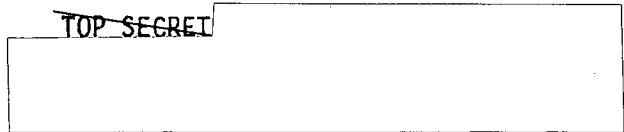
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