ARE TACTICAL NUCLEAR WEAPONS A CREDIBLE DETERRENT TO GENERAL CONVENTIONAL WAR

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The purpose of this paper is to determine if our tactical nuclear weapons can be considered as a credible deterrent to general conventional war. Two basic tests for deterrence are used: would the use of tactical nuclear weapons to oppose a general conventional attack create conditions unacceptable to the enemy, and do the US and other NATO nations have the will to use tactical nuclear weapons? The destructive potential and timing of use of nuclear weapons are treated in the examination of creating conditions unacceptable to

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the enemy. Recent actions and US declaratory policy, along with non-US NATO and Soviet views reflect the will to use nuclear weapons. Also, there is a short look at needed improvements to increase the credibility of deterrence. The conclusion reached is that tactical nuclear weapons are a credible deterrent to Soviet initiation of a general conventional war.

USAWC RESEARCH ELEMENT
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ARE TACTICAL NUCLEAR WEAPONS A CREDIBLE DETERRENT TO GENERAL CONVENTIONAL WAR?

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21 December 1973

INTRODUCTION

> ". . . if deterrence is successful, aggression does not take place. It is impossible, however, to demonstrate why something has not occurred. . . . The more effective deterrence is, the more credible becomes the argument that perhaps the enemy never intended to attack in the first place."[1]

This paper will examine the role of tactical nuclear weapons in effective deterrence as posed by Dr. Kissinger above. Credible deterrence to general conventional war shall mean that we have the tactical nuclear capability to make an enemy's potential gains not worth his potential losses should he attack and that we have the will to use the weapons. While both "capability" and "will to use" are essential elements of deterrence, in the final analysis it is the balance of these elements (as perceived by the Soviets) that establishes the effectiveness and credibility of deterrence. Joshua and Scharfen considered one boundary of credibility to be political resolve, without necessarily the requisite warfighting capability, and the other to be adequate warfighting capability with little political resolve.[2]

A good example of the first bound is Khrushchev's missile-rattling bluff during the late 1950's. The Soviet political resolve was credible until the Cuban Missile Crisis in October 1962 required a demonstration of capability. An example of the second bound is that of Korea. In 1950, the U.S. had the capability to employ nuclear weapons against North Korea with the strong likelihood of terminating that conflict early. Although

we were willing to resist conventionally, we did not have the political resolve to use tactical nuclear weapons at that time. Had they been used in the early stages of the Korean War future deterrence credibility would likely have been established. This paper seeks to examine the current capabilities and political resolve (will to use) to determine whether the credibility of tactical nuclear weapons falls within the bounds above, and whether they are a credible deterrent to the Soviet initiation of a general conventional war.

In defining the role of tactical nuclear weapons in U.S. strategy, Joshua and Scharfen stated two major factors that appear also to be the opinion of many of our world leaders.

> "First, Soviet attainment of strategic nuclear parity with the United States has profoundly affected the credibility of the threat of America's strategic nuclear forces for anything but a direct attack on the U.S. homeland. While not necessarily completely removing the American strategic umbrella from Europe, the emphasis for deterrence in Europe is shifting from the U.S. strategic forces to the forces in the theater, including the tactical nuclear forces.
>
> "Secondly, the change in the strategic equation highlights the possibility of conflict below the level of a strategic exchange. In light of the advantages which the Soviets would have in a conventional conflict in Europe, or in view of the possibility, notwithstanding how remote, of a Soviet nuclear attack in ACE, it is necessary to examine the contribution that the U.S. tactical nuclear forces can make in deterring such attacks, or in case of a failure of deterrence, in terminating such aggression on terms favorable to the United States and its allies."[5]

The discussion above points to two basic tests for determining the credibility of tactical nuclear weapons as a deterrent to general conventional war. First, would our use of tactical nuclear weapons create

conditions unacceptable to enemy attacking forces; and, secondly, would we have the resolve to use them in the event of a general conventional war.

TEST ONE: Would the Use of Tactical Nuclear Weapons to Oppose a General Conventional Attack Create Conditions Unacceptable for the Enemy?

> "The scope offered by the possible wide use of nuclear weapons fundamentally alters the character and course of combat and operations. With rocket-nuclear weapons the attacking troops can inflict heavy blows on the enemy, develop high maneuverability on the battlefield and successfully perform combat missions in far shorter periods of time than during past wars. Similarly, using the new means of destruction the defending forces may successfully frustrate or weaken an enemy attack."[4]

The above quote reveals the thoughts of the Russian military concerning employment of tactical nuclear weapons.

As an indication of our capability Senator Symington indicated in a recent congressional hearing that one of our tactical bombs has a yield of a few hundred kilotons.[5] In other parts of the testimony the effectiveness of a low yield nuclear artillery projectile in destroying a group of enemy tanks was discussed.[6] It should be noted that if a nuclear artillery shell can destroy a group of tanks, it will also kill troops at even a greater radius. (For example, a weapon that would cause moderate damage to tanks in a 220 meter diameter circle would result in prompt casualties to exposed personnel in a 690 meter diameter circle.[7] Other unclassified sources also serve to provide the type effects one might expect from a

nuclear weapon.[8] As reported in the Washington Post, Senator Symington released a document prepared by members of his staff revealing that about 7000 warheads in Europe are stored in over 100 locations in NATO countries. The warheads support all types of military weapon systems to include artillery guns, rockets, and bombs.[9] Applying the 7000 nuclear weapons to the estimated 127 Warsaw Pact and European Soviet divisions,[10] if all weapons were applied to opposing ground forces, we would have about 55 weapons per division. Considering a target to be a company of troops or ten tanks, 55 weapons per division would provide more than one weapon per target for all 127 divisions. Even the most optimistic person could not expect all of our nuclear weapons to survive even a conventional attack, nor should we expect to apply all weapons to oppose ground forces since many would be used for fixed targets and interdiction of the LOC, but neither should we need to destroy all targets in a division to render it ineffective. Therefore, discounting any tactical nuclear weapons we might have in reserve in CONUS, it appears that the current tactical nuclear weapons stockpile in Europe, if properly applied, should cause unacceptable damage to a Soviet/Warsaw Pact conventional attack.

The NATO strategy of flexible response consists of direct defense which could include nuclear weapons; deliberate escalation by raising the scope and intensity of combat, thereby increasing the cost and risk to the aggressor if he continues; and general nuclear response, the

ultimate deterrent and military response.[11] It would appear then that we have not only the capability to inflict major damage to such an attack with tactical nuclear weapons, but also a NATO plan which, although not specific as to timing, includes the use of tactical nuclear weapons in defense.

It is important also to examine the timing of using tactical nuclear weapons, vis-a-vis, likely Soviet objectives in Europe. John Erickson, Soviet Studies Editor, United States Strategic Institute, indicates that the Soviets can be expected to attack with heavy concentrations of armor, penetrating up to 70 miles a day.[12] If the goal of the Soviets in such an attack were either the reunification of Germany or the subjugation of all Europe, one would expect their initial main objective to be to reach or cross the Rhine River. Accomplishment of this objective would seriously affect our defense. At the Russian planned rate of march, their ground units would reach the Rhine in a matter of days. The strategy of flexible response, as indicated above, includes the first use of nuclear weapons initially, or at any stage of escalation. In examining the timing of employment, this paper shall discuss only the boundaries; i.e., early use and use only as a "last ditch" effort.

It is generally believed that escalation will be difficult, if not impossible, to control after the initial use of nuclear weapons. Most argue that, if rapid escalation to a strategic holocaust is to be avoided, the use of nuclear weapons will be used only within specific boundaries (these

boundaries may be yield, geography, type targets, etc.). Additionally, the capability to respond to any greater escalation must be visible.

Bennett, Sandoval, and Shreffler of the Los Alamos Scientific Laboratory argue that the current NATO strategy of flexible response, if only conventional weapons are used at the outset, would result eventually in the use of nuclear weapons, but so late that unacceptable damage would result to both NATO and the Soviets. They suggest that only the discriminate use of nuclear weapons from the outset would enable NATO to conduct a successful defense.[13]

What are some of the advantages of using nuclear weapons as an immediate response to conventional attack? Recent experiences, such as Hitler's blitzkrieg into Poland, the U.S. move into the Dominican Republic, and the Russian move into Czechoslovakia, among others, suggest that the swift and determined use of overwhelming force in the initial phase leads to early termination of the conflict. The lack of an initial overwhelming force leads to a prolonged conflict or a negotiated settlement. Sun Tzu, a noted Chinese strategist in about 500 B.C., observed that there is no instance of a country having benefited from prolonged warfare.

Other advantages of using tactical nuclear weapons early include:

1. Overwhelming force used in defense before the attack is fully joined and enemy forces are not yet fully committed would test enemy resolve early enough for him to desist with little loss of face.

2. If an adequate number of weapons were applied to attacking echelons, his forward elements would be ineffective, the attack blunted and the initial objectives denied.

3. Early termination of hostilities would provide for the least amount of destruction of Europe.

Major disadvantages of the early use of tactical nuclear weapons include the possibility of early escalation of the nuclear conflict to include the cities of Europe or the U.S., increasing the damage in the area of the conflict, the stigma to NATO of employing nuclear weapons first, and the possibility of an overwhelming tactical nuclear response from the enemy enhancing their attack if early use by NATO is too timid. General Gallois sums up the situation by quoting Kissinger:

> ". . . once committed to a conventional defense system, the country that decided to switch to nuclear weapons would be lost. (Gallois continues) Besides, there is no reason why a country should not resort from the start to nuclear weapons if it knew that it could thus gain a complete and immediate victory."14/

The Soviets appear to share Kissinger's thoughts above since they view with scepticism the selective employment of tactical nuclear weapons. In their own plans, the Soviet command plans for a rapid response to a NATO conventional strike, rapid counterpreparation and rapid escalation to nuclear war in preemption of a NATO nuclear strike. They consider that nuclear and conventional actions are closely interrelated and develop as an entity. Further, the Soviets consider that nuclear weapons confirm even more the role of the offensive as the decisive form of military action

and that the best defense is a good offense.[15]

If tactical nuclear weapons are used as a last ditch effort, after the enemy has captured much of Europe and destroyed many of our conventional forces and our sophisticated communication systems, should we expect greater success? Many sources, including Gallois, do not think so. If NATO waits, the enemy would be fully committed and would have established a momentum which would make disengagement, as a response to NATO nuclear counterattack, difficult, even if he had the inclination to disengage. Much of the NATO conventional capability would likely be decimated during the period, making a counterattack, even supported by tactical nuclear weapons, perhaps ineffective. Even if effective, one would expect the collateral damage under this scheme to cover a greater area of NATO Europe than would have been the case with early use combined with early termination. One case when a delayed use of tactical nuclear weapons appears advantageous is if we have successfully defended with conventional weapons in the forward area for a period of time before a penetration. Tactical nuclear weapons would then be used to blunt the penetration. In this instance, we would lose the major advantage of testing his resolve when he has a chance to back out more easily. Waiting to a last ditch effort does not appear to have sufficient merits as a strategy.

Do tactical nuclear weapons satisfy the test of creating unacceptable damage? We can conclude that they do have that capability, particularly

if they are used very early in the conflict.

TEST TWO: Does the U.S. and NATO Have the Will to Use Tactical Nuclear Weapons?

> "The main battle involves the killing of the enemy's courage rather than of the enemy's soldiers. This is Clausewitz' formula for the familiar military saying that a battle is never materially lost unless the commander's or the Army's spirit is defeated. In the last analysis, it is the will which stands predominant and commanding in the center of the art of war, like an obelisk toward which the principal streets of a town converge."16/

In every crisis, initiated by the Soviets, in which our reaction has been one of strong resolve backed up by appropriate actions, their response has been one of backing down or negotiating; e.g., Quemoy-Matsu, August - November 1958; Cuba Missile Crisis, 1962; the mining of North Vietnam in 1972 and bombing of Hanoi in December 1972, and most recently our increased military alert due to Russia's apparent intention to move their own forces into the Middle East. On the other hand, when resolve, backed by actions, is lacking, they have acted or prolonged negotiations to their own interests; e.g., Hungary Czechoslovakia, Korea, and Vietnam negotiations. Thus, if tactical nuclear weapons are to deter a Soviet attack, we must have not only the capability, but the will to use them. Such resolve must be recognized by the Soviets.

Do our current government leaders have the will to use tactical nuclear weapons? An examination of their recent actions and declarations should

provide some insight into their resolve. Certainly recent major decisions of President Nixon indicate his resolve. He decided to move into Cambodia in 1970, to mine North Vietnam and bomb Hanoi with B52's, all contrary to public opinion. He stated in his report to Congress on US Foreign Policy for the 1970's:

> ". . . No President should ever be in the position where his only option in meeting such aggression is an all-out nuclear response. . . . If the United States has the ability to use its forces in a controlled way, the likelihood of nuclear response would be more credible, thereby making deterrence more effective. . . Potential aggressors must be aware that the United States will continue to have both the resolve and the capacity to act in the face of aggression in all circumstances."17/

The Secretary of State, Dr. Kissinger, has been a prime element in the major Presidential decisions indicated above. Additionally, the writings of Dr. Kissinger reveal his understanding of the ingredients of a credible tactical nuclear deterrent, in particular the need for resolve. Secretary of Defense Schlesinger states that:

> ". . . it now is clearly essential for the NATO nations to ensure that we have a credible deterrence--nuclear and nonnuclear--across the entire spectrum of risk, in order not to hold out to the Soviet Union the possibility of adventure at minimum cost, and in order to push away the possibility of nuclear war. . . ."
>
> He further stated that the American nuclear commitment continues to be firm.18/

Admiral Moorer, Chairman of the Joint Chiefs of Staff, has stated:

> "Should deterrence fail, NATO forces must be able to halt the aggression firmly and swiftly. Their capability to do so is essential to the credibility of our deterrent and could well be the decisive factor in whether we have peace or war in Europe."19/

General Andrew J. Goodpaster, SACEUR, has indicated his resolve to defend Europe on numerous occasions. In his testimony before the Joint Committee on Atomic Energy on 29 June 1973, he was particularly clear as to our need for tactical nuclear weapons and his will to use them. For example, he stated:

> ". . . once the decision of the nuclear power was given to me in response to my request and if the situation still required the use of these weapons, I would direct their use. All 7000 would be available for such use."[20]

It would appear then that the primary members of our executive department have declared the will to meet Soviet aggression with whatever response is required to defeat that aggression, to include the use of tactical nuclear weapons. In their study on tactical nuclear weapons policy, Joshua and Scharfen confirm that most policymakers advocate both the need for political will and a capability to defend, and that tactical nuclear weapons deter conventional as well as nuclear conflicts.[21]

Not all members of the government understand or agree with the use of tactical nuclear weapons. For example, Representative Holifield in recent testimony stated that he thinks it is dangerous to have this type of opportunity (nuclear artillery) for provocation to start a full-scale nuclear war.[22]

Let us now turn to European views. If nuclear weapons are located in more than 100 sites in NATO countries, as indicated earlier, then it seems reasonable to think that the European policymakers approve of deployment of the weapons on their soil. Pierre Gallois observed when the

15 Jupiter missiles were removed from Turkey in a "modernization" move, that:

> "As long as fifteen Jupiter missiles, placed under the control of both Americans and Turks, were based on Turkish soil, no potential aggressor could take the risk of attacking Turkish territory with conventional forces without exposing himself to a possible retaliation with missiles."[23/]

Joshua and Scharfen determined that the U.S. allies have generally sought to maintain a low threshold for the introduction of tactical nuclear weapons in order:

1. to avoid a protracted conventional war;
2. to indicate resolve to defend; and
3. to threaten escalation to a strategic nuclear strike.

They further observed the existence of pressures by European allies to move away from the position of a conventional defense of Europe toward a credible deterrent defense in which tactical nuclear weapons play an indispensable role.[24/] Gallois contends that the more the European nations on the continent equip themselves conventionally, the more vulnerable they will be to nuclear attack and therefore the stronger will be the temptation for the opponent to use nuclear weapons.[25/] The former French Chief of Staff, General Ailleret, played down the role of tactical nuclear weapons and embraced the simpler strategy of massive strategic retaliation, but recently, key senior French officials have begun to emphasize the military mission of tactical nuclear weapons in halting an enemy thrust. Further, the anticipated deployment of a French tactical missile (Pluton) as well as tactical nuclear bombs would

suggest the importance the French now attribute to tactical nuclear weapons.[26] Dr. Bernard Brodie, one of the pioneers of the study of nuclear strategy, indicates that the Europeans want to settle for deterrence on the tactical level as well as the strategic and that they accept the weapons on their soil for the same reasons that Americans accept strategic deterrence.[27] The military of Germany, whose territory would be victimized first in the event deterrence fails, have urged that any major invasion be met with tactical nuclear weapons as a complement to conventional fire power. The West Germans, along with the British, were the basic force behind NATO's adoption of the guidelines for the initial use (and possibly early use) of tactical nuclear weapons. This position is not shared fully by the German political officials who tend to play down the role of tactical nuclear weapons.[28]

Dr. Joshua sums up the allied views:

> "(1) they stress the need for an early resort to tactical nuclear weapons against a massive conventional attack, (2) once tactical nuclear weapons are introduced, they should not be purely demonstrative but used to strike meaningful military targets, (3) that a portion of the weapon systems maintained in Europe should be capable of striking Warsaw Pact territory, and (4) if tactical nuclear weapons are used, collateral damage should be minimized."[29]

This last point is in direct contrast to the desires of Sweden, since reducing collateral damage by improving accuracy and decreasing yield would make tactical nuclear weapons more usable and more acceptable politically. The Swedes indicate that such conditions could place non-nuclear states in more peril of nuclear states.[30]

The Soviet military doctrine asserts that should the Soviet Union be threatened with war, it would initiate a preemptive attack which, among other targets, should seek to destroy the enemy's nuclear weapons' forces before they are launched against the USSR.[31] As indicated earlier, they scoff at the thought of a limited nuclear war. However, Erickson points to the Soviet effort to balance their strategic deterrent with a wide range of supporting capabilities, though there seems to be a doubt about the significance of conventional arms.[32] This seems incongruous in view of the great amount of conventional tanks and artillery, but Soviet theorists indicate that it is better to overrate the nuclear weapon than conventional forces, for this would be to err on the side of safety.[33] In spite of the scoffing and efforts to build up forces, the Soviets do not want a nuclear war. They fear that any major collision of communism and capitalism will result in destruction of the key material conditions of social progress.[34] Brodie states that it would take much persuasion to shake the Soviet leaders from their apparent conviction that in the event of a substantial attack by them, NATO would quickly use nuclear weapons.[35] Erickson points to a theoretical admission by the Soviets that while operations might be conventional or full-scale nuclear, the most likely possibility in Central Europe is resort to (tactical) nuclear weapons.[36] Since from all indications the Soviet Union does not want a nuclear war, it seems likely that they would attack only if they expect to reach their objectives using only conventional arms. The implication is that they would have ceased believing we have the resolve to

defend with tactical nuclear weapons.

It appears reasonable to conclude from a look at declaratory policy and statements of our leaders that the U.S. and NATO have the will to use tactical nuclear weapons in the event of a major conventional attack and that the Soviet Union perceives this resolve.

Ways to Improve Credibility

Can tactical nuclear weapons be made a more credible deterrent? If credibility of tactical nuclear weapons is to be enhanced, then improvements in warfighting ability as well as political acceptability appear to be in order. Such improvements include reduction of collateral damage through better accuracy and smaller yields. Joshua and Scharfen point out that the state-of-the-art permits tailoring nuclear effects of weapons to political and operational needs, but current development programs do not fully exploit existing technology.[37] Dr. William C. Lyons, formerly a systems analyst at Los Alamos, suggests that future nuclear weapons will be quite different from anything we have now.[38] Thus, it would appear that the capability for improvement exists. It remains for the services to examine available new technology, determine their needs, and provide sufficient rationale to convince the Office of Management and Budget and the Congress of their needs. The other element of deterrence, will to use, is a product of declaratory policy and actions. Above all else our resolve to use tactical nuclear weapons must continue to be perceived by the Soviets. Weapon improvements in

war-fighting capability could also serve to enhance the Soviet perception of our resolve.

Conclusions

Are tactical nuclear weapons a credible deterrent to general conventional war? If used in a timely manner, they provide a capability to blunt the attack and deny the initial objectives, thereby creating unacceptable damage to the enemy. The Soviets appear to be convinced that we will use tactical nuclear weapons and fear escalation to general nuclear war. Actions of our leaders and their declaratory policies indicate their resolve to protect our way of life with whatever force is required. Without tactical nuclear weapons, the current parity of strategic weapons and Pact superiority in conventional forces might encourage adventurism by the Soviets. It is concluded then that tactical nuclear weapons are essential as a credible deterrent to general conventional war.

Walter G. Parks

Footnotes

1. Henry A. Kissinger, Problems of National Strategy, p. 6.

2. Wynfred Joshua and John C. Scharfen, The Framework of Tactical Nuclear Weapons Policy, (U), p. 84, SECRET Restricted Data.

3. Ibid, p. 1.

4. Maj Gen G. Biryukov and Col G. Melnikov, Antitank Warfare, p. 5.

5. Hearing before the Subcommittee on Military Applications of the Joint Committee on Atomic Energy, Congress of the United States, First Session on the Consideration of Military Applications of Nuclear Technology, p. 15 (Hereafter referred to as JCAE Hearing).

6. Ibid, pp. 13 and 14.

7. U.S. Army, Field Manual 101-31-3, p. 329.

8. For example, The Effects of Nuclear Weapons, by Samuel Glasstone,

9. Murray Marder, "Senate Report Analyzes US Nuclear Force in Europe," The Washington Post, 2 Dec 1973, p. A18.

10. John Erickson, Soviet Military Power, pp. 112 and 116.

11. Marder, p. A18.

12. Erickson, p. 73.

13. W. S. Bennett, et al., A Credible Nuclear-Emphasis Defense for NATO, pp. 1 and 2.

14. Pierre M. Gallois, "U.S. Strategy and the Defense of Europe," in Problems of National Strategy, ed. by Henry A. Kissinger, p. 308.

15. Erickson. pp. 72 and 77.

16. Edward Mead Earle. Makers of Modern Strategy, pp. 112 and 113.

17. Richard Nixon, U.S. Foreign Policy for the 1970's, May 3, 1973, p. 184.

18. J. R. Schlesinger, Statement of the Secretary of Defense before Committee on Foreign Affairs, House of Representatives, 11 Jul 73.

19. Admiral Thomas H. Moorer, Statement of the Chairman, Joint Chiefs of Staff before House Foreign Affairs Committee, 11 Jul 73.

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21. Joshua and Scharfen, pp. 3 and 84.

22. JCAE Hearing, p. 11.

23. Gallois, p. 305.

24. Joshua and Scharfen, pp. 41 and 42.

25. Gallois, p. 310.

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28. Joshua, pp. 33 and 34.

29. Joshua, pp. 35 - 37.

30. Mrs. Myrdal, Swedish Ambassador to Geneva Disarmament Conference, in a speech delivered to the Geneva Disarmament Conference on August 9, 1973.

31. Goure, et al., Soviet Strategy for the Seventies from Cold War to Peaceful Coexistence, p. 87.

32. Erickson, p. 4.

33. Ibid. p. 4.

34. Goure, et al., pp. 115, 123 - 124, 214.

35. Brodie, p. 321.

36. Erickson, p. 71.

37. Joshua and Scharfen, p. 76.

38. Dr. William C. Lyons, "Toward In-Depth Deterrence," National Defense, Nov - Dec 73, p. 233.

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