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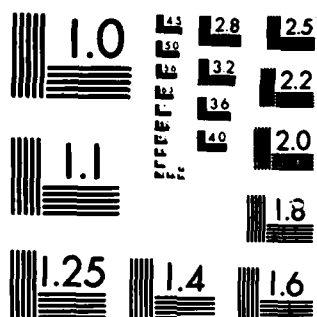
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Defense Intelligence College

Examination and Assessment of the
Strategic Posture of the United States

A Practicum Submitted to the Faculty
In Candidacy for the Degree of
Master of Strategic Intelligence

by
Lieutenant Commander Michael Ward Robison

Virginia Beach, Virginia
May 1985

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In order to maximize the political, strategic and tactical effectiveness of nuclear weapons, it is essential to have a well thought out, viable, flexible employment plan that may be put into use rapidly. This "strategic posture" would allow a more consistent and clearly understood policy to be espoused by the U.S. political leadership on a long term basis; a policy that would not be subject to the vagaries and political opportunism that characterizes the U.S. political process on an almost continual basis. The U.S. should adopt a long-range strategic doctrine similar in concept to that of the Soviet Union. The idea that war is not an inconceivable event and should be pursued with the most decisive aims and carefully structured missions and objectives is something that has been missing from U.S. strategic policy. The U.S. needs to consider what will happen after the first nuclear exchange.					
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INTRODUCTION

"When war comes, armies fight with the weapons at hand. Nuclear weapons are a prominent feature of the arsenals of both sides. How are they to be used? What should we point them at? How many should we fire in the first salvo?"¹ "There can be no evading the requirement that the defense community has to design nuclear employment options that a reasonable political leader would not be self-deterred from ever executing, however reluctantly."²

These questions are at the crux of the issues that face defense policy-makers in the never-ending process to achieve the optimal mix of offensive weapons and the policies that govern their use.

In order to maximize the political strategic and tactical effectiveness of nuclear weapons, it is essential to have a well thought out, viable, flexible employment plan that may be put into use rapidly. This "strategic posture" would allow a more consistent and clearly understood policy to be espoused by the U.S. political leadership on a long term basis; a policy that would not be subject to the vagaries and political opportunism that characterizes the U.S. political process on an almost continual basis.

The first step in developing a strategic posture for a nation is to determine what goals and objectives a nation

desires to obtain and then devise a strategy that supports attainment of those goals. The eventual costs of such policies must be kept firmly in mind during its development, as no strategic posture can be maintained if the nation is unwilling to pay the political or economic costs required. It will do little good to develop an employment plan that is dependent upon a particular weapon system or alliance and expect the plan to remain viable when a cost-conscious public withdraws economic support for a key weapon system or a political upheaval rearranges the power structure in an allied country. The impact on U.S. foreign policy following the fall of the Shah of Iran and the resultant power vacuum in the Persian Gulf was both surprising and costly. Therefore, it is essential that the U.S. maintain a strategic posture that is viable, flexible, and multi-faceted; able to encompass both the changing world political climate as well as the change in the U.S. Administration every four years.

With the perennial squabbling over defense spending versus social services, very few seem to make the connection that without defense there may well be no population to use these services; while a reduced level of social service is attainable with a commensurate level of defense.

To begin with, a discussion of the strategic posture of the United States must take into account the fact that the U.S. has never really had an effective strategy for the employment of nuclear weapons other than the threat of their use, which was supposed to deter any adversary (notably the

U.S.S.R.) from a nuclear attack, pre-emptive or otherwise. As a result, we did not have any viable options in case this threat failed to deter an attack.

This policy worked well in the years when the U.S. was the pre-eminent nuclear power and only had the Soviet Union to worry about, since there were only two members of the "nuclear-capable club." However, in today's world of nuclear proliferation, the U.S. now needs to adopt a more realistic and far-sighted view concerning the employment of nuclear weapons both in a deterrent role as well as a war-fighting role.

Thus far, the balance of terror and the threat of mutual destruction has been sufficient to maintain the peace between the U.S. and the U.S.S.R. However, with the introduction of nuclear-tipped ground launched cruise missiles (GLCM), the deployment of the Pershing II, and the continual increase in the numbers of SS-20's pointed at Western Europe, many people are now concerned that with the proliferation of these weapons, the chances for a nuclear exchange have risen dramatically, due to the greater dependence being placed on nuclear weapons to compensate for reduced levels of conventional weapons. Therefore, it may be only a matter of time before deterrence fails and a nuclear exchange occurs.

Given the above, we need to give serious consideration to our abilities to pursue national objectives after the first exchange of weapons. In the past, and to a large extent today, many believe that when "the balloon goes up" and the first

weapon impacts, it will be the beginning of the end of civilization and life will cease to exist on this planet. To avoid coming out second best in the next post-war era, we must consider what to do when and if deterrence fails. As more nations join the ranks of the "nuclear club," it seems that it will only be a matter of time before a nuclear weapon is used again in anger.

As a nation, the United States should have a specific doctrine or list of objectives that will guide both the political and military course of national development, regardless of which political party happens to occupy the White House and Congress. The continual lurching from crisis to crisis that has been a trademark of U.S. policy is not only foolhardy, it is dangerous; for we, as a nation occupying a leadership position in today's world, must do just that - LEAD. "Reactive" leadership, which merely responds on an ad hoc basis to the current crisis is, in reality, no leadership at all.

The development of a positive and definite strategy is vital. In this area, the Soviets appear to be one step ahead of us. For all the drawbacks to the socialist society espoused by the Kremlin, the long-range planning and world view that is central to Marxist-Leninist doctrine is extremely helpful to the logical and rational development of the forces necessary to support a country's political ambitions; and, unless you know exactly what you wish to do (with your forces), it is difficult to build a viable military force. It is essential to have a definite goal in mind when developing policy.

Thus, it would benefit the U.S. greatly to develop a long-term, long-range planning policy or philosophy similar to the world view taken by Marxist doctrine. This doctrine should be a bi-partisan treatment, designed to be specific enough to allow it to withstand the battles of party politics in election years. By providing focus for U.S. policy and setting an attainable goal to strive for, this doctrine would allow the rational, considered development of a U.S. defense policy that would remain constant over the years, allowing for economies of scale in defense procurement as well as allowing our allies to know where the U.S. intends to lead them.

This paper grew out of an interest stimulated by Dr. Douglas Hunters' Strategic Analysis class while I was a student at DIS. This paper attempts to discuss the concepts involved in devising a strategic posture of nuclear employment policy for the U.S. It is presented in three sections: first, a discussion of the current (1981) U.S. policies; secondly, an assessment of the capabilities of current U.S. forces to withstand both a surprise attack and an attack following an escalating crisis; thirdly, a discussion of some of my proposed "fixes" to the current plans and the efficacy of those changes.

Due to my follow-on tours of duty as Chief Engineer on a destroyer and as a member of a traveling engineering inspection team, no attempt has been made to update the ideas and the initial assumptions made for this work during my course of instruction at DIS in 1981-1982.

I. CURRENT U.S. STRATEGIC POSTURE

At present, the U.S. strategic posture is guided by Presidential Doctrine 59, signed into law by President Carter in August 1980. This has been termed the "countervailing strategy," which, in Defense Secretary Brown's words, "tells the world that no potential adversary of the United States could ever conclude that the fruits of his aggression would ever be worth his own costs."³ This policy has been designed to provide an effective deterrence for the U.S., a posture that will deter any aggressive nuclear action since the attacker can expect a response in kind to his attack. This force employment policy has five basic elements: flexibility, escalation control, survivability and endurance, targeting objectives, and reserve forces.⁴ Further discussion of these ideas is warranted.

Flexibility is envisioned as having the capability to conduct a full range of nuclear strikes, so as to be able to respond to the level of aggression that is used by the attacker. This avoids relying on a massive, reflexive counter-strike that aims for maximum destruction of the opposing side's civilian and military target set. Theoretically, this allows for escalation control by the U.S., a concept not subscribed to by the Soviets. Ideally, this flexibility would allow the U.S. forces to selectively respond with a few, well-placed

weapons that would show the Soviets the futility of their attack, thus, halting the conflict at a lower level of aggression than an all-out "spasm" counter-strike by the U.S. However, Soviet doctrine places great emphasis on mass and shock attacks as emphasized by Marshal of the Soviet Union, K. Moskalenko, in 'A Voyennaya Mysl' article: "In view of the immense destructive force of nuclear weapons and the extremely limited time available to take effective countermeasures after the enemy launches its missiles, the launching of the first massed nuclear attack requires decisive importance for achieving the objectives."⁵ Therefore, it is difficult to see how any small "flexible" response by the U.S. will have much effect on the Soviet National Command Authority (NCA) even if a sufficiently responsive portion of the U.S. forces were able to ride out the initial attack. The ability to deliver a "flexible response" may well be a vain assumption for two of the three legs of the triad. In his book, "Strategic Deterrence in the 1980's," Roger Speed presents arguments that support the contention that, given the current alert rate for the bomber wings and the postulated vulnerability of the silo forces, the only safe leg would be the SLBM's.⁶ Unfortunately, these have neither the numbers nor the punch to function as an effective reserve force. Given the lack of a surviving command, control, and communications (C³) system, the retargeting problem would also preclude the use of SLBM's as an effective strategic reserve. While the destruction of the first two legs of the triad may not be total, the massive Soviet air defenses will

greatly reduce the number of U.S. bombers that will reach their targets. The above presupposes that the U.S. NCA will ride out the initial attack and then launch the surviving assets following the first Soviet strike. This is a valid, albeit strategically dangerous, pre-supposition supported by the FY-83 OJCS military posture which states in part, "Although the U.S. has no policy that assumes or requires launch under attack"5 If the Soviets utilize a depressed-trajectory launch mode . . . "There is little doubt that a surprise attack by Soviet SLBM's6 . . . could destroy most American strategic bombers under the present basing system." By using "Two re-entry vehicles per silo which have been time resolved to prevent fratricide," the Soviets could have a good chance of destroying a large percentage of the silo forces riding out the initial attack.7

Thus, given the above assessed vulnerability of the silo and the low numbers of strip alert aircraft, it is difficult to assess how many of the damaged missiles and aircraft would be available to respond, assuming the strike orders could be transmitted to the commanders in the field. This concern has caused the U.S. to initiate a program to significantly upgrade our C³ systems since, "U.S. Strategic C³ Systems would probably be degraded in the initial Soviet attack."8 This appears to be somewhat of an understatement.

The second element of the force employment policy is that of escalation control, which "should enable us to provide leverage for a negotiated termination of the fighting."9 This

policy is supposed to convince the Soviets at the start of the conflict that any further aggression on their part will only increase the costs of waging nuclear war. To this end, Secretary Brown envisions leaving "the enemy with sufficient highly valued military, economic and political resources still surviving, but clearly at risk, so that he has a strong incentive to seek an end to the conflict."¹⁰

At first glance, this seems like an adequate policy, but on closer examination, does not hold up. It seems to be postulated on the concept of a Soviet aggressor who is not really sure of his ability to deal a devastating blow to the U.S. and has only attacked first in hope of achieving such surprise that the U.S. would sue for peace without responding with a nuclear counter-strike. Further, in this scenario, when confronted with an enraged and responding U.S., the Soviets belatedly realize the error of their ways and become willing to negotiate to forestall further losses. This is not a credible scenario. While the argument can be made that the political costs may not have been accurately assessed by the Kremlin, the fact remains that the assessment of costs will be made prior to any strike and, once initiated, the attack will be carried through to its conclusion. Soviet leaders will not be second-guessing the initial decision to strike, but will be pressing forward with all possible speed and power to obtain the most favorable "correlation of forces." Secondly, having obtained this correlation of forces, that is one of the factors in "gaining clear and dominant superiority in nuclear forces,"¹³

the Soviets would be very unlikely to surrender the fruits of their initial strikes. Rather, they would press on, making maximum use of the inertia gained in a surprise attack. They would have no reason to be suddenly willing to sit down at a negotiating table during the war, having already planned for the expected losses of Soviet forces. The only reason they might consider negotiation would be to gain time to regroup their forces and stall the U.S. response. However, given the general levels of death and confusion following a preemptive strike by the U.S.S.R., the hope of setting up a negotiating session seems to be improbable. More probably, the U.S.S.R. will use the resulting chaos to follow up on the initial strike and deliver a rapid, second strike on the heels of the first to force the U.S. into rapid capitulation. This will conserve Soviet forces to the maximum, which is consistent with the Soviet practice of expending the minimum amount of effort that will accomplish the task at hand.

The third element of a force employment policy is that of survivability and endurance. This includes both the nuclear forces and the supporting C³ capability of the U.S. In order to have an effective flexible response, the NCA must be able to retarget weapons based upon the attrition, mobility and defenses of the various elements of the target set. Otherwise, we are placed in a "use or lose" situation and our defense policy is reduced to a "launch on warning" policy, which is the opposite of the flexibility concept proposed by P.D. 59. Currently, the U.S. does not possess the required C³I assets

to effectively command and control U.S. forces following a pre-emptive attack. Further, the vulnerability of the silo forces has led to the need for a survivable basing mode for the next generation of ICBM's, be they MX, Midgetman, SLBMS or something else. While the SLBMS are currently judged to be survivable, the remainder of our strategic forces may not be so situated. In the Annual Report of the Defense Department for the FY 1982, SECDEF Brown addresses the survival of both the ICBM's and the SLBM's, but makes no mention of the B-52 fleet. It would seem that their survival is not being addressed and they will perish in the first wave attacks.

At present, the focus of the efforts are centered on ensuring the survival of the ICBM forces via the MX missile. However, the basing mode has gone through many machinations and is still subject to much debate. Various concepts have been advanced, including the "Big Bird" concept (an air-mobile basing mode), dense pack, the racetrack, linear and deep-silo MX modes, as well as the older notions of enclosed trench basing, Shallow Underwater Missile (SUM) basing and a mobile MX that would roam America's highways on a truck, ready for launch at a moment's notice.

It is imperative that we decide what is to be done to ensure the survival of the ICBM's and get on with the deployment of such a system. Each delay increases the vulnerability of U.S. forces.

The C³ network needs improvement in many areas also. At present, the entire network is vulnerable to destruction

due to Electro-Magnetic Pulse (EMP) damage. "A single weapon detonated 330 mi. over the center of the U.S would blanket the entire country with EMP effects instantly, disrupting communications, cutting out portions of the electrical power grid, and destroying large numbers of vital electronic circuits."¹⁴ Even though there are some 43 separate channels available to get strike orders to the field commanders, in the words of Air Force Secretary Hans Mark, when comparing the 43 channels available with a new proposed strategic satellite system, "The (43) others are less survivable" Therefore, it is essential that increased efforts be applied in improving C³ systems to insure a positive control of U.S. forces in a nuclear conflict.

The fourth element of the force employment policy is that of targeting objectives. Secretary Brown distinguishes four objectives or general categories of Soviet targets; strategic nuclear forces, other military forces, leadership and control, and the industrial and economic base.¹⁶ Of these, the third, leadership and control, pose the most difficult problems for the U.S. Given that our countervailing doctrine has negotiation as a central tenet, it is difficult to plan on destroying the Soviet NCA in a nuclear war, leaving no central authority to negotiate with. On the other hand, if the Soviet NCA is not destroyed, they will be free to continue the war with no diminution of their planning capability. The U.S., it can be assumed, will suffer a massive blow to its planning capability with the destruction of Washington, D.C.

Although plans exist to evacuate the president and other members of the U.S. NCA, in actuality, the ability of these plans to work correctly in the required time is in doubt. President Carter found this out when he directed his national security advisor to test the capability of the system to actually get the President safely away in less than 6 minutes, the estimated time of flight of a Soviet SLBM. According to General Robert Rosenberg, and NSC specialist in C³I, it was "a nightmare, just a complete disaster" when the unannounced escape drill was exercised.¹⁷ As was noted in the section on flexibility, the Soviets will have no desire to negotiate, having planned for the partial loss of their NCA while weighing the costs of war. Thus, they will have made plans to protect the essential elements of their general staff required for the continuation of war via redundant secondary command centers and relocation of key personnel.

In order to be able to destroy Soviet strategic forces, we must contend with a host of unknowns, these include misfires, U.S. units that are not able to launch their weapons, the bias problem, countering Soviet defenses, as well as the functioning of our own C³ systems with their inherent liabilities. Secretary Brown makes the statement that, "The Soviet Union should entertain no illusion that by attacking our strategic nuclear forces, it could significantly reduce the damage it would suffer."¹⁸ While this might make sense to an American strategic planner, for the Soviet Union, with its predilection for pre-emption to blunt the inevitable attack, the ability

to surprise the U.S. in a strategic nuclear exchange will be a major portion of the attack plan. The policy of pre-emption, as yet untested in nuclear combat, will probably leave the U.S. President to choose between launching a counter-attack he knows will rain more destruction upon the country or make the best of a bad situation and sue for peace without firing a shot. This led President Nixon, in his 1970 statement on foreign policy to ask, "Should a President, in the event of nuclear attack, be left with a single option of ordering the mass destruction of enemy civilians, in the face of the certainty that it would be followed by the mass slaughter of Americans?" Also, the Soviet tactic of massed attacks may not leave any C³ systems to transmit any launch orders the surviving NCA may choose to give.

Another category of targets to be hit are the other military forces; the conventional forces intended to maintain the post-war military balance of power in the Soviet favor. Since it will do one little good to win a war, and then lack the forces to follow-up the victory, it is essential to have a large survivable, conventional force at the ready. Thus, the U.S. rightly targets the large conventional forces the Soviets possess. Given the reliance that the Soviet leadership places on the army to maintain security and coercive control of the populace, it is safe to say that the Russians greatly fear loss of the Red Army, their Praetorian Guard.

Finally, the U.S. intends to strike the industrial and economic base of the Soviet Union to prevent post-war recovery.

This is viewed as the ultimate deterrent by Secretary Brown who states "these targets are highly valued by the Soviets and we must ensure that the potential loss of them is an ever-present factor in the Soviet calculus regarding nuclear war."²⁰

In summation, the policy of a countervailing strategy that seeks to convince the Soviets that their costs will be greater than the value gained is based on the primary assumption that they have the same value system and the same logic train as we do. As can be pointed out with numerous examples, this American trait of assuming the whole world thinks as we do, or should (think as we do), is a dangerous assumption. In the past we have assumed that the Russians were trailing in our wake in the area of strategic thought and given enough time and education on our part they would surely see the validity of our concepts and change their ways of thinking. However, as pointed out by Michael Howard, "The Russians were remarkably slow to absorb the reasoning which appeared so self-evident to American academics."²¹ The cultural and social history of Russia is totally different from that of the U.S., and could not be expected to produce a similar mindset in the leaders of either country. With the Soviet planner more attuned to accounting for the uncertainties of war as well as the "fortunes of war," a strong case may be made for the idea that the costs of a pre-emptive strike on the U.S. will be fully calculated in advance by the Soviets, to the greatest detail possible. If the "correlation of forces" are not in favor of the Russians, the attack will be strongly reconsidered.

An irrational Soviet spasm attack in response to a world crisis is just not plausible, given the examples of meticulous planning that go into a single military exercise, including full scale "dress rehearsals," in many cases.

Thus, it is essential that the U.S. not project our concepts about nuclear war into the Kremlin and "mirror image" an American mind in a Soviet uniform. It is in our best interests to project a deterrent based on force capabilities and employment options that are credible in the Soviet view, rather than employ options that we think would deter the U.S. from launching an attack. What the U.S. thinks about nuclear war and it's consequences is not nearly as important as what the Soviets think about waging a nuclear war.

II. ASSESSMENTS

While there are many ways that a nuclear conflict could be initiated, I will only examine the two that are usually cited in most presentations. The first is a Pearl Harbor "bolt out of the blue" attack, a sudden disarming strike launched with little or no warning. It would be designed to maximize the initial destruction and confusion, as well as sever communications links so as to delay and disrupt our response. To mount this kind of attack would be difficult, although not impossible.

The second type of attack would be that launched during an escalating crisis. In this scenario, both the U.S. and the Soviets would be on full alert, with all forces deployed waiting for the launch orders. Unlike the "Pearl Harbor" attack, there would be little chance of surprise, and the full capabilities of both countries would be utilized. Additionally, while deterrence has been the mainstay of the U.S. strategic posture, I will examine the role that defense should play in a strategic posture.

A. "BOLT OUT OF THE BLUE" PRE-EMPTIVE ATTACK

In evaluating the U.S. strategic posture, it is necessary to examine the forces and the methods the Soviets may use in both of the above attacks.

Soviet military doctrine places great emphasis upon the concept of surprise, both offensive and defensive. In terms of offensive surprise, a swift, massive attack is called for, one that will both demoralize and disable the opponent. According to the Soviet dictionary of basic military terms, "Surprise makes it possible to inflict heavy losses upon the enemy in a short period of time, to paralyze his will and to deprive him of the possibility of offering organized resistance."²³ To prevent defensive surprise, the Soviets continually monitor an opponent's intentions and capabilities to forestall a pre-emptive strike on the Soviet homeland.

In an offensive surprise attack, the Soviets' primary weapons will be their SLBM forces. Using the YANKEE and DELTA class submarines, launching SS-N-18, SS-N-6, and SS-N-17 SLBM's from points close to the U.S. shores, the Soviets could hit major command and control centers, SAC airfields, industrial centers and cities with less than 10 minutes warning.²⁴ The resulting massive confusion, as well as damage to the retaliatory forces, will give the Soviets the desired initiative in the opening stages of the conflict. That initiative could prove vital, if followed up quickly with secondary strikes.

Since the initial strike will likely be targeted at the U.S. early warning systems, an undetected launch of the Strategic Rocket Force can be initiated at the same time the SLBM's are impacting. Since the U.S. will not launch until the first impact, the Strategic Rocket Force should arrive largely unscathed, allowing for malfunctions at launch and

guidance errors in flight. According to John Collins, U.S. satellites "are poorly equipped to predict probable impact areas and, being dependent on infrared emissions, lose track of enemy missiles in mid-course, after boosters burn out, but before payloads and penetration aids (penaids) separate."²⁵ Additionally, knowledge of the Soviet efforts to develop an anti-satellite capability (ASAT), serves to reduce somewhat the absolute confidence that is placed in our satellite reconnaissance systems.²⁶ Thus, our launch detection satellites may be destroyed or blinded in the opening stages of the conflict, rendering them useless to notify of any secondary strikes. While the destruction of a nation's satellites, especially early warning ones, is considered an act of war, it is unlikely that the U.S. would launch solely on the loss of her satellites. While it is certain to trigger the alert mechanism for the U.S. forces, the President would, in all likelihood, want confirmation of an impending or progressing attack prior to issuing launch orders.

The initial strike will use the most vulnerable missiles in the Soviet inventory, saving the mobile SS-N-16, any modified SS-20 MRBM's and the deep interior based ICBM's to function as a secure second strike force and as a counter-strike deterrent for the U.S. Considering that all the Soviet SLBM assets would not be deployed to avoid giving strategic warning and given the fact that the DELTA class submarines can hit their targets firing from their home ports creates a credible second

strike force.²⁷ Also to be considered are the strategic reserves postulated to exist as well as the Soviet ability to reload a "cold launched" silo.²⁸

The Long Range Bomber Forces will be held in reserve to allow for "mopping-up" operations in an undefended U.S. airspace, following the destruction of the U.S. interceptor forces. This delayed arrival of the bombers will both allow for selected re-targeting as well as continue the shock and confusion initiated in the first wave of attack. This will maintain the offensive initiative sought by the Soviets.

The Soviet policy of destroying enemy military potential dictates that first strikes be directed at "active nuclear targets, that is, all nuclear capabilities of the United States, including their associated target acquisition (reconnaissance), command and control, and ground support."²⁷ This will include all missile silos, submarine bases, carrier task forces, SAC bases, nuclear weapon storage sites, weapon assembly areas, communications facilities, fuel depots and all electrical power generation and distribution networks that serve the above targets. These attacks will not be limited to the continental U.S.; any U.S. facility world-wide will be subject to the pre-emptive strike by using ICBM's or SLBM's for those targets in the U.S. Consistent with the doctrine of striking all nuclear targets, U.S. forward-based nuclear delivery systems in Europe will most certainly be destroyed simultaneously with the CONUS forces using MRBM's and Soviet bomber forces.

Accompanying the disarming strike, would be attacks designed to neutralize our naval forces, which are tracked continually to afford the Soviets just such an opportunity. The loss of the naval forces would preclude any effective neutralization of the remaining SLBM's held in reserve by deployed Soviet submarines.

Command, control and communications (C³) systems would also be lucrative targets in the early moments of the conflict. Disruption of these links would hamper the issuance of counter-strike orders. In contrast to the Soviets, the U.S. has concentrated her C³ links in a few areas, making the targeting of these systems that much easier. Most of the NCA bunkers and deep shelters are concentrated around Washington, D.C., most probably the site of the first weapon impact. With all the heads of government located in one place, the Soviets can most likely be assured of delivering a crushing blow to the U.S. NCA. While evacuation plans exist, as noted earlier, effectiveness in execution may be less than desired. A plan that would keep either the President, or the Vice-President, out of Washington at all times on a rotating basis to ensure the survival of one of the two men, has been proposed and should be investigated.

The communication networks used to relay the strike orders will also be affected by the initial attack. A small number of high altitude electromagnetic pulse (EMP) generating detonations will disrupt or destroy all non-hardened electronic systems. Radio transmissions, telephone systems and microwave

facilities will also be useless for days, if not destroyed outright. Sabotage of satellite ground stations, telephone switching centers, electrical generating plants, as well as communications centers can be expected just prior to the start of the attack by agents in "deep cover" in the U.S.³⁰

No matter what the circumstances of an attack, the survivability of U.S. strategic forces is critical to the defense of the nation. However, given the factors discussed in the preceeding pages, this survival and retaliatory capability is subject to many factors and may not be assured in the face of a Soviet pre-emptive attack.

Current U.S. policy is to destroy the Soviet Union via "a massive nuclear retaliation strike that could be executed in a number of pre-determined packages or pre-planned options."³¹ This requires the U.S. forces to "ride out" the attack and then respond with a counter-attack from the smoking rubble. The majority of our SLBM's would be held in reserve as a deterrent, with the SAC and TNF forces being used after the initial Soviet strike and prior to our retaliation strike. What is at risk here is the majority of the U.S. strategic assets that are not capable of riding out the initial attack.

When the TITAN and MINUTEMEN systems were deployed, the Soviet Union did not possess ICBM's with sufficient megatonnage or circular errors of probability (CEP) small enough to threaten the survival of the missiles in the silos. This is not the case today. While the U.S. has begun programs to harden silos, Soviet advances have outstripped our efforts.

In his article, "U.S. Strategy for General Nuclear War," Joseph Douglass estimates that up to 90% of our land-based missiles would be destroyed in a pre-emptive attack. Also, at least 50% of our bomber forces could be destroyed, in a "depressed trajectory SLBM attack," with higher damage percentages depending on the alert status and dispersal plan in effect at the time.³²

Thus, it is essential that the U.S. be prepared to re-target based on a large attrition of primary strike forces. It is possible that only a small percentage of the ICBM forces will remain effective and available for launch and these forces must be used so as to inflict maximum damage. Along with the ICBM's, will be approximately 30% of the SSBN assets which would be at sea, assuming normal patrol levels. This would contribute about 425 warheads on 12 submarines. A small number of B-52's may also survive, but it is doubtful that they could penetrate what has been called "the world's strongest and most sophisticated" air defense system.³³ Unlike the U.S., Soviet air defenses are largely mobile, and can be moved relatively rapidly, thus avoiding any strikes aimed at clearing the way for our bombers. According to Roger Speed, "Soviet radars, communications equipment and launchers are generally on wheeled platforms and are towable."³⁴ Thus, it is doubtful that our intelligence systems could respond quickly enough to an ever-shifting array of targets.

With such a small percentge of U.S. forces surviving the initial attack, it is problematic whether an effective

counter-strike could be mounted. Soviet defenses would be at a high degree of readiness and the second and third waves of attack would undoubtedly be underway, causing additional damage and confusion. What few U.S. weapons that are left must be used intelligently to blunt the remaining attacks with the hope of denying victory to the Soviets.

With the ability to cause "unacceptable damage" gone and the lack of an effective "flexible response," the targets must be the Soviet command and control apparatus so as to destroy their ability to conduct further strikes and to allow the U.S. to gain the initiative, if possible. The remaining ICBM's would be best suited for the role of destroying the command bunkers while the SLBM's should be used in a surgical, selective attack on targets as they present themselves in the anti-C³ attacks. The B-52 forces that are left should be ready to shift targets and strike those targets that are not time critical and would contribute significantly to the U.S. counter-strike.

Given the damage caused to the U.S. C³ assets by the initial strike, it will be extremely difficult to identify targets without reconnaissance assets and it will be incumbent on the U.S. NCA to have a pre-planned priority list of targets in the hands of the field commanders with the authority to select alternate targets if the need arises.

Given the degradation of U.S. forces and the Soviet capability to continue to "pin-down" attacks over the ICBM fields, it is difficult to see how the U.S. could make an

effective reply to a Soviet pre-emptive attack. It seems that, at best, the U.S. would be fighting from a defensive, damage limiting position, with little hope of emerging victorious.

B. ATTACK FOLLOWING AN ESCALATING CRISIS

In an attack following a crisis, the same objective would guide Soviet planners, namely, to strive for the defeat of the military potential of the U.S. However, since the U.S. would be in a heightened state of readiness, it seems reasonable to assume that the U.S. would fare better in this scenario than in a surprise attack.

As in a surprise attack, the Soviets would use a massive, coordinated strike designed to give them the initiative and to prevent an effective counter-strike. The number of warheads available would be greater in this instance, since the Soviets would be able to deploy their SLBM's and ready reserve forces without fear of discovery, since the crisis would be developing and secrecy would not be a factor. From the Soviet point of view, the lack of secrecy concerning their actions is desirable, because, in the face of a massive Soviet mobilization, the U.S. may back down and concede defeat prior to the start of the conflict.

During the mobilization of Soviet forces, a disinformation campaign would be underway, accusing the U.S. of escalating the risks of war and claiming that the Soviet actions are merely a prudent response to the U.S. "saber rattling." Much

press would be given to the claims that the Soviet Union has no intentions of striking first, but will respond in kind to a nuclear strike. While claiming that the first strike will not be theirs, the Soviets believe in the concept of a "preventive" first strike, designed to blunt an opponent's impending attack. This strike would be launched when the Soviet leadership had satisfied itself that the opponent had progressed to the point where attack was imminent.

Additionally, the U.S. would be subject to a massive public opinion campaign designed to place great pressure on political leaders, who would feel compelled to negotiate a settlement to avoid war. This campaign would also be aimed at dividing the attention of the U.S. NCA at a critical time.

Acts of sabotage and violence directed at military installations and C³ assets also can be expected. These will be performed in the name of anti-war sentiment, but will be designed to further degrade the ability of the U.S. to attain a state of maximum readiness.

In contrast to the surprise attack, in a crisis situation, the U.S. forces would have a greater chance of survival. While the ICBM fields would be largely under the same risk, the SLBM forces would be deployed to launch positions, increasing their chances of survival. The bomber forces would be dispersed, or put on airborne alert, thus increasing their chances of survival also.

The escalating crisis would also allow the dispersal of the U.S. NCA to hardened shelters, a definite increase

in the ability to respond effectively. With the NCA in the command bunkers, they will have a much better chance to direct an effective counter-attack. However, the effectiveness of the C³ lines following the first attack will still be in doubt.

Since a "preventive" attack can be expected when relations have deteriorated to the critical point, it is doubtful that our capability for a "flexible response" could do much good at this point.

Based on the preceeding, it seems that the Soviets would stand a very good chance of achieving their primary objective: defeating the U.S. The large number of warheads, the lack of an effective U.S. civil defense program, the vulnerable basing of the B-52 force, the silo-busting capability of the Soviet missiles, the Soviet civil defense effort, and the self-detering attitude of the U.S. political leadership all add up to a large probability of success for both a surprise attack and a crisis attack by the Soviet Union.

III. PROPOSED FIXES

The first and foremost aim of U.S. strategic policy should be that of survival as a nation, in whatever state of reduced capability it is possible to achieve. The level of survival that we wish to ensure is the major factor that must be taken into account when designing a strategic posture. If bare, or "stone age" survival capability is desired, then the formulation of strategic posture is comparatively easy. Massive destructive capability coupled with the lack of an effective defense system will do the job nicely. In effect, this is where the U.S. stands today. At present, the U.S. has no effective defense for its population, but has placed its citizens on the altar as hostages in the belief that our enemies hold the same ideals concerning the sanctity of life and will be deterred from attack by the threat of counter-strike against their civilian populations. Given the current debate over the folly of "thinking the unthinkable," it seems that our strategic planners are not addressing themselves to the basic concept of defense. If this is not remedied, it may be asked "will the survivors envy the dead?"³⁵

Our efforts to develop nuclear weapons and defensive systems should continue, and in some areas, be stepped up. One cannot effectively negotiate from a position of weakness. Unfortunately, we are in danger of letting our national policy

be placed in just such a position because of our refusal to ensure the survivability of our nuclear forces. Knowing that an adversary will have a force capable of striking back after you have given him your "best shot" should deter you from striking first, in all but the most extreme crisis, i.e., that of national survival. Thus, it is imperative for the U.S. to begin constructing an effective defensive system for its military forces, to ensure the other side knows that an attack will bring assured retaliation. As noted by Schilling, Americans have made major changes in acquisition policy, deployment policy and employment policy, but have not addressed the central idea of strategic concepts. America has been caught up in squabbling over the pieces of the puzzle, not the final result when the pieces are put together. Thus, we don't address the question of if the pieces will fit or what to do with the final product when and if it is completed. It is vital that the assured aspect be emphasized. For, after all, any strategic position must be credible in order to be effective. This entails having a weapon launcher and delivery vehicle mix that will ensure the main portion of the surviving force is able to deliver its weapons to the selected targets with the required dispatch and accuracy. It does no good to threaten an intruder with a weapon he knows, or has a very good feeling, is unloaded. Without an effective and assured second strike capability, guaranteed by an effective defense system, the nuclear forces are nothing more than a massive bluff; useless when it becomes necessary to use them as a

deterrent during a period of "saber rattling," or in a crisis. If you have silo ICBM's and continue to increase them, you raise the possibility that a greater number of Soviet warheads will malfunction. CEP's are only theoretical, due to N-S bias which hasn't been tested (nor is it likely to be in the near future).

It is essential to have a warning system that is capable of warning of an impending pre-emptive strike prior to actual launch. Once the warheads are launched, the U.S. will not have sufficient time to prepare for the impacts. It is essential that our warning systems be able to detect the subtle and no-so-subtle indications of Soviet preparations for a pre-emptive strike. This system will hopefully allow enough time to effect a diplomatic solution before the situation reaches a point where launch is inevitable. A wide-ranging and effective intelligence system is vital to allow such diplomatic time.

Adding to the overall defensive posture is the existence of an ABM/BMD system. If an aggressor knows that in the event of a pre-emptive strike, a good portion of his incoming missiles will not reach the target, this should cause him to think twice about employing a military solution. Critics of an ABM/BMD system have assailed the concept on the grounds that no system is 100% effective, and no matter how extensive our system, some warheads will still get through. Additionally, they say that such a system would have to work without any opportunity to adequately test the system prior to war. These are specious arguments.

In the first case, it is correct that no defensive system can be made 100% effective and that some number of warheads will evade the defenses and impact. But the difference in destruction levels caused by the full weight of the first wave and the damage caused by a reduced number of warheads will be significant. It does not make good sense to substitute no defense for one that is not 100% effective. In fact, as noted by Benson D. Adams, "Strategic defenses not only contribute to deterrence, they can repulse an attack, shield the homeland, protect the offensive, and provide an opportunity to regain the initiative, rather than conceding it to an enemy as a deterrent strategy does."³⁶ Continuing, Adams makes a number of other salient points regarding the necessity of defense. These include: first, increasing the costs of mounting an attack by increasing the requirements for anti-defense measures. Secondly, defenses cause great uncertainty for the attacker due to the lack of knowledge as to the final number of warheads that can be expected to arrive on target. Thirdly, defense exacts a toll on the actual number of warheads in each wave, due to the necessity to carry penetration aids in lieu of more warheads. Lastly, and most importantly, Adams states, "If the attacker thinks he has a way to neutralize the deterrent, the deterrent no longer exists. Whereas, in the presence of defenses, the attacker must assume there will be no hesitancy to use the defenses, complicating the issue of whether to attack in the first place."³⁷ Thus, it is vital

that the U.S. begin to increase her emphasis on defensive systems that will contribute to deterrence through defense.

In response to the charge that it is easier to build more missiles to counter the defensive system, it should be pointed out that the Soviet Union cannot continue building such expensive missiles indefinitely, and with more missiles in the air, the chances for fratricide and malfunction are greater. Also, if the missile inventories of the Soviets are expanded to overwhelm the U.S. ABM/BMD systems, this will place a greater drain on the Soviet economy, since there will not only be the cost of initially building the missiles, but that of maintaining them as well as supporting the increased numbers of troops needed to maintain, store, and fire the missiles. With greater numbers of missiles in a set number of bases, it will be easier for the U.S. to destroy larger numbers of weapons with fewer warheads. If the Soviets choose to build more bases to disperse the increased number of missiles, this will further drain their material and economic assets to the benefit of the U.S.

Critics have assailed an ABM/BMD systems on the grounds that without testing, we cannot know if it will work when it is needed. However, there are many equally complex systems that have worked correctly the first time. The Space Shuttle is an example of such a system. With adequate care and testing to the extent possible, it should be possible to ensure correct operation of the ABM/BMD system when and if it is needed. Along with the forces, it is essential to ensure that the

C³ systems used to communicate with them survive also. Given the current vulnerabilities in our C³ systems, it is doubtful that they would be of any use in a post-attack environment. This is supported by Thomas Powers who states that "Communications were set up so that the President could execute the SIOP in retaliation. They could not survive a major attack."³⁸ We should adopt the policy of hardening these systems during installation, rather than after, which greatly adds to cost. While our C³'s may survive long enough to transmit the initial strike orders, it is doubtful they will be of any use in the following days, when the actual conduct of the conflict must be directed.

Once we have determined to limit damage as much as possible and set in motion procedures to do that, we should consider planning the post-war recovery effort. It will do little good to expend our efforts to ensure that our forces survive if the country is not able to recover in some measure from the strike.

This will require an upgrade in the emphasis placed on civil defense in the U.S. While our current CD plans look impressive on paper, in practice, they would be woefully inadequate.³⁹ There are many simple changes that could be made to increase the effectiveness of our CD efforts. Changes in the building codes to require greater portions to be built underground would increase the available square footage for shelters. In a study on industrial survival undertaken by the Boeing Aerospace Company, the simple act of covering a

piece of machinery with plastic followed by dirt was shown to be effective in protecting the equipment for up to six weeks in an exposed environment.⁴⁰ In a related test with two machine shops subjected to 200-300 psi overpressure, the unprotected shop was totally destroyed. But the protected shop was back in nearly full production within 4 days following the blast. As noted by Jones & Thompson, "Although 25 percent of the machinery was damaged, it could have been repaired within two days using the undamaged equipment and supplies in the shop."⁴¹ Similar efforts made to protect the water, communications and electrical supplies would be beneficial. Greater support for the existing CD structures as well as a resumption of a public education process will do much to redress the decline in our capabilities. Given the current emphasis on the horrors of nuclear war, a low-key education program that stresses survival should be received with a minimum of fuss.

It is vital to consider the type of targets to be hit, so as to inflict maximum damage upon the opponent's ability to wage war. This argues against counter-value strikes, since for the most part, (unless the war is a protracted one) striking civilian populations often does little to inhibit the ability to conduct war. The German efforts to defeat Britain by bombing London had the reverse effect from that intended. After the initial shock wore off, the bombings served to strengthen the resolve of the population to resist and increase the war effort. While it is admittedly a different

level of destruction and terror when speaking of nuclear counter-value strikes, the basic premise still holds. It is far more profitable to target those assets most valued by your opponent, rather than those that you hold most dear; there is no guarantee that his values are the same as yours. Indeed, the Soviets have demonstrated that their most cherished assets are their military forces and their political control apparatus. Indeed, Colin Gray makes this point when he says, "First and foremost the Soviet leadership fears defeat, not the suffering of damage - and defeat . . . has to entail the forcible demise of the Soviet State."⁴² Given that the Communist Party of the Soviet Union depends greatly on coercive control to maintain its position in the Soviet Union as well as in the Warsaw Pact nations, coordinated strikes on the command and control centers, KGB headquarters, and Party headquarters throughout the country should generate sufficient loss of control to bring the political apparatus down in place. It is not difficult to imagine the Eastern European Soviet satellites renouncing their ties to the Soviet cause, thus depriving the Soviet Union of a large industrial and mobilization base as well as drawing down the available elements of the Red Army stationed in those countries, due to local uprisings and riots which would detract from the Red Army's frontal assault of Western Europe. Therefore, it is only logical to strike what the enemy fears losing most, in order to both shorten and win the war. If the collapse of the political structure of the Soviet Union does indeed occur, there may

be an immediate capitulation by the Soviets at a lower level of destruction than would have otherwise been the case with the political apparatus left in place. It may be profitable, in the later stages of the conflict to strike at counter-value targets to increase the costs on continued aggression. However, in order to make this a viable option, it is essential that a defensive effort be mounted to ensure survival of a "multi-strike" capability.

If, despite the best efforts, it seems likely that the U.S. will not be able to "win" a nuclear conflict, it will be profitable to consider the tactic of victory denial. While not the same thing as winning, it would serve the purpose of halting aggression at some level below that of world destruction. If the Soviets can see that they will not be able to achieve their goals that prompted the start of the war, they may decide that the price is not worth the gains, as these gains would be supposedly lower in a victory denial scheme than in a war-winning scenario for the Soviets. Again, as with all the other strategies discussed so far, it is vital that the U.S. both plan her strategy and develop a long term force posture to support those aims. Means are vital to ends.

In arguing for the build-up of American nuclear capabilities, a valid point may be made that these weapons may not stop an attack. This may well be the case in the face of a determined opponent who is ready and willing to pay the costs associated with a pre-emptive attack. However, the possession of these forces will serve to complicate his attack

plans and will at least blunt the striking edge of his forces. At the same time, he will be forced to spend greater amounts of money to enlarge his forces and develop defensive counter-measures for his weapons. Common sense dictates that the Soviet economy is not capable of supporting an unlimited defense expenditure. Due to the assets involved in a command economy, the Soviets may be able to quell public expression of discontent, but the attributes of their system would not be able to compete effectively with a capitalist system in a full arms race. But consideration should be given to complicating the Soviet's attack plans with the attendant higher costs and strains on an already struggling economy.

Only recently have U.S. strategic planners considered what to do when deterrence fails. Most of the past literature available discusses the launching of the initial strike, with little thought to what come next. However, this is slowly changing. In his FY 1984 annual report to Congress, Secretary of Defense Weinberger discusses the U.S. actions that must occur should deterrence fail. He specifically mentions ". . . limiting the war aims in the theater in which the attack occurred.," ". . . limit(ing) the duration of conflict.," and ". . . limit(ing) the intensity of the conflict."⁴³ However, rather than citing specific nuclear weapons employment scenarios, the Secretary of Defense advocates building strong conventional forces. While valuable, to inhibit pre-war blackmail and coercion, conventional forces won't play a major role in limiting a nuclear conflict once initiated. In the

post-deterrence period, we should strive to terminate the war as rapidly as possible, by inflicting maximum damage on the Soviets via hard, massive, and rapid strikes designed to reduce their war waging effectiveness as quickly as possible.

This strategy calls for the ability to be able to fight on any level, to possess a flexible war fighting ability. With a large and capable conventional force, it may be possible to win the war, or terminate it at the conventional level prior to crossing the nuclear threshold. In order to do this, we must plan on using whatever forces and weapons (including tactical nuclear weapons) necessary to win at the conventional level. The use of biological and chemical weapons can help make the costs of fighting too high for an opponent and in the interest of shortening the conflict should be used immediately.. This is in direct contradiction of current U.S. policy. However, war is not humane and it should not be fought according to "humane" rules. If war is made unrestricted, it may become too horrible to even contemplate, much less engage in for anything short of national survival. If we can convince the other side of the futility in continuing the conflict, we may shorten the war. If not, we will help reduce the damage he is able to inflict upon us. If both sides unleash their full destructive conventional arsenals, the resultant carnage, or the vision of carnage prior to the war may help increase the deterrent quality of these actions and plans for unrestricted warfare.

If the conflict is escalated to a nuclear level, the existence of a secure, multi-strike ability will help to deter the continued conflict and will allow the U.S. to avoid being put in the position of having to surrender or cease effective responses due to a paucity of weapons in our magazines. Once the war starts, there won't be time to allow a massive defense industry build-up as we did in WW II. This war will be fought "come as you are."

Finally, the strategic posture of the U.S. should be structured to support U.S. policy world-wide. This does not mean that if the Soviets meddle in Southwest Asia, we threaten to destroy Leningrad; rather, it means that our entire force structure and employment policies are designed with a specific goal in mind. Often, U.S. weapon procurement policies are more a result of "pork barrel" politics, and not a logical examination of our defense needs. Technology also drives our procurement policies. Often, we will buy a weapon simply because it is the latest model, with no analysis done to find out if we really need it or if a cheaper variant will serve just as well. This leads us to our current situation today of having 50 extremely sophisticated weapons to defend against 200 moderately capable enemy weapons. Massed attacks can and will overpower small numbers of weapons, no matter how technologically advanced.

To support U.S. foreign policy, we should structure forces with an eye toward NATO and non-NATO commitments. We should strive to maintain peace through power, possessing

sufficient forces to enhance deterrence as well as maintain the ability to impose U.S. will on other nations, if that is what we have decided will be the goal of our foreign policy. Oftentimes, this seems to be the idea behind our foreign policies. We desire to play policeman for the world, and then complain about the high cost of maintaining the forces and security assistance packages necessary to do this. If we decide to assume the role of a world leader, we should either pay the costs without flinching, or redefine our foreign policy aspirations. We cannot have it both ways.

IV. CONCLUSION

In order to improve our strategic position, there are a number of steps we can take, both in terms of strategy and material.

As far as strategy goes, the U.S. should endeavour to stop the conflict as rapidly as possible, in order to keep the damage suffered to the minimum possible. Thus, we should target those essential elements of the Soviet political control apparatus with the aim of destroying their ability to maintain control over both the Soviet Union as well as their Eastern European satellites. The ensuing domestic turmoil will help distract the Soviet leadership at a critical moment, strengthening the U.S. position during the conflict.

Undoubtedly, this tactic is one that is expected and planned for, but we have no way of knowing how effective the plans actually are, as well as how soon they would be put into effect. The "fortunes of war" may well negate all the carefully laid plans made prior to the conflict.

The destruction of the effectiveness of the Red Army is paramount. The existence of the army is a rallying point for the Soviet populace as well as a justification for the crushing economic burden of the Soviet military machine. The destruction of the Red Army will destroy Soviet morale, greatly undermine support for the leadership and will help tip the

balance of power in Europe in favor of NATO. This can be accomplished through the use of forward deployed nuclear assets, such as carrier-based aircraft, Pershing II, Lance missiles, and SLBM's as well as ALCM's (for non-mobile targets) to destroy the second echelon of the Red Army.

Along with the destruction of the Red Army, there should be a concentration on the command, control and communications (C³) links, and the command bunkers that were not destroyed during the initial attacks. The resulting confusion will cause a degradation in the Soviet ability to conduct the war, which will be to our benefit.

It will be vital to be able to attack warheads that were not used in the initial strikes. With the almost certain loss of our early warning systems, this will not be an easy task. However, it is an essential one, so that we are not forced to launch our reserve warheads solely to avoid losing them in the second or third attack waves. The increased time gained by not being put in a position of "use it or lose it," will allow more selective targeting to avoid wasting a warhead on an empty silo or empty harbor.

In order to support the strategic goals of a nation it is necessary to have the forces to pursue those goals. While the strategic forces may have been sufficient for this task when the U.S. was the sole nuclear power, today the rapid advances of other nuclear nations have raised doubts that the U.S. triad will be able to accomplish it's required task when called upon to do so.

While the triad concept is still viable, technological advances have made the forces that compose the triad vulnerable. If force improvements had been made as time passed, the U.S. forces would be in better shape today. As it is, the push to spend the large amounts of money required to upgrade our forces has wracked the U.S. with a "guns versus butter" debate that cannot do anything but hurt the U.S. defense posture in the long run.

As mentioned earlier, our first priority should be that of survival as a nation. In order to ensure such a survival, it is essential that we strengthen our civil defense program. This will allow a larger degree of damage to be inflicted without causing total destruction of the U.S. as a nation. Currently, the choice seems to be one of no civil defense and being "bombed back to the stone age," or a comprehensive civil defense program that will allow infliction of the minimum amount of misery. The nation must embark on a program that is aimed at ensuring the American public has a good chance of individual survival should war begin. Therefore, it is essential that the U.S. begin a public awareness program that educates the public concerning civil defense. This program would include changing building and construction codes, making provisions for shelters in new homes, harden communications, power lines, water piping and other essential civil services. The U.S. public must be made aware that civil defense is not the action of a government bent on war, but the action of a prudent one seeking to provide maximum protection for it's

citizens in case war does come.

Along with civil defense, the size of a nation's forces help ensure deterrence through defense. To this end, we should commence construction of a fleet of smaller, diesel powered SSBD's. By increasing both the number of targets and the length and area of their patrols, we make the ASW problem unmanageable for the Soviets. Use of proven designs will help hold costs down as well as shorten the time required to put such a fleet to sea.

The use of methanol or alcohol based fuels would reduce the dependence of the fleet on fossil fuels. Research into the use of fuel cells would also be beneficial since the major consummable in a fuel cell is water and can be considered limitless as far as a fuel cell powered submarine is concerned.

Additionally, there should be a number of C³ submarines, similar in concept to LOOKING GLASS. With two or more continually on patrol, the chances of survival are greater. This would also enhance our ability to transmit strike orders, since these subs would carry a number of ERCS assets to be launched following the destruction of our C³ assets. Use of a delayed-launch canister would allow the C³ sub to avoid Soviet ASW forces. Alternatively, Joseph Albright suggests outfitting twenty-four, eighteen-wheel trucks as mobile Presidential C³ centers. Continually on the move, they would be available to transmit the strike orders following a nuclear strike.⁴⁴

To enhance the capability of the air leg of the triad,

the air-launched cruise missile (ALCM) should be fitted to a civilian airframe. ALCM's are relatively cheap and can be used to overwhelm the defensive systems. The ALCM's should contain a mix of warheads, to include anti-radiation missiles to knock out radar sites, decoys, penetration aids, jamming devices, and runway cratering devices. This would greatly complicate the Soviet defense problem, causing them to waste assets on decoys and to sustain damage to Soviet air defense assets from the runway destruction and ARM ALCM's. The use of civilian airframes would use proven technology, give business to a vital segment of American industry, and reduce costs. By re-engining old airframes that the airlines cannot use due to increased fuel costs, it would be possible to get a large fleet more cheaply than would have been otherwise possible. Additionally, by manning these aircraft with reserve personnel, we would have a large viable force that would not be dependent on active military forces to be effective. Since the long flight times and easy detectability argue against use in a pre-emptive strike by the U.S., these aircraft could be held in reserve to allow for the mobilization of their crews. The simple mission profile; fly to a release point, launch ALCM's and return home, would preclude the need for extensive training by the aircrews to stay proficient. Since these aircraft would be civilian airframes, the dispersal is much easier. They could be based at any U.S. airfield capable of supporting commercial aircraft. Adopting commercial airline paint schemes would further compound the targeting

problems for the Soviets.

Our ICBM forces present a further problem. The MX missile should be built with a few modifications, including elimination of the verification windows. The use of a low-altitude defense system (LOADS) would increase the effectiveness of the Dense Pack. The use of off-the-shelf technology is vital for both costs and shorter deployment times.

Due to the massive costs of both the TITAN and MINUTEMAN systems, they should be used in the first wave. Adopting a launch on warning policy will avoid the "use them or lose them" problem. As the missiles get too old, they should be replaced with a missile "cold launch" capability which allows for a reload. Also, we could re-use the old silos, since a cold launch silo doesn't need to allow for flame and smoke, thus, giving more space in an old silo for a larger missile.

The above will allow the U.S. to increase the capabilities of her strategic forces, while at the same time, making it more difficult for the Soviets to target all our forces.

The ABM system should be revived for Washington, D. C., and other major U.S. cities. It does not make sense to improve the civil defense of the country without trying to reduce the number of weapons that will impact. Thus, use of a geosynchronous early warning and tracking satellite system will provide the data needed to predict impact points as well as programming the intercept for our ABM's. Use of a terminal/point defense system such as Flycatcher, or Goal-keeper should be considered in the interim until a LOADS system

can be established.

Our conventional forces need upgrading as well. Revival of the draft is necessary to ensure a sufficient manpower base for new weapons. Increasing military pay levels is not viable. While it still may serve to increase the numbers of military personnel, it would draw funds needed for spare parts, ammunition and weapon systems procurement. Eliminating the deferral system, and paying draftees at a lower scale would allow an equal opportunity for all to serve as well as providing an incentive to volunteer. For those whose religious beliefs do not allow military service, a program of some sort of equally important administrative duty could be found as a substitute.

It is essential that we develop a more mobile ground force as well as the means to transport them quickly to the area of conflict. Smaller, lighter, and more numerous armored units should be developed to allow for a massed attack that would substitute quantity for quality.

These mobile ground forces should be equipped to use biological, chemical and neutron weapons. If called upon to actually use these weapons, they would help end the fighting sooner, reducing losses.

Along with tactical neutron weapons there should be a large neutron weapon capable of penetrating the shielding of the Soviet NCA bunkers. This would aid greatly in destroying the Soviet C³ networks.

Improvements in civil defense, C³, strategic forces and conventional forces will allow the U.S. to fight the prolonged conflict envisioned by the Soviets. There will not be a massive exchange of nuclear weapons after which both sides retire to lick their wounds. The development of a multi-strike capability via ICBM reloads, SSBN's, mobile ICBM's, ALCM's, and an ABM/BMD system will allow the U.S. to continue the fight rather than being forced to surrender after the first exchange due either to lack of an effective force or the means to command that force.

In summation, the U.S. should adopt a long-range strategic doctrine similar in concept to that of the Soviet Union. The idea that war is not an inconceivable event and should be pursued with the most decisive aims and carefully structured missions and objectives is something that has been missing from U.S. strategic policy. The U.S. needs to consider what will happen after the first nuclear exchange. As noted in Douglass and Hoeber, "Preparing to fight and win this (nuclear) war is the most important tasks of . . . military strategy. Critical aspects . . . include . . . qualitative and quantitative superiority in military capability, . . . developing and implementing war survival measures to ensure rapid recovery of the military and economic potential"45 We must begin to "think about the unthinkable," to use Herman Kahn's phrase. Otherwise, all the defense improvements made will be of little use without a coherent policy for their use. In the word of Colin Gray, "one of the essential tasks of

the American defense community is to help ensure that in moments of acute crisis, the Soviet General Staff cannot brief the Politburo with a plausible theory of military victory."⁴⁶

FOOTNOTES

1. Thomas Powers, "Choosing a Strategy for World War III," Atlantic, (November 1982), pp. 82-110.
2. Colin S. Grey, "A Case for a Theory of Victory," International Security, (Summer, 1979), p. 57.
3. Department of Defense, Annual Report, Fiscal Year 1982, 19 January 1981, p. 39. (Hereafter cited as DOD FY 82).
4. Ibid., p. 40.
5. Marshal of the Soviet Union K. Moskalenko, "Constant Combat Readiness in a Strategic Category," VOYENNAYA MYSL' 1969, No. 1 (January), FPD 0087/69, Trans. 9/15/69, p. 14. Cited by Joseph D. Douglass and Amoretta M. Hoeber, Soviet Strategy for Nuclear War (Stanford: Hoover Institution Press, 1979), p. 36.
6. Rodger D. Speed, Strategic Deterrence in the 1980's (Stanford: Hoover Institution Press, 1979), p. 51.
7. Organization of the Joint Chiefs of Staff, United States Military Posture for FY 83, p. 23.
8. Speed, op. cit., p. 56.
9. Speed, op. cit., p. 44.
10. Organization of the Joint Chiefs of Staff, op. cit., p. 23.
11. DOD FY 82, op. cit., p. 40.
12. DOD FY 82, op. cit., p. 40.
13. Douglass and Hoeber, op. cit., p. 46.
14. Janet Raloff, "EMP; A Sleeping Electronic Dragon," Science News, Vol. 119, 9 May 1981, pp. 300-302.
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16. DOD FY 82, pp. 41-42.
17. Powers, op. cit., p. 95.

18. DOD FY 82, p. 41.
19. Richard M. Nixon, US Foreign Policy for the 1970's; A New Strategy for Peace, Washington, D.C., 18 February 1970. Cited in Michael W. Kanzelberger, American Strategy: A Selective Analytic Survey of Threat Concepts for Deterrence and Compellence, [(Santa Monica, CA: The Rand Corporation, (September, 1979)], p. 38.
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22. Fritz W. Ermath, "Contrasts in Soviet and American Strategic Thought," International Security, (Fall, 1978), p. 152.
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24. Speed, op. cit., p. 51, Figure 5.
25. John M. Collins, US-Soviet Military Balance: Concepts and Capabilities, 1960-1980 (n.p.: McGraw-Hill Publications Co., 1980), p. 159.
26. Collins, Ibid., p. 159, note 17.
27. Collins, Ibid., p. 129.
28. Collins, Ibid., p. 140.
29. Joseph D. Douglass, "US Strategy For General Nuclear War," International Security Review, Vol. V, Number III (Fall, 1980), p. 294.
30. Joseph Albright, "The Message Gap in Our Crisis Network," Washington Post, 19 October 1981. p. c-1.
31. Douglass, op. cit., p. 298.
32. Douglass, op. cit., p. 299.
33. Collins, op. cit., p. 163.
34. Speed, op. cit., p. 53.
35. Herman Kahn, Thinking About the Unthinkable, (New York: Horizon Press, 1962), p. 19.
36. Benson D. Adams, "In Defense of the Homeland," U.S. Naval Institute Proceedings, (June 1983), p. 48.

37. Adams, Ibid., p. 49.
38. Powers, op. cit., p. 96.
39. Douglas M. Englund, LTCOL, USA. "The Selling of Soviet Civil Defense," Joint Perspectives (Summer, 1980).
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42. Collin S. Grey, "Nuclear Strategy: A Case for a Theory of Victory," International Security (Summer, 1979), p. 61.
43. U.S. Department of Defense, Annual Report to the Congress: Fiscal Year 1984, 01 February 1983, p. 35.
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