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AIR WAR COLLEGE

RESEARCH REPORT

NORTH AMERICAN STRATEGIC AIR DEFENSE: ACTIVE DETERRENCE

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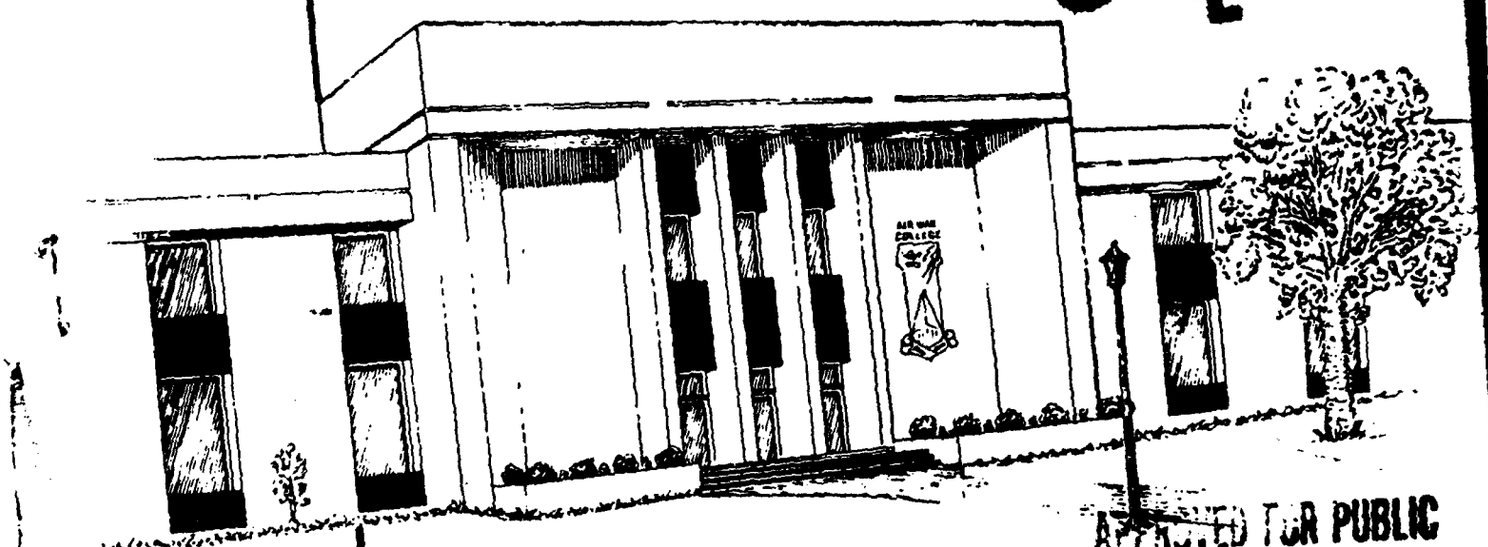
1989



AIR UNIVERSITY
UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

EXECUTIVE SUMMARY

Title: North American Stretigic Air Defense: Active Deterrence.

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The peacetime posture of United States strategic air defense is evaluated relative to the threat posed by the Soviet air-breathing offensive force of long range bombers and sea and air launched cruise missiles. Soviet policy, doctrine, and forces are assessed to substantiate the threat. United States policy, doctrine and defensive forces are assessed to confirm the absence of any mismatch between these. Significant shortcomings in the defense posture of the United States are identified. The strategic defense forces, especially those along the northern tier of the US and Canada, though properly trained and adequately equipped, are not postured to defend or provide deterrence during peacetime. The impact these shortcomings have on deterrence is discussed and suggestions are offered to overcome these shortcomings.

BIOGRAPHICAL SKETCH

Lieutent Colonel Jay A. Mengel (B.S., Lebanon Valley College) has been directly involved with Strategic Air Defense since 1975 when he became a member of the 107th Fighter Interceptor Group (Air National Guard) at Niagara Falls, New York. Until 1984 he flew F-101s and F-4s and was an alert force pilot at Niagara Falls. From 1984 to 1988 ne served at the Air National Guard Support Center, Andrews Air Force Base, Maryland as the Chief of the Air National Guard Exercise and Deployment Branch and as Chief of the Current Operations Branch. Colonel Mengel is a graduate of the Air War College, Class of 1989.

AIR WAR COLLEGE
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NORTH AMERICAN STRATEGIC AIR DEFENSE: ACTIVE DETERRENCE

by

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A DEFENSE ANALYTICAL STUDY SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

REQUIREMENT

Advisor: Colonel Donald A. Panzenhagen

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INTRODUCTION

The very survival of the United States depends on the deterrence provided by the strategic defense forces postured around the perimeter of the United States and Canada. This perimeter defense, laid out in former Secretary of Defense Casper Weinberger's 1982 Air Defense Master Plan, called for a system that was able to detect, intercept, identify and negate bomber and cruise missile carriers beyond their weapons employment range. Though much of this plan has come to fruition, the overall peacetime strategic defense posture of the US has actually weakened relative to Soviet capabilities and intent. A strong defense is vital to ensure our security and protect our national interests.

This paper is an analysis of the United States' peacetime strategic defense posture relative to Soviet offensive capabilities. This study addresses three distinct areas. First, Soviet doctrine, strategy and forces will be evaluated to provide an assessment of the threat, proving the Soviets not only have the capability, but also have the intent, should the conditions be right, to attack the United States. Second, the US policy will be reviewed to prove that US policy and doctrine are sound but a significant

mismatch exists between these and the peacetime employment of strategic defense forces. The final section will evaluate the US defensive posture, will identify serious shortcomings and will provide alternatives to correct these shortcomings.

CHAPTER II

THE SOVIETS' STRATEGIC OFFENSE

Despite the purported peaceful intent of the Soviets, they continue to maintain a strategic offensive capability that threatens the US national security. The following assessment of the Soviet intent and capability substantiates the necessity for the United States to maintain an effective strategic defense force during peacetime.

Since 1985 and the succession of Mikhail Gorbachev, the intertwining influence of numerous issues have compounded the problem of accurately assessing the Soviet Union as a threat. Perestroika, glasnost, Gorbachev's vocal proclamations for lessened violence and reduced East--West competition, the Space Defense Initiative and the pending force reduction proposals make the evaluation of the Soviet Union difficult at best. However, an evaluation of current Soviet policy, doctrine, strategy and force structure, void of media emotionalism, provides a factual assessment.

Soviet Policy

Policy is simply the planned use of a nations instruments of power (including military, political and economic) to protect national interests and achieve national

objectives and national security objectives that drive Soviet policy include strengthening the political system and preserving the power of the Communist Party of the Soviet Union (CPSU), extending and enhancing Soviet influence world wide, defending the homeland, and maintaining dominance over land and sea areas adjacent to Soviet borders.[1] All these objectives are to counter the threat they perceive from capitalism. The CPSU asserts that competition between socialism and capitalism must continue until socialism reigns the final victor. They view the US as a dying but dangerous enemy. Though they claim a preference to achieve these national objectives through peaceful means, they have nevertheless built an awesome military force that is geared to forcibly attain these ends. They say they prefer peace, yet they have had little reservation to use force, coercive diplomacy and intimidation in Hungary, Czechoslovakia, East Germany and Afghanistan to further their interests.[2] It is reasonable to assume that the Soviets would have little reservation to use force against the US if they were convinced such use of force would be successful.

The "New Soviet Doctrine"

Soviet doctrine is primarily concerned with the nature of future war and the preparation of forces and the country for conducting such a war. The CPSU, under Gorbachev, not the Soviet military establishment, is responsible for doctrine.[3]

Just what is the "New Soviet Doctrine"? William F. Scott, a most knowledgeable and prolific writer on Soviet Doctrine, has stated that the doctrine has not really changed. The United States is still their main enemy. Their rhetoric conforms to an historic pattern and there is basically nothing new.[4] This "New Thinking" is basically a modified approach to the same ends resulting from East--West parity in quantity and quality of nuclear weapons.[5] The essential change in the approach has been a shift in the focus of the East--West competition from the military to the political. There appears to be an effort by the Communist Party to attempt to use political means instead of military means to provide security. The military, however, is still an important part of the Soviet security equation. Though the CPSU seems to desire political means of providing security, this same body has clearly stated that, though they do not want any more security, they certainly will not settle for any less.[6]

The Soviets claim a defensive nature to their doctrine, but they believe they must have the ability to achieve victory across the entire spectrum of conflict from limited conventional to global nuclear war.[7] Though the party has given the military the mission to prevent war, they have not absolved the military of the responsibility to achieve total victory in the event that war occurs.[8] It would be imprudent to conclude that the Soviets have

abandoned their fundamental international goals. It would also be imprudent for us not to posture our peacetime strategic defensive forces to combat the offensive air breathing forces the Soviets need to employ to achieve their goals.

Soviet Strategy

Soviet definition of strategy appears to be similar to the US definition of doctrine. Strategy defines the tasks of the armed forces and includes the measures used to prepare the armed forces, the populace and the economy for war.[9]

Once war begins, strategy takes the lead over doctrine in the Soviet system. In planning for a war with the US, the Soviet planners have placed critical importance in the initial period of the war. The events and results of the first encounters will be critical to determining the overall course (in all probability) the final outcome, of the conflict.[10] The Soviet strategy is geared to assure the success of their initial thrust. Preemptive action is an integral part of soviet strategy and preemptive suppression of enemy forces, weapons and delivery systems becomes essential for achieving such a victory.[11] By employing long range preemptive strikes throughout the depth of the enemy territory, the Soviets could gain essential time for completing mobilization, would considerably enhance their

starting position and would also significantly improve the conditions for subsequent operations. Prior to an ICBM launch, the Soviets would have to destroy part of the US defense system. Attacks against US Space systems with anti-satellite systems and the use of cruise missiles to take out key ground nodes should be anticipated.[12] Critical targets would be ICBM sites, airfields, naval bases, and civilian and military Command and Control (C^2), transportation links, power projection assets and key civilian and military industrial complexes.[13]

Recent heightened interest in long range bombers is an indication that the soviets are diversifying their strategic forces and that surgical strikes by air breathing threats are quite likely.[14] Preemptive strikes are part of the Soviet strategy equation, therefore, we must respect the Soviet's capability and intent to use preemptive strikes. Our peacetime as well as wartime defenses must be postured to assure the Soviets that any attempts at a preemptive strike against the US are not likely to succeed.

Soviet Military Modernization

Virtually every Strategic component of the Soviet military has been through or is currently undergoing modernization. In 1985, the fifth generation road mobile SS-25 was introduced. By 1990, the fourth generation ICBM fleet(SS-17,SS-18, SS-19) will all have been modernized or will have been replaced.[15] These advances will keep the

Soviets as the worlds largest and most modern strategic missile force. Typhoon class Nuclear Ballistic Missile Submarines (SSBN) capable of carrying 20 SS-N-20 missiles have been introduced as well as Delta IV SSBNs carrying the SS-N-23 missiles. The OSCAR II SSGN will carry Sea Launched Cruise Missiles (SLCM) which present a whole new variable into the deterrence and defense equation.[16] BEAR H, (TU-95), long range strategic bombers have been modified to carry AS-15 Air Launched Cruise Missiles (ALCM) and deployment of the cruise missile carrying BLACKJACK bomber is about to begin.[17] Each of these weapon systems is capable of striking North America. The BEAR H has a range of 8000 nautical miles (NM) if aerial refueled, and by the end of the 1980s the Soviets should have over 70 in the inventory.[18] In addition to the BEAR H, the BEAR G with the AS-4 Air to Surface Missile and the new BLACKJACK bomber, will substantially enhance their Strategic Offensive Capability. The BLACKJACK is the world's largest and heaviest bomber designed to carry bombs and ALCMs. It has a long range subsonic cruise and high altitude supersonic dash capability. Its unrefueled radius is 7300 NM and can reach a speed of Mach 2.0 (twice the speed of sound).[19] The AS-15 cruise missile carried by both the BLACKJACK and BEAR H has a range of over 1800 miles.[20] A faster cruise missile is

also in development. Known as the ASX-19, it is expected to be operational early in the 1990s.[21]

The BEAR H and BLACKJACK bombers with cruise missiles could cruise in international airspace and be in striking range of key Command and Control Targets in the US. By flying a polar route, the bombers could penetrate the northern boarder of Canada and get close enough to launch cruise missiles before being intercepted by strategic defense forces from either Canada or the US. In Alaska, similar opportunities exist for the Soviets to launch ALCMs against critical targets without penetrating US airspace.

In addition to bombers, Soviet submarines are capable of launching SLCMs against critical US targets. The SS-N-21 SLCM is carried by VICTOR, AKULA, SIERRA and one converted YANKEE class submarines. The SS-NX-24 will be operational in a few years.

Soviet Strategic Offensive Mission

The key mission of the the Soviet Strategic nuclear forces is to attack assigned targets in North America, Europe, the Far East and elsewhere. Their intentions to employ offensive operations at such great distances is indicated by their massive inventory of ICBMs, their growing ALCM/SLCM capability and recently, the development of tne MIDAS tanker aircraft to replace the aging BISON tankers.[22]

Much of their training effort is on offensive operations. Over 50% of training time, according to soviet

press sources, is devoted to offensive operations.[23] The strategic offensive forces gear their training to preemptive strikes, launch on warning, and launch after attack.[24] BEAR bombers on "training" missions routinely fly cruise missile attack profiles against North America and the BLACKJACK bombers, when operational, are expected to do the same. The Soviets train the way they will fight and their emphasis on strategic offense should serve as a warning to US defense planners.

CONCLUSIONS

This brief analysis of the Soviets provides sufficient evidence to warn of the possibility of preemptive Soviet strikes against the US. Not only do the Soviets have the capability to launch a preemptive air breathing strike against North America, their doctrine and strategy both support preemptive strikes. United States policy, strategy and forces need to be prepared to defend against this possibility in peacetime as well as during periods of increased tensions.

CHAPTER III

THE UNITED STATES' STRATEGIC DEFENSE

The national interests and objectives of the United States and the protection of the values we prize as a nation drive our national security policy and ultimately determine the posturing of the US military forces. Our primary national interest is "survival of the US as a free and independent nation, with the fundamental values intact and its institutions and people secure." Our national security objective to support that interest specifically requires deterrence from hostile attack and defense from the attack should deterrence fail.[1]

United States' Policy

United States' national objectives have changed little since WWII. We continue to strive to contain the Soviets, not to conquer them; we aim to deter war (especially nuclear war). Deterrence is the cornerstone of US policy.

Deterrence works by either threatening the aggressor with retaliation or by denying the aggressor the possibility of victory. Retaliation is an offensive doctrine that is reactive to aggression; Denial is a proactive, defensive doctrine. Both deterrent doctrines are

essential components of US strategic policy. The interesting concept of deterrence through defense (denial) is that the defensive shield around the United States need not be impermeable. Even a less than perfect defense system is sufficient, during peacetime, to deny the Soviets the certainty that they could achieve a meaningful preemptive military victory over the US.[2] A defensive deterrence will continue to be effective as long as the Soviet leadership is never allowed to think that they could launch a successful apocalyptic attack against the US's nuclear forces and the C^2 that controls those forces.[3] Inversely should the US show any unwillingness or inability to defend ourselves, deterrence could fail.

For over forty years we have prevented war through our policy of deterrence. Peace resulted from our assurances to our adversaries that the success of any attack on the US is unlikely and that the costs of such an attack would far exceed the gains. Deterrence according to former Secretary of Defense Carlucci is, "Nothing more than our aim to convince an adversary that an attack on us will be too costly, cannot succeed and in the final analysis, is best not made."[4]

The key deterrent to aggression is an active credible defense. A strong defensive system denies the Soviets the ability to achieve victory. The Soviets have historically been reluctant to assert themselves unless they

are relatively assured victory. Any uncertainty of success that US defense forces generate for Soviet planners and leadership, therefor, directly reduces the likelihood of the Soviets initiating an attack.

The retaliation response, including strikes against the Soviet leadership or military structure threatens national values of the Soviets. Defense of the retaliatory forces improves the survivability of these forces, reinforces the doctrine of Flexible Response and keeps the values of the Soviet Union at risk.

United States' Air Force Doctrine

Doctrine comprises the "Fundamental principles by which the military forces guide their actions in support of national objectives."[5] The doctrine of Flexible Response has been the latest US Strategic Doctrine that holds at risk Soviet values and has provided for peace. Flexible response provides several responses to aggression instead of the single responses of older doctrines of Massive Retaliation and Mutually Assured Destruction (MAD). United States air defense forces have the responsibility, according to US Air Force Manual 1-1 (Basic Aerospace Doctrine of the United States Air Force) to perform a mission that supports the national objectives. They have the ability to deploy to forward bases to assure sovereignty during peacetime, and in time of hostilities, to meet the threat before he can

deliver his ordnance. They provide the key protection of other key strategic air resources including C^2 as well as missile launch systems, bomber and tanker forces, and deployable navy, army and air forces and equipment. In peacetime these air defense forces also perform the essential observation role that enforces peacetime sovereignty and may ultimately provide the US National Command Authority the actual attack warning.

The Air Defense forces in peacetime as well as in times of conflict, are guided and live by the basic Principles of War as defined in AFM 1-1. They have an objective. As stated before that objective is to deter and defend. They continue to improve their capability to maneuver in relation to the enemy forces. They in essence are the force that provides the security that prevents total surprise by the enemy and assures some freedom of action should an attack occur.

Air Force Manual 1-1 defines Strategic Aerospace Defense as one of nine Air Force Missions. The Air Force's role is to provide warning, control, and intercept forces integrated to detect, identify, intercept, and destroy enemy forces attacking our nation's war sustaining capabilities or will to fight. The doctrine requires the Air Force strategic defense mission to enhance the survivability of strategic aerospace offensive forces and to protect our key military, political and economic power base in peacetime and

war.[6] Success in the use of the air arm of military power to achieve these National Objectives and to assure survival of National Interests is dependent on the matching of this + doctrine to national strategy and force structure. A mismatch in this arena can only lead to failure. Such a mismatch is developing and unless this trend is halted, the US defense forces may completely loose the ability to adequately perform the peacetime mission of air sovereignty, attack warning and threat assessment.

United States Strategic Defense Forces

In 1956 the US Strategic Defense forces numbered 138 squadrons, a growth of over 400% from Continental Air Command's birth in 1946. This growth roughly paralleled the growth in the Soviets Long Range Aviation and the Soviet's increasing ability to threaten an atomic attack against the United States. When the Soviets launched Sputnik on October 1957, the emphasis on strategic bombers waned in favor of intercontinental ballistic missiles with multiple independently targeted reentry vehicles that were far more ominous than the free falling, aircraft delivered bombs. As the Soviet bomber threat began to decline from over 2000 long range bombers in 1954, so also did the US forces postured to defend against the air breathing threat.[7] This decline continued with the reduction of forces, the eventual dismantling of the command and placing the remaining air

defense squadrons in a numbered air force under the control of Tactical Air Command (TAC). These 16 squadrons that provide air defense interceptors at 26 alert sites around the US plus two Canadian squadrons are now the defense against the Soviet air breathing threat.

Supporting the manned interceptor forces are the radar sites and personnel that monitor Air Defense Identification Zones (ADIZ) and provide radar coverage and direct control that enables the interceptor force to be vectored to either identify or if necessary kill hostile intruders. Federal Aviation Administration (FAA) and military radars provide the coverage and military controllers stationed at the Region and Sector Operations Command and Control Centers provide the surveillance. The east, west, and southern exposure either are or will be served by a long range Over The Horizon--Backscatter (OTH-B) radar that is capable of detecting an impending attack thousands of miles from the US/Canadian coasts.(see illustration 1) There is no OTH-B in the polar region since the physical properties of the polar regions reduce its effectiveness. The US and Canada have installed a North Warning System (NWS) that is a chain of unmanned radar sites across the Canadian northern tier.[8] This system was installed to replace the tiered DEW LINE/ CADEN/PINETREE radar lines that provided surveillance since the 1950s. The Airborne Warning and Control System (AWACS) E-3s, though not

NORTH AMERICAN SURVEILANCE SYSTEM

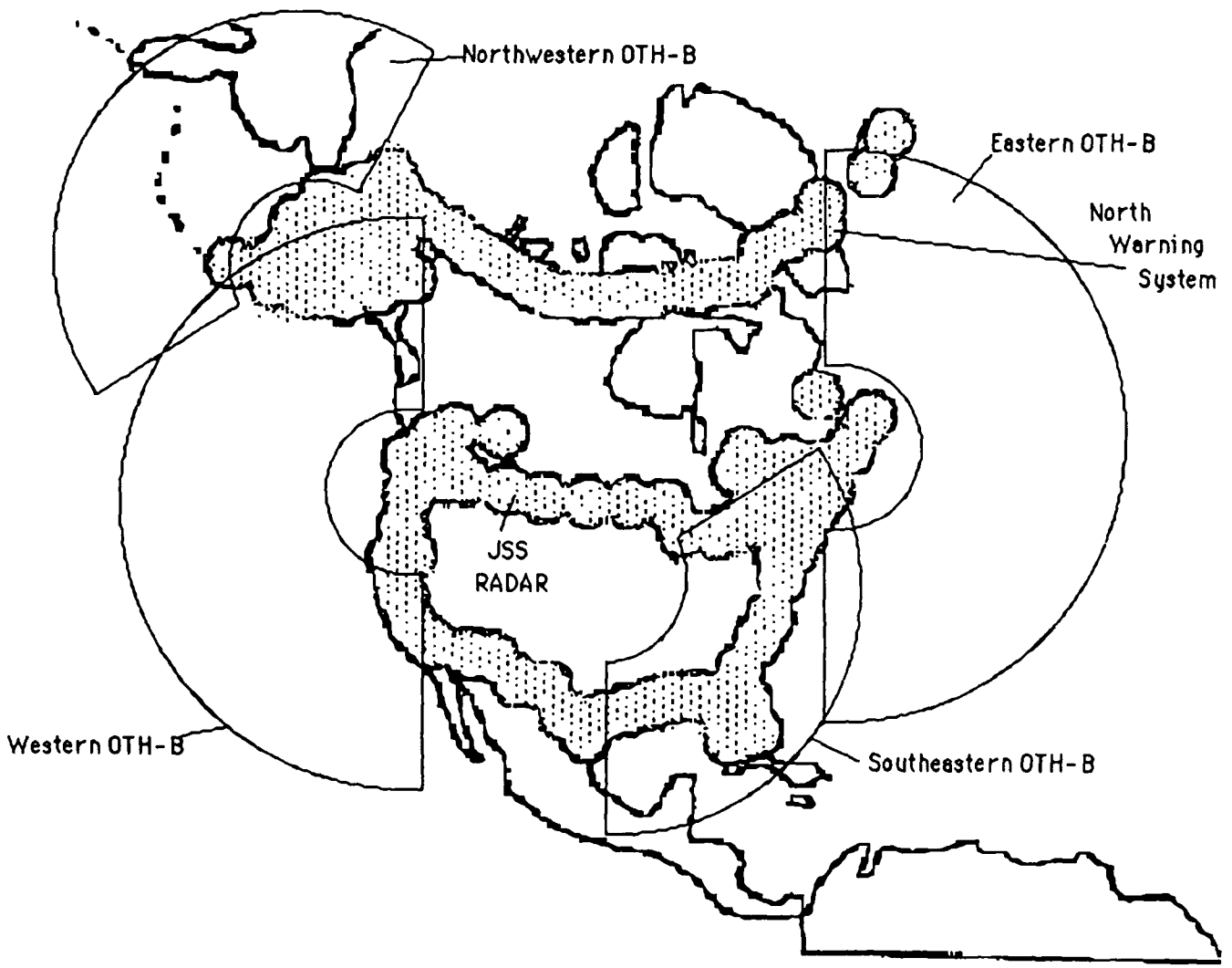

Illustration 1

always on station, can be deployed to provide radar coverage and command and control if necessary. The US and Canada jointly man and maintain this Strategic Defense System. Through the North American Aerospace Defense Command, US personnel from all services and Canadian personnel combine to manage and control the North American Air Defense forces. With a peace time mission of air sovereignty and attack warning, these defense forces and Command and Control structure provide for the defense of our strategic retaliatory forces. In the late 70s, perhaps even into the early 1980s, this force was probably adequate; however, times are changing and several developments signal the need for enhancing our peacetime strategic defensive posture.

The first new development is the cruise missile which is indicative of a greater Soviet reliance on the use of air breathing delivery systems. The second new development is the Space Defense Initiative (SDI). The employment of this space based defensive system has the potential of rendering some of the Soviet ICBM force ineffective. This in turn forces increased Soviet reliance on the air breathing vehicles. Soviet development of cruise missiles and the upgrade of the old BEAR bombers and deployment of the new BLACKJACK bomber attest to increased Soviet reliance on air breathing offensive systems.

Strategic Defense Modernization

The United States' modernization programmed for the Strategic defense forces is representative of US intent to counter Soviet offensive capabilities. The SDI program has received considerable attention and publicity as a defense against the ICBM threat. The defense against the air breathing threat is simultaneously being addressed (though not as visibly) through the Air Defense Initiative(ADI) and the North American Air Defense Modernization (NAADM) program.

The ADI is developing the technologies to counter the modernizing Soviet air breathing threat of bombers and cruise missiles. In the next ten years the Department of Defense (DOD) intends to spent $6.6 Billion on the development of these new technologies. The desire is to develop a layered North American Defensive system to protect against cruise missiles and cruise missile carriers including nuclear cruise missile submarines. Development of these systems is essential as the Soviets and the US, through Strategic Arms Reduction Talks (START), show signs of scaling back ICBM arsenals.[9] The ADI development includes research in improved surveillance systems to detect, track and intercept the small cruise missiles; better submarine tracking systems; more sophisticated battle management and Command, Control, Communication and Intelligence (C^3I) and better Air--to--Air missiles for

employment against cruise missiles and cruise missile carrying bombers.[10] In addition to ADI, the North American Air Defense Modernization (NAADM) will greatly improve the capabilities of the North American Strategic Defense Forces. At a cost of $7 billion it is the largest overhaul of the North American Air Defense System since 1950.[11] Spawned because of the increased accuracy and range of the Soviet cruise missiles and bombers, the NAADM is the combined US and Canadian revaluation of their capability to defend against the improving capabilities of the Soviet threat. Recent and ongoing improvements in the North American Defense Forces include notable improvements in both detection/surveillance systems, air defense interceptors and C^3 (Command Control,Communication) systems. RADAR improvements include the phasing out of the old CADIN/PINE TREE sites across the southern tier of Canada and building of the OTH-B sites that provide coverage from the northeast through the south to the northwest of North America. Across the northern tier of Canada the North Warning System (NWS) completes the radar coverage around the North American Continent. (See illustration 1,pg.17) Both the United States and Canada have, or are in the process of modernizing the entire fleet of manned interceptors. Canada now has two squadrons flying F-18 Hornets and the US is in the process of replacing the last of the F-4s with F-16s. The US force

will be composed of squadrons flying either F-15s or F-16s. North American Aerospace Command (NORAD) also has use of AWACS to provide surveillance and C^3. There are new Region Operations Command Centers (ROCCs) and better communications for improved connectivity and operability. To provide for dispersal and deployed interceptor operations, a system of Forward Operating Locations and Dispersed Operating Bases (FOL/DOBs) enable the interceptor force to meet the threat before it can launch its cruise missiles. For years there has been a requirement for these FOL/DOBs. Only recently have DOD and Ministry of Defense provided funding to support this requirement.

These programs to improve the defensive posture of North America are in line with former president Reagan's challenge to the Soviet union to place more emphasis on defensive systems that pose no threat to anyone and provide for a safer strategic balance.[12]

These improvements give an appearance of greatly enhanced strategic defense capability. Unfortunately all is not a bed of roses. Virtually all these improvements enhance the war fighting capability of strategic defense forces; however, little has been offered to assure our capability to prosecute a peacetime air soverignty mission. Significant shortcomings either exist or are developing in our strategic defense system. These shortcomings must be

corrected if strategic defense forces are to provide the deterrence and defense essential to our national well being.

The gap between the Soviet strategic offensive capability and the US strategic defensive capability is still excessively wide. The US must take measures to narrow this gap. At the present, and even upon completion of the ongoing improvements, the US is virtually defenseless in some areas and the peacetime deterrent value of the existing US defense force borders on being negligible.

CONCLUSION

Though US policy and doctrine appears to be sound, emerging developments in strategic defense force posturing may inhibit them from protecting US national interests and objectives of survival of the US. The gradual, almost incipient, reduction in strategic defense capability has progressed to the point where the peacetime effectiveness of these forces is questionable. Without a strong peacetime defense, there is no deterrence. Without deterrence, the interests, ideals, and fundamental principles that have served us so well for over 200 years are truly at risk.

Chapter IV

THE STRATEGIC IMBALANCE

The last section of this paper will look at each of the Soviet air breathing strategic offensive systems and the limitations of the US defensive forces that counter these threats. At this very moment, a force of Soviet bombers could preemptively attack key Command and Control nodes and strategic resources with minimal resistance from strategic defense systems. Compound the existing bomber threat with cruise missiles and the vulnerability of the US becomes almost incomprehensible. Each of these threats requires a slightly different defense. Each will be addressed individually.

The Sea Launched Cruise Missile Threat

The Soviets have submarine working areas that are within cruise missile range (approximately 1800nm)[1] of critical US Targets. (See illustration 2) Fortunately the initiatives addressed earlier, especially the ADI, is directed to improve technology to combat this ominous threat. Included in ADI are programs to Improve US Navy capability to monitor and track Soviet submarines which will provide the Soviets with sufficient reason to assume that a SLCM attack would not succeed. However, ADI developments are years from employment and current naval technology

SEA LAUNCHED CRUISE MISSILE RANGE

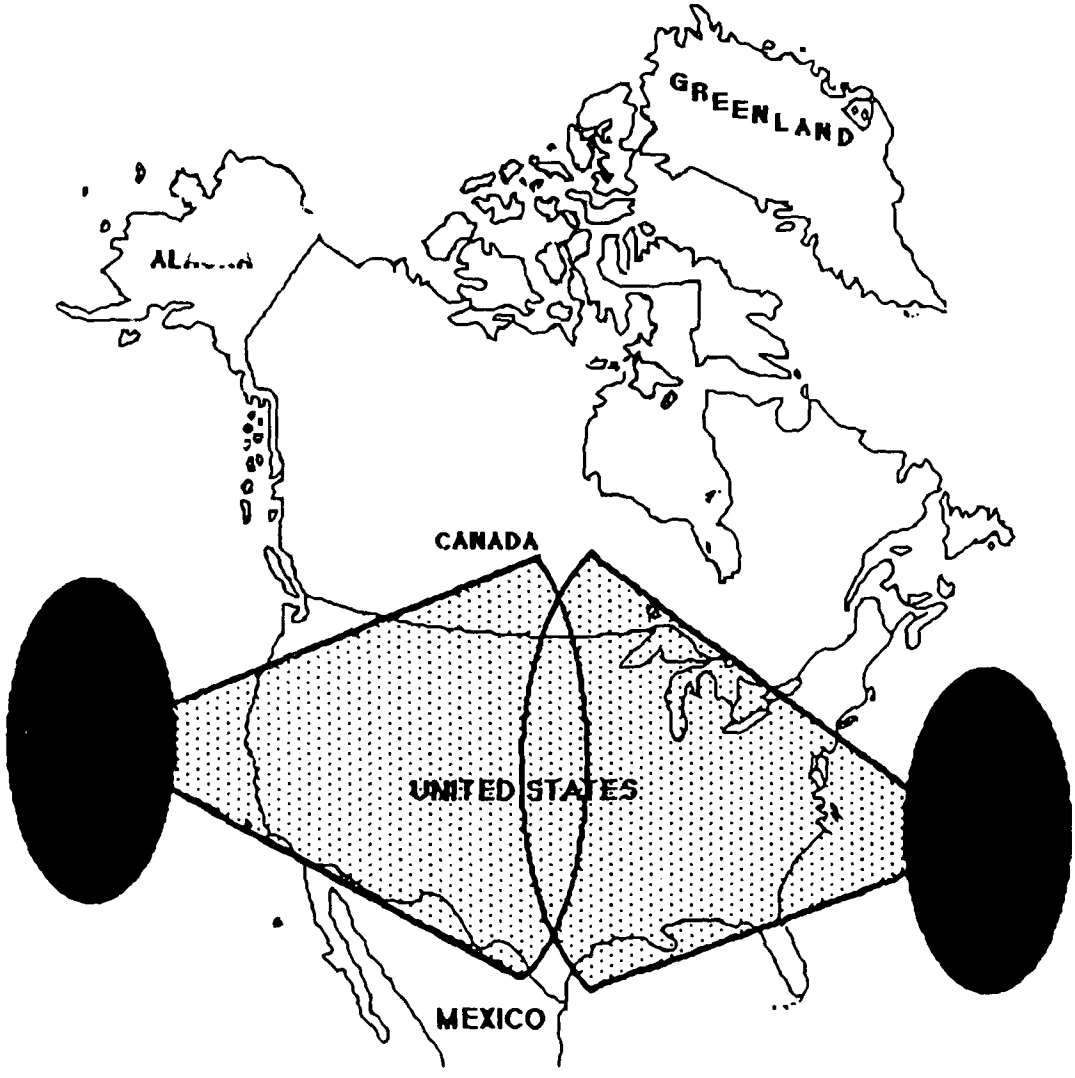

illustration 2

provides only a marginal semblance of deterrence and defense.

Soviet submarines have recently been active along the US coastline. From the first week of June through fall of 1988, a YANKEE class submarine was on station off tne East Coast.[2] The YANKEE class sub can be capable of launching cruise missiles as well as SLBMs. Soviet submarines have been known to cruise inside the edge of the continental shelf sometimes less than 100 miles from the US coast. A cruise missile launched from that distance could hit targets in Washington DC, Norfolk or San Diego in less than 30 minutes.

Even if a cruise missile launch from a submarine is detected immediately, the probability of a successful intercept against the missile is quite low. Though the interceptor crews, weapon systems and ground based radar systems and operators are trained and capable of tracking and engaging the small cruise missiles, there is insufficient time available to vector an interceptor to the target, to acquire it either visually or with radar and to engage and destroy it. As the SLCM time of flight increases, the probability of a successful intercept against the missile increases; however, few conditions favor successful intercepts against Sea Launched Cruise Missiles. There are too few interceptors (most of which are day fighters), radar contact ranges against cruise missiles are

too short and some Air--to--Air missiles require visual not just radar contact. Air Force is providing newer more effective aircraft and missiles which will improve the balance between coastal forces and SLCMs but these near term fixes are far from panaceas to the air defense problem.

Defense against the SLCM carriers remains a Navy mission. Navy ASW forces have difficulty tracking enemy submarines in the shallow water inside the continental shelf and no near term solution to this problem is in sight. Air Force and Navy need to approach coastal defense jointly if we are to maintain even the meager defense we now have. Though ADI promises some relief, this relief is years perhaps decades away.

The Bomber/Air Launched Cruise Missile Threat

The Soviet's capability to launch a successful peacetime preemptive bomber attack against targets in North America varies with the direction of the attack. In the far northwest, Alaskan forces routinely intercept Soviet bombers and provide the surveillance to assure the sovereignty of US air space in Alaska. Radar coverage provides maximum available warning and enables Alaska based all weather

interceptors to scramble and show US resolve to prevent violations of US sovereignty.[3]

The west coast of the US, because of the great distance from Soviet bomber bases, is not really threatened by a peacetime preemptive bomber strike. These forces do face the SLCM threat and have the limitations addressed above. The OTH-B at Mountain Home, ID when operational in 1990 will assure advanced warning should attack from the west occur during times of increased tensions.

Like the Alaskan forces that guard against intrusions in the far northwest, air defense forces along the east coast routinely intercept soviet bombers thereby demonstrating the US's resolve to enforce our sovereignty. Soviet bombers rounding the Kola Peninsula in Scandinavia are intercepted and shadowed by Norwegian, British, and US (Iceland based) interceptors as they cruise toward the North American coast. East coast interceptor crews and radar controllers in North America often have advanced notice of several hours prior to a scramble. Radar coverage along the entire east coast also provides maximum warning of Soviet bomber actions. Northbound BEAR bomber movements from Cuban bases can nearly be detected at takeoff. The planned southeast OTH-B radar, when completed, will assure complete radar coverage. The strategic defense forces along the east provide an effective deterrence to any peacetime preemptive bomber attacks from that direction.

To the north, however, the peacetime defensive posture is far from effective. Eight pairs of US interceptors and two pairs of Canadian interceptors are the guardians of the northern frontier. Unfortunately, the radar network to the north is out of range of the interceptor force. Without forward staging or air refueling support, the North American defenses cannot enforce the Air Defense Identification Zone (ADIZ) along the northern border of Canada. Like the previously described defensive forces, these forces are trained and capable of performing the mission; however, the limitations of inadequate radar coverage, insufficient interceptor range and unusable forward staging bases prevent these forces from providing any defense. The distant looking OTH-B radars of the east south and west, because of ionospheric interference, do not work well in the polar regions. Therefore much shorter range radars are employed. The NWS and coastal radars of Canada are able to detect intruders but, because the interceptor force is located so far from where these intrusions occur, there is no way to enforce sovereignty in peace time or, if necessary, to defend against any preemptive attack from the north.

The northern ingress route is the shortest route of flight for Soviet bombers from the Soviet Union to targets in North America. The establishment of the North Warning System (NWS)and the recent deactivation of the CADIN/

PINETREE radar lines, without changing the interceptor capabilities, has virtually negated any air defense we may have had along the northern tier. Though intruders entering North American airspace along the Canadian frontier can now be detected by the North Warning System, (far from population centers, Command and Control Facilities and potential strategic targets) they can not be intercepted. Interceptors stationed along the northern tier of the US do not have the range to intercept intruders operating in the North Warning System coverage. Between the radar coverage provided by the NWS and continental US radars there is a great void within which intruders, including possible hostiles, can maneuver freely without being detected. A BEAR H, carrying cruise missiles, after flying detected through the NWS, could continue south undetected for over 1000 miles to launch cruise missiles. From a point within this radar void, Soviet bombers are within cruise missile range of the entire continental US. (See illustration 3)

Current rules state that any "unknown" originating in the US or Canada is considered friendly. Playing by these peacetime rules, and with the limitations of today's strategic air defenses, hostile intruders could roam freely across North America as described in the following scenario: (See illustration 4) A BEAR could penetrate the NWS (Point A). It would be detected by ground based radars but would

AIR LAUNCH CRUISE MISSILE RANGE

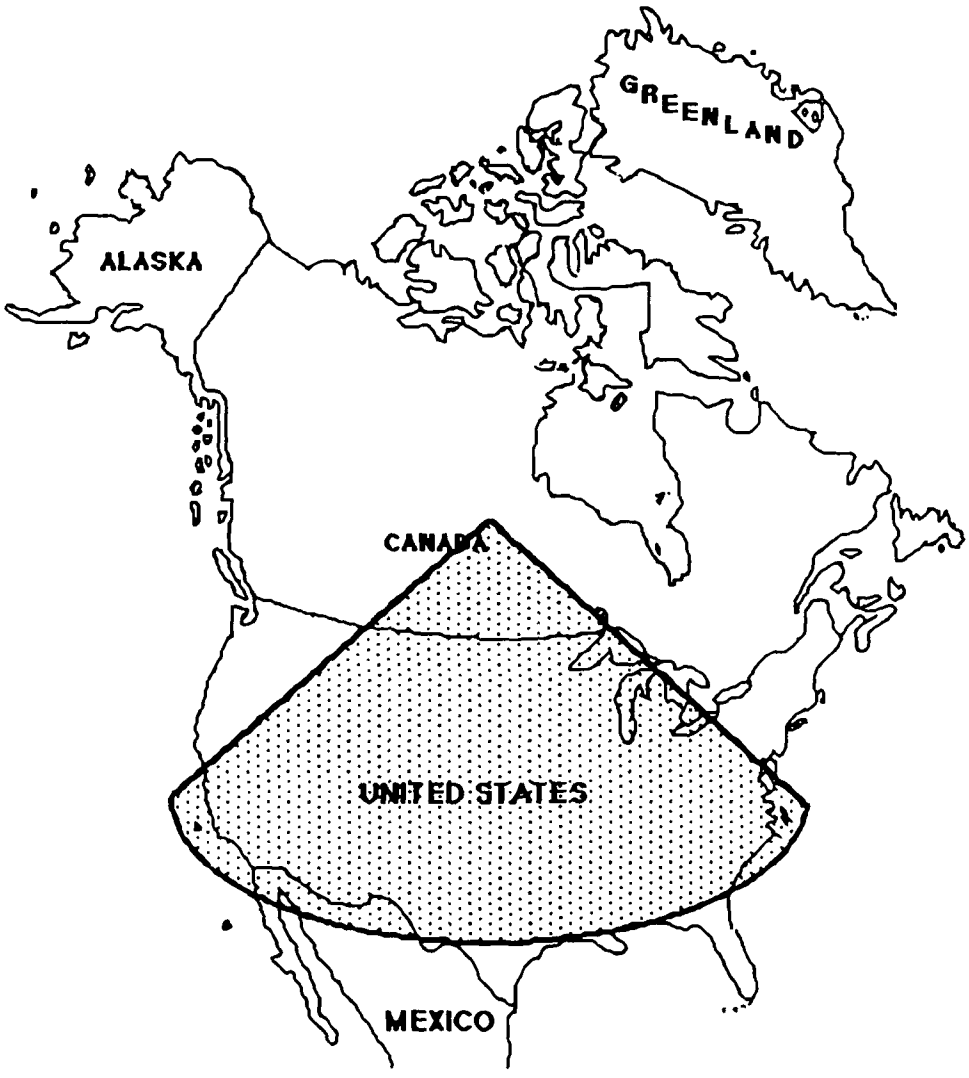

illustration 3

INGRESS SCENARIO

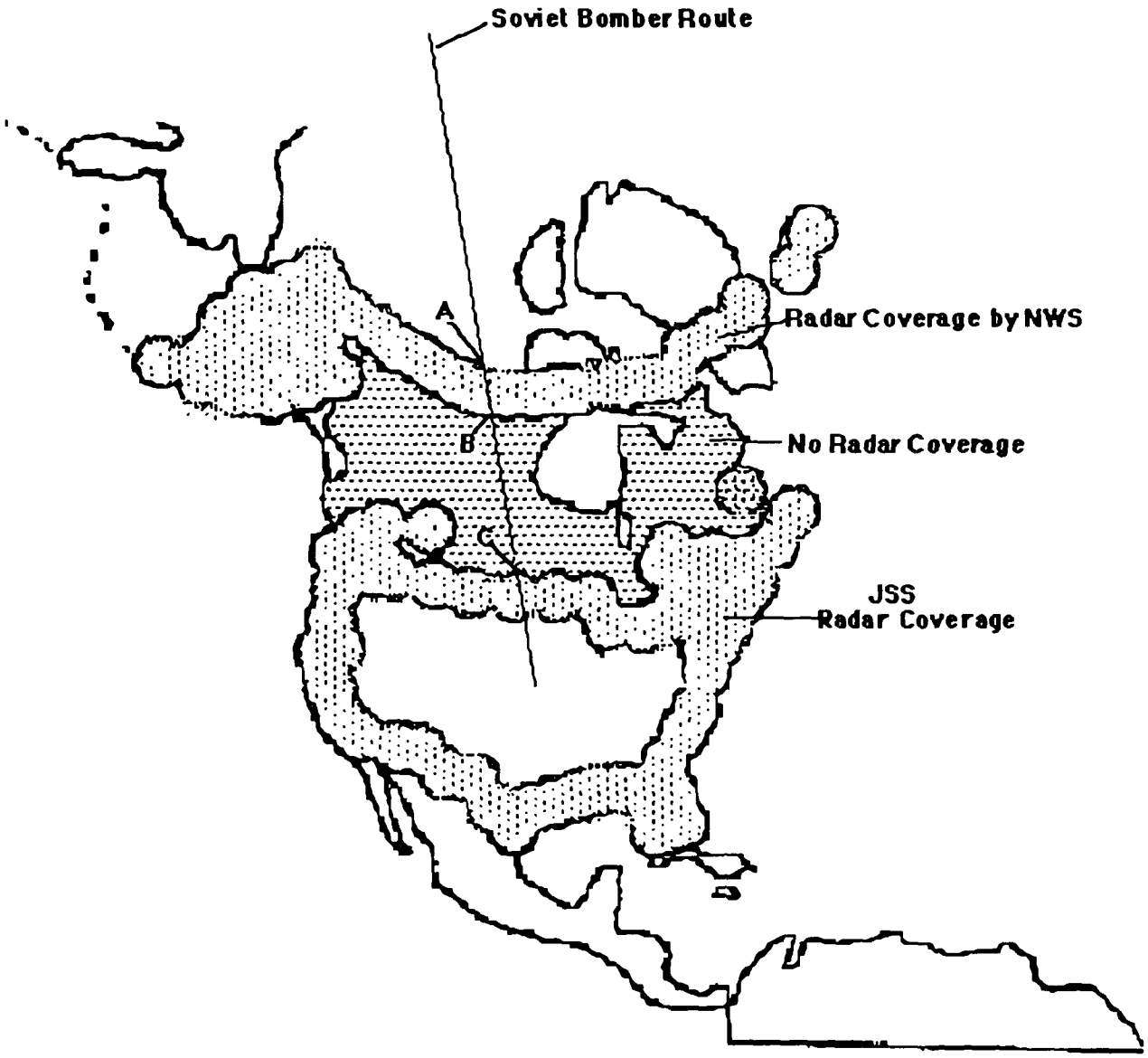

Illustration 4

not be intercepted. This intruding BEAR would disappear from radar as it departed the southern limit of NWS coverage (Point B). Continuing south (Perhaps toward Omaha or Washington DC) the BEAR would again enter radar coverage (Point C). Since this new radar blip originates in US or Canadian airspace, it is considered a friendly and no interceptors are scrambled. This intruder could continue to a target or could gather intelligence before turning around and returning unintercepted to the Soviet Union. Though this may sound far fetched, last year there were 110 unknown aircraft that penetrated the NWS. Seventy six of these were later correlated with flight plans; Thirty four were never identified.[4] No time since the development of Soviet Long Range Aviation in the late 1940s, has the US been so vulnerable. United States defense forces must be postured in peacetime to defend against these intrusions at least until ADI developments provide alternatives to the manned interceptor force.

Such a hole in the US defense directly impacts deterrence. We must employ our strategic defensive systems to fill that hole and impart a sufficient level of uncertainty in Soviet plans for preemptive military aggression against the US.

Management of Strategic Defense Forces

Mixed signals are emanating from DOD agencies regarding the future of peacetime strategic air defense.

Recently there have been strong efforts to take interceptors sitting air defense alert along the northern tier off of five minute alert. While some leaders recommend no alert, others are budgeting for a stronger strategic air defense. In the next ten years the DOD plans to spend $6.6 Billion on the Air Defense Initiative (ADI). The ADI is the key to developing technologies to counter the air breathing threat of bombers and cruise missiles. Included in the ADI research are improved surveillance radars, better Air to Air missiles and better Command, Control, Communication and Intelligence systems.[5] While simultaneously trying to shut down air defense alert, the same leaders are supporting improved strategic defense by supporting NORAD's requirement for funding for the North American Air Defense Modernization (NAADM). A recent defense agency budget submission included considerable line items for NAADM. Defense leaders appear to view air defense as purely a war fighting force instead of honoring the current peacetime deterrent value of these forces. According to Clausewitz, "War can have all degrees of importance and intensity ranging from wars of extermination down to armed observation."[6] US Strategic Defensive forces are armed observation even during peacetime and need to be considered to be on a limited war time posture.

When Air Defense Command disolved into ADTAC and then 1st Air Force, TAC became the command responsible for equiping and peacetime training of these forces. Emphasis shifted away from the strategic mission. In war time, strategic defense forces are gained by NORAD. The Commander-in-Chief, North American Aerospace Defense Command (CINCNORAD) will decide how to employ these forces. However, even during peacetime, CINCNORAD gains interceptors at 28 locations in North America. It is CINCNORAD who should be designated as the strategic defense czar responsible for the design, tactics, strategy and deployment of these forces since this mission is both a peacetime and war mission.

The Solution

The first and foremost part of the solution is for the decision makers to look at the US interests policy and objectives. Security of the US is paramount. Secondly, we must come to the realization that the Soviets have not become a cuddly "Teddy Bear" but are capable and willing to use military power against the US. The general populace of North America are under the assumption that we are defended against Soviet weapons. Senator Wallop of Wyoming stated that American people do wish to be defended from Soviet aggression and most believe that such defense exists. Little do they know that we are "completely naked" to Soviet weapons.[7] The leadership must respond to the needs of the

nation and must admit to the existence of the threat and the requirement to maintain a defense force with immediate response capability. Regardless of the manner by which we enforce our boarders in peacetime, we must continue to insist that these borders are protected. Until sovereignty can be maintained by other means, we must continue to maintain an active peacetime defense force. This force must be employed to enforce sovereignty, to prosecute intrusions into the ADIZ and provide deterrence from aggression. Proposals to correct strategic defense deficiencies along the northern tier include a multi--layered defensive net between the NWS and existing FAA, military and Ministry of Defense radars. Such a system, including space based and additional land bases radars, is being considered by the Air Defense Initiative. The Air Defense Initiative, however, is simply a research program that will last 10 years. Though such a multi--tiered net may be the ultimate answer, we cannot afford to remain defenseless for the over a decade until such a system is operational.

One writer, recognizing the problem in 1986, recommended using F-111s, B-52s or converted Boeing 707s to perform a long range intercept mission. These aircraft are large enough to carry the radar and missiles necessary to detect, track and destroy subsonic cruise missile platforms and AS-15 cruise missiles, and would have the range and

endurance to stay on station for extended periods of time without air refueling.[8] This option is technically feasible; however, these aircraft are simply not available for this mission and the acquisition of additional airframes is unrealistic. Perhaps the most realistic option offered is to deploy a Long Range Interceptor Package (LRIP) assigning Airborne Warning and Control System (AWACS) and KC-135 tanker resources to pull alert with the interceptors similar to the alert posture we have in Iceland. Notification by intelligence sources of Soviet bomber launches or radar detection of an intruder crossing the NWS could trigger a response that would launch an entire package of interceptors, tankers, and AWACS. The cruise time for the aggressor from NWS trip point to a weapons launch point is sufficient to allow the intercept package to launch and meet the aggressors prior to the cruise missile launch.

Such an option could change the requirement for a five minute alert status to a more relaxed posture though personnel and aircraft would have to be available. Iterations of this option include forward basing of the entire Long Range Intercept Package, forward deployment of parts of tne package, or even home station alert for the entire package. Ideally the entire LRIP would be stationed together and would scramble as a package. If not stationed together, alert response times could vary. Tankers and AWACS staged south of the interceptors would require a

quicker response time to allow cruise time to the rendezvous with the interceptors.

A possible scenario for employment of such a package follows: (See Illustration 5)

-- T -8:00 a pair of Soviet BEARS take off on a training mission northbound from a Soviet Air Base. Intelligence sources identify this mission as a North American Defense System probe and cruise missile training run.

-- T +0:00 Canadian radar controllers monitoring the North Warning System detect the intrusion of two unknowns. (Point A) This information is passed to NORAD where a tie is made between the intelligence report and the radar detection. Appropriate authorities are notified and the decision is made to scramble a LRIP.

-- T +0:30 the scramble order is given and 15 minutes later an E-3 AWACS launches from Tinker AFB.

-- T + 0:45 The pair of bombers are no longer in radar contact having cruised south of NWS coverage. (Point B)

-- T + 1:00 a KC-135 tanker at Milwaukee, Wisconsin launches and 45 minutes later at T +1:45, the two interceptors on alert at Fargo, North Dakota are scrambled. The entire LRIP rendezvous north of Fargo with the AWACS approximately 100 miles south of the fighters and tanker. NORAD provides the AWACS Command and Control ship with the last known position, direction, altitude and speed of the

LONG RANGE INTERCEPT SCENARIO

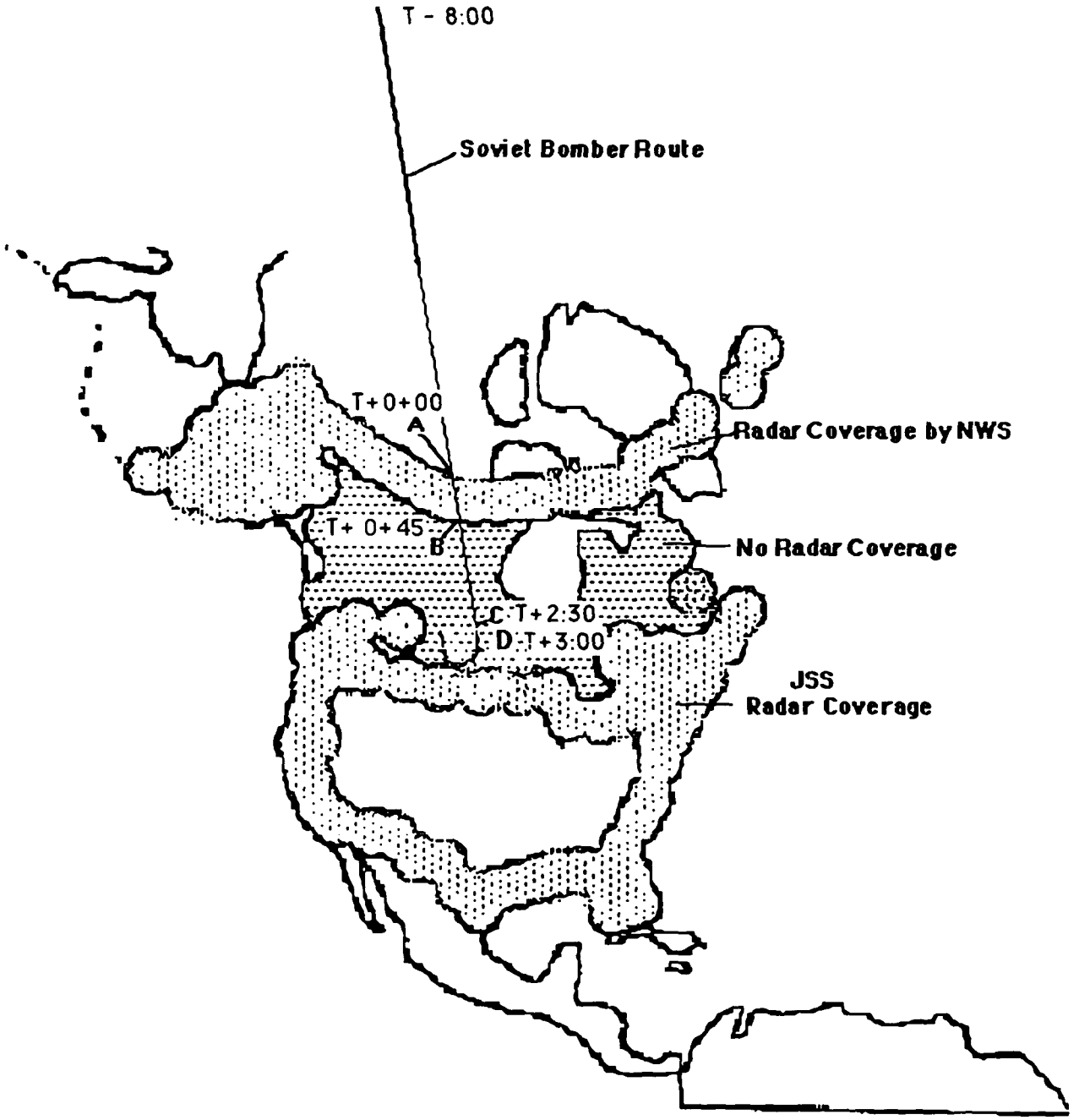

Illustration 5

BEARS and the AWACS then proceeds northward with the LRIP toward the BEARS.

-- T +2:30 the AWACS detects the two BEARS (at Point C) and the interceptors are vectored for the identification.

-- T + 3:00 the Bears have been intercepted (Point D) and are escorted according to NORAD procedures.

Forward staging of the AWACS would improve intercept ranges. One tanker and one AWACS could adequately support the entire interceptor force assuming that only one pair of interceptors are launched.[9]

Although the times and distances used in the above scenario are approximations, they do serve to make a point that US defense forces could provide peacetime deterrence and defense along the northern tier if the authorities wished to close the existing wide open door. This scenario is only one iteration of how we could prosecute the ADIZ with existing forces. Many different iterations with the same intent are possible. The example here simply indicates that defense with the existing force is possible. Critical tanker and AWACS resources may need to be reprioritized to support this mission. Defense of the homeland should warrent high enough priority to have access to AWACS and two KC-135s. If such a defense force can be maintained in Icelend, the North American continent should expect no less.

Finally, the responsibility to train and equip strategic defense forces needs to be given to a command aligned with the strategic mission. This responsibility currently belongs to the Tactical Air Command. The Tactical Air Command has the mission to train and equip all the general purpose tactical fighter forces. General purpose forces deploy and employ after deterrence fails. Their mission in all cases is to engage and destroy the enemy during time of conflict. The strategic defense forces have a critical peacetime mission that does not get sufficient emphasis from TAC. Years ago, when the threat of Soviet attack was the greatest, the Air Defense Command trained and equipped the strategic defense forces. Perhaps the defense of the nation again requires a more parochial command to manage these forces in peacetime. Suggestions toward this end include establishing an air defense command with its own identity and mission or including the strategic defense forces into the existing Strategic Air Command. Either of these options would place strategic defense in a command that would recognize the peacetime mission of these forces.

CHAPTER V

CONCLUSION

The Soviet Union does pose a threat to US interests and security. Not only do they have the capability to wage a strategic offensive using air breathing weapon systems against the US but their doctrine and strategy support such an attack. The US cannot afford to overlook this.

The US doctrine and strategy strongly supports the protection of national interests and security; however, the strength of the strategic defense forces, especially those along the northern tier are dwindling at the expense of US security. There is an ever widening disparity between US doctrine, policy and strategy to protect national interests and the posturing of the forces that provide defense against aggressors tempting to threaten our national interests. The US must continue to pursue ADI, SDI and NAADM. Until these initiatives can assure substantial improvement in national security against the air breathing threat, the existing forces must remain at a high state of readiness and must be employed to counter these threats even in peacetime. Not only must the Air Defense forces be postured to assure air sovereignty and protect against bombers and cruise missiles but naval forces must have the capability to place at risk SLCM carriers attempting to operate inside the continental

shelf. Any attempts to further reduce the state of readiness of these forces instead of increasing their effectiveness is a gross oversight of US interests and objectives. The United States must maintain the ability and willingness to deter any aggressor that threatens our security or the survival of the United States as a free and independent nation.

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4. William F. Scott, "Is There Realy Any Change in Gorbachev's Theme," Reserve Officer Association National Security Report, February 1989, p.1.

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8. Phillip A. Peterson and Notra Trulock III, "A 'New' Soviet Military Doctrine: Origins and Implications," Strategic Review, Summer 1988, p.22.

9. U.S. Department of Defense, "Soviet Military Power," p.10.

10. Peterson, p.17.

11. Goure, p.28.

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13. U.S. Department of Defense,"Soviet Military Power," p.44.

14. Ibid.,p.50

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17. Ibid.,p.4.

18. "New Soviet Bombers, Fighters Heighten Alaska's Strategic Role, "Aviation Week and Space Technology, 9 May 1988, p.39.

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2. Norman Black, "Soviet Nuclear Subs Resume Patrols off U.S. East Coast," Washington Post, 8 August 1988, p.19.

3. The 9 May 1988 Aviation Week and Space Technology provides a good evaluation of the Air Defense Forces in Alaska.

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GLOSSARY

ADI	Air Defense Initiative
ADIZ	Air Defense Identification Zone
AFB	Air Force Base
AFM	Air Force Manual
ALCM	Air Launched Cruise Missile
ASM	Air--to--Surface Missile
ASW	Anti Submarine Warfare
ASX	Soviet Air--to--Surface Missile in development
AWACS	Airborne Warning and Control System
C^2	Command and Control
C^3	Command, Control and Communications
C^3I	Command, Control, Communications and Intellegence
CINC	Commander--in--Chief
CINCNORAD	Commander--in--Chief North American Aerospace Command
CPSU	Communist Party of the Soviet Union
DOB	Dispersed Operating Base
DOD	Department of Defense
FAA	Federal Aviation Administration
FOL	Forward Operating Location
ICBM	Inter Continental Ballistic Missile
LRIP	Long Range Intercept Package
MAD	Mutually Assured Destruction
NAADM	North American Air Defense Modernization
NM	Nautical Mile

NORAD	North American Aerospace Command
NWS	North Warning System
OTH-B	Over The Horizon--Backscatter Radar
ROCC	Region Operation Command Center
SAC	Strategic Air Command
SDI	Space Defense Initiative (Star Wars)
SLCM	Sea Launched Cruise Missile
SS	Surface--to--Surface Missile
SSBN	Nuclear Ballistic Missile Submarine
SSGN	Nuclear Cruise Missile Submarine
SS-NX	Soviet Submarine Launched Ballistic Missile in development
START	Strategic Arms Reduction Talks
US	United States
USAF	United States Air Force
USSR	Union of Soviet Socialists Republics
TAC	Tactical Air Command