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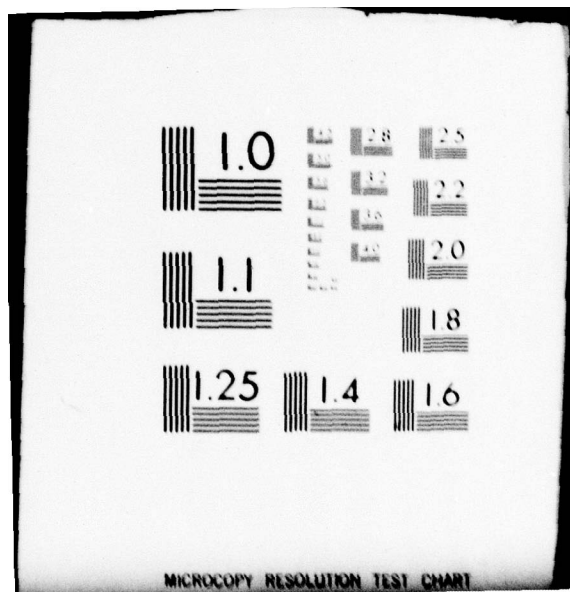
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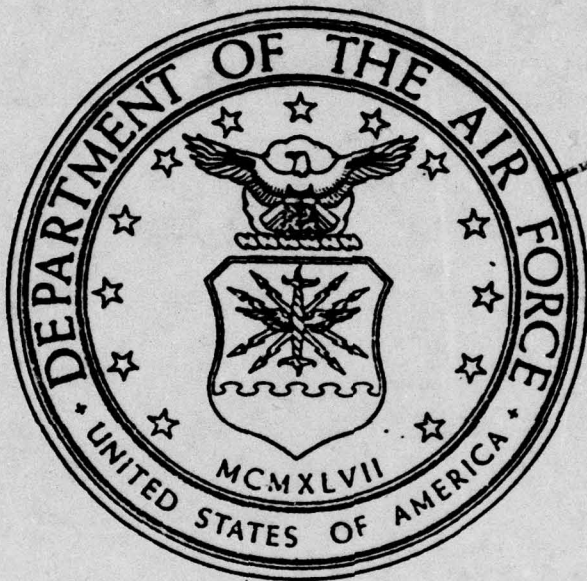
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WINNING THE UNTHINKABLE WAR
BY
Joseph B. Boyce, Jr., Major, USAF

A RESEARCH STUDY SUBMITTED TO THE AIR FORCE FACULTY

May 1979

FORT LEAVENWORTH, KANSAS

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May 1979

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OBJECTIVE

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The purpose of this research study is to assess the strategic importance of Soviet civil defense in nuclear war. Based on unclassified information, this analysis ~~will~~ contrast ^SUS and Soviet views on nuclear war, examine ^SSoviet war-survival preparations, and identify ^{ies} some implications of these programs. Finally, recommendations for maintaining the strategic balance ~~will be~~ *are* presented.
↑

CHAPTER II

INTRODUCTION

The growing concern for stability in strategic relations with the Soviet Union, and uneasiness about increasing Soviet military strength is accompanied by a recurring debate over Civil Defense. Those who are convinced the thriving Soviet program constitutes a threat are puzzled that everyone else does not see the problem. They are alarmed because US military planners have failed to seriously consider the threat sooner allowing the USSR to go unchallenged while developing such striking asymmetries between Soviet and US war survival postures. The Strategic Arms Limitation Talks (SALT) are normally cited as examples of US failure to address the realities Soviet advantages in dispersion and protection of targets. In contrast, our nuclear forces remain throw-weight constrained. (22:65)

The plaintive cry is that:

Soviet civil defense measures, indeed civil defense measures on either side, have consistently been treated in US estimates as an essentially insignificant consideration. Now we are finding that they may be decisive, and that the whole foundation of the US deterrence posture is crumbling. (19:91)

On the other hand, critics, such as Rep. Les Aspin (D-Wis) and former arms negotiator Paul Warnke reason that the Soviet civil defense program is ineffective.

Consequently, they attack budgeting for improvements in US civil defense capability as wasteful and mindless.

Paul Warnke recently commented:

The only effective way to protect civilian population against nuclear war is by making such war unthinkable. The real danger that civil defense poses to strategic stability comes from the indulgence in the illusion that effective civil defense is possible. (28:6A)

Not all supporters of this argument agree that civil defense is undesirable. Many believe only that effective civil defense programs are impossible on technological grounds. The argument is that nothing can prevent the overwhelming devastation of nuclear war. In a corollary argument, attempts to inhibit nuclear effects invite adversaries to saturate a target area, or use larger yield weapons.

US Nuclear Strategy

"Deterrence is the cardinal concept of nuclear strategy. . ." (4:9)

Deterrence is defined in JCS Pub I as:

The prevention from action by fear of the consequence. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counter-action. (32:107)

From the US viewpoint, deterrence is the key to stability, creating the peaceful atmosphere in which disputes may be settled. However, deterrence as a concept is incomplete. The very essence of deterrence lies in its credibility. Yet credibility

is not easily understood. Not only must we believe it, but the Soviet leaders must also believe. As a result our deterrent capability must be so militarily effective that the Soviets would never calculate the costs of a nuclear war as worth the risk. (31:54)

The strategy supporting deterrence today evolved from the development of the atomic weapons used to end World War II. Prior to that time, armed forces were visualized only as defending the US. Since then, the emphasis has been placed on the deterrence of conflicts that affect our interests throughout the world. The evolution of present day strategy is characterized by both change and continuity. Change is reflected in the different postures of approaches each administration has pursued, yet the focus of each has been to maintain a credibly perceived nuclear capability sufficient to prevent armed aggression and conflict. The common thread throughout the evolution of strategy (which many perceive as a major limitation) is preventing the outbreak of nuclear war. By definition, this is deterrence. What is sadly lacking, however, is a program for winning such a war if deterrence fails.

Following World War II, the US possessed an atomic monopoly. Sole possession of atomic weapons, and a strategic air force to deliver them, held the threat of devastation for any power opposing US national interests. Little did the rest of the world realize

that our entire arsenal of nuclear weapons consisted of six unassembled weapons in the Nevada desert with few crews trained to deliver them and a lack of forward bases required to launch our range-limited delivery systems. (21:56)

In 1949, the Soviet Union posed the first major threat to American dominance with the development and testing of their own atomic weapons. This, and the North Korean attack on the Republic of Korea in 1950, provided the impetus to continue and increase US research and development of nuclear weapons.

The US continued to maintain a position of quantitative and qualitative nuclear superiority for some time. Budgeting constraints and the feeling that there was no defense against nuclear weapons resulted in the strategy of massive retaliation. It was explained as the ability to retaliate instantly, how and where we chose. (21:57) However, after the Korean War the Soviets began to challenge American nuclear supremacy and national defense policy became one of sufficiency rather than massive retaliation. General Maxwell Taylor, Chairman of the Joint Chiefs of Staff, was one of the major critics of massive retaliation. He argued that it lacked credibility because it offered only two alternatives to any form of aggression: "The initiation of general war or compromise and retreat." (6:422)

In the early 1960's, massive retaliation was

replaced by the strategy of flexible response. This allowed national security decisionmakers a variety of retaliatory options ranging from unconventional to full scale nuclear war, with the response tailored to the threat. It was characterized by an emphasis on quantitative superiority and involved a graduated response aimed at opposing military forces to allow for maximum civilian survivability.

Flexible response relied heavily on the capability to destroy an enemy's military forces rather than his civilian population. This was called counterforce strategy. Along with this strategy was the commitment to survive an enemy first strike and maintain sufficient forces to destroy the enemy's remaining nuclear force. With the tremendous increase in numbers of Soviet nuclear weapons, American forces found it impossible to keep pace, which left the US with an unacceptable alternative - to strike first! As a result flexible response was discarded for mutual assured destruction (MAD) in the belief that both superpowers possessed the capacity to destroy the other. Therefore, neither would, and deterrence was served. Assured destruction remains one of the principle conditions of deterrence today. Secretary of Defense, Harold Brown states:

It is essential that we retain the capability at all times to inflict an unacceptable level of damage on the Soviet Union, including destruction of a minimum of 200 major Soviet cities. (31:55)

Under President Nixon, achieving assured destruction required nuclear sufficiency, which today has been renamed essential equivalence. Essential equivalence means that rather than matching the Soviet Union one for one in capabilities, any advantage enjoyed by the Soviets is offset by another US advantage. (31:56) Inherent in the strategy of assured destruction is the belief that nuclear war between the US and the Soviet Union is unthinkable. (24:30) This view is based on the assumption that with or without superiority, both the US and the Soviet Union possess the means of destroying each other after surviving a first strike; therefore, neither could rationally consider starting such a war. As we will see, the Soviets do not necessarily agree.

Soviet Strategy

Soviet strategy and doctrine rests on the basic premise that communism and capitalism are dramatically opposed and the danger of war persists so long as imperialism exists. Despite detente, peaceful coexistence, arms control or any agreement, the threat remains as long as capitalism obstructs the world's "inevitable social changes" toward communism. Consequently, the Soviets believe a world without conflict will emerge only when the communist culture has spread across the face of the earth. Therefore, war is not an end, but a means to an end. This

agrees with the Clausewitzian principle of war is an extension of politics to achieve political objectives. (21:54) As a result, it is clear that the Soviet Union thinks and acts to translate nuclear power into usable force. Nuclear war is therefore, not suicidal, but thinkable - and must be survivable.

If we accept the Soviet view that nuclear war is the logical consequence of continued US opposition, it is easy to understand Soviet emphasis on winning. Contrary to the popular US belief that nuclear weapons are "absolute weapons", Soviet doctrine maintains that a nuclear war can be won. (21:58) Although the death and destruction would be tremendous, Soviet leaders emphatically state:

There is a profound erroneousness and harm in the disorienting claims of bourgeois ideologies that there will be no victor in a thermonuclear world war. (5:60)

Requisite to the Soviet war-winning strategy is military superiority and complete preparation for a nuclear conflict. Civil defense, to limit the effects of nuclear destructive force, is the foundation of Soviet plans to ensure their military, political, and economic viability. Passive defense measures, combined with an active anti-aircraft defense system and a preemptive counterforce strike, weigh heavily in favor of the Soviet Union "winning the unthinkable war".

CHAPTER II

SOVIET CIVIL DEFENSE

Civil defense preparations in the Soviet Union are, by all reports, the most advanced in the world today. Their primary purpose is nuclear war survival. As far back as World War II, the Soviet Union emphasized civil defense, although primarily from the aspect of sheltering the population. With the development of the nuclear threat, civil defense was expanded to include not only sheltering but also evacuation to achieve survival.

History

Since the 1950's the Soviet Union has continuously invested large amounts of money in civil defense. Moreover, since the SALT I agreement in 1972, Soviet civil defense expenditures have increased substantially. In contrast, US civil defense has received little attention or financial support. American concern with civil defense was born when the Russians exploded their first atomic weapon in 1949 and grew during the Korean War, peaking in the early 1960's as a reaction to the Berlin and Cuban crises. Since then, emphasis on any sort of preparation for surviving a nuclear war has declined, if not all but disappeared.

The current controversy about Soviet civil defense centers on whether or not we believe it would be

effective in a nuclear war. Seldom is there emphasis on the magnitude of the Soviet effort or their perception of its importance. However, its importance becomes more apparent in General Brown's statement:

The Soviet Union includes civil defense as an integral part of its overall strategy. . . Civil Defense in the USSR is a military controlled nationwide program focused primarily on protection of people (the leadership, essential personnel, and the general population, in that order); continuity of economic activity in wartime; and recovery from the effects of a nuclear attack. (29:39)

Organization

Further evidence of the importance attached to Soviet civil defense is reflected in its organization. The Chief of USSR Civil Defense is General A. Altunin, a full member of the Soviet Central Committee and a deputy minister of defense, equal in status with the other heads of main services of the Soviet Armed Forces. (7:XIV) Below the highly centralized leadership, civil defense is organized throughout the USSR on a territorial-industrial basis through union republics, regions, cities, and districts; and on a functional basis through economic organizations, agencies, schools, and laboratories. No official figures on the size of the organization are published but estimates place the Soviet Civil Defense Ministry force at 100,000 and the civilian force at approximately 30 million. (2:69,26:40) In contrast, US civil defense, controlled until recently

by the Defense Department, is "fragmented among several federal agencies, as well as between the federal and state governments..." (23:5) One of the more important of these is the Defense Civil Preparedness Agency (DCPA), totaling less than 700 employees, which is responsible for both population and industrial survival. As a result of the President's Reorganization Plan No. 3, civil defense responsibilities were reorganized under the new Federal Emergency Management Agency (FEMA) on March 1, 1979. In a further comparison of civil defense posture, Soviet expenditures (although not published) are estimated at \$2 billion annually; whereas, the US civil defense budget for FY 1979 was \$96.5 million. (10:4,16:52)

Training

While USSR civil defense preparations will not be discussed in detail, a look at some aspects will contribute to understanding Soviet seriousness about their programs. Not only is civil defense an integral part of the Soviet defense program, it involves the active participation of virtually all elements of the population. The involvement of every Soviet citizen, compulsory though it may be, makes the training program extremely impressive. Instruction varies, dependent on which category for "training in methods of protection against weapons of mass destruction", an individual falls. (7:323) Fifth

graders and Young Pioneers make up category 1 and receive 15 hours of instruction per year. Three additional categories ranging in composition from collective farm workers to government supervisory personnel participate in as much as 35 hours of instruction per year. The 35 hours of civil defense training occurs in schools with a 2 year program or longer, whereas 20 hours of training occurs in schools with 1 to 1 1/2 year programs. In addition, activities are organized and conducted at the place of work for employees and collective farm workers. Industrial workers learn the general compulsory civil defense skills in their off-duty time.(7:324-327)

Protection of Population

Two additional elements which are fundamental to the Soviet war-survival program are: protection of the population and protection of the economy. Protection of the population means protecting the political and military leadership first, followed by scientists and the essential work force, and finally the remainder of the population. There are three types of measures used to protect the population. They include individual means, pre-attack urban evacuation and dispersal, and shelters.

Individual Means of Protection

Individual protection is provided by gas masks, protective clothing and individual first-aid kits

for the treatment of exposure to radiation and toxic agents. Although full protective clothing is provided only to members of civil defense formations, gas masks have been manufactured for children and adults, as well as gas bags for infants. It appears that millions of them have been issued to the working population and the schools, both for training and for use. (2:78) In the US, only the military have any program for using gas masks or protective clothing. Chemical, biological, and radiological training for all individuals is conspicuously absent.

Pre-Attack Urban Evacuation and Dispersal

Pre-attack evacuation and dispersal of the population is generally agreed to be the best way to save many thousands of lives. However, the effectiveness of an evacuation depends to a large extent on advance warning, transportation, estimate of target potential and geography of the surrounding area. (34:25) Based on census information from 1970, the USSR had only nine cities with a population of one million or more, compared to thirty-five US metropolitan centers of over one million inhabitants. Aggregate totals amounted to 8.5 percent of the Soviet population versus 41.5 percent of the American population. Therefore, the Soviet population is already inherently less vulnerable than the US population. (21:65)

Evacuation of Soviet cities is expected to take approximately 72 hours. The adequacy of existing transportation systems is a point of some controversy. It is possible that many non-essential personnel may have to walk. Soviet predictions are that such evacuation and dispersal could limit losses from a nuclear attack to between 7.5 and 12 million of the 151 million urban population. (2:11) American specialists in Soviet civil defense place USSR casualties as low as 5.5 million. In contrast, without adequate civil defense planning, US casualties are estimated at 95-100 million -- almost fifty percent of the American population. The Soviet Union suffered 20 million casualties in World War II, and not only survived, but emerged stronger than before the war. (30:25) Dispersal, although not addressed specifically, is really a corollary of evacuation. It is the relocation of the off-duty essential work force and their families to rural villages from which they can commute to work. The on-duty shift remains at the work site. This plan presupposes an intent to maintain essential production even during a crisis. Speculation is that plans are so detailed that rural families know the names of refugee families who will stay with them. (23:8)

Shelters and Fallout Cover

Hardened shelters exist in the Soviet Union for about 15 percent of the general urban population. Blast shelters have been built for approximately 110,000 leaders and for 25 percent of the essential work force. (27:47) Subways are built with huge blast doors and it is estimated that the Moscow subway alone could accommodate one million people. (2:12) Reports are that seventy-five underground shelters have been built around the periphery of Moscow. These are believed to be for the political leadership and key elements of the bureaucracy. (12:55) Standard shelters are designed to accommodate between 100 and 300 persons, hardened to at least 100 pounds per square inch overpressure, and equipped with filter ventilation systems, air regeneration equipment, electric power, heat, communications and sleeping facilities. The populace has been trained to construct hasty shelters to afford the entire population protection within 72 hours of a government declaration of a "threatening situation". Shelter construction has been going on since the 1950's, and although production lagged in the late 1960's because shelters were considered too costly, General Altunin expressed renewed emphasis in 1974, saying:

Modern shelters must protect against all harmful effects of nuclear and chemical weapons. Under present conditions, when the accuracy of delivery of nuclear weapons has sharply increased, while their yield has enormously grown, civil defense will seek to provide the entire population of cities and installations, which will be the most likely targets for a nuclear strike, with such shelters. This is without a doubt a difficult task, but it can be carried out. (2:119)

Protection of the Economy

Protecting the economy of the Soviet Union is the second key element of their war-survival program. It includes protection of key workers, as well as food supplies and essential industrial equipment to ensure the viability of the economy in wartime. Whereas the US is satisfied to concentrate only on preventing nuclear war, the USSR envisions "winning" what may be a protracted conflict by maintaining the continuity of economic activity and preparing for recovery from the effects of a nuclear attack.

The Soviet . . . program includes a whole complex of measures designed to . . . protect vital industries and services in order to ensure continuous essential production and in particular production for the armed forces in the course of the war and to facilitate damage limitation and the repair and restoration of damaged industrial facilities and services. (3:120)

These measures for war survival include industrial dispersal and hardening; restricting urban growth and planning to reduce the vulnerabilities of cities;

constructing duplicate and independent power sources, production capabilities, and lines of communication; and stock-piling important raw materials, fuel, foodstuffs, and military supplies.

Since the late 1960's Soviet law has prohibited additional industrial construction in large cities. The current Five-Year Plan provides for constructing new industries in Siberia near sources of energy and raw materials, which also decreases their vulnerability. Industrial dispersal is further enhanced by arrangements with other Warsaw Pact countries to substitute defense production for destroyed Soviet capability. Secondary damage is limited in cities by constructing transportation bypass systems, protected water supplies, and wide main streets. Constructing streets with the width equal to the sum of half the height of the buildings on each side plus 15 meters reduces the vulnerability of cities to secondary damage and facilitates population evacuation.

(2:15)

Stockpiled reserves are very important in Soviet civil defense planning. Their exact size is a guarded secret but Central Intelligence Agency estimates in 1975 put foodstuff reserves at a year's supply. (2:155) Foodstuff reserves are in fact

"untouchable" even when shortages occur, such as the poor harvests of 1972-1973 when the Soviet Union imported large quantities of grain from the US. Additional grain storage facilities are under construction in rural areas with a capacity large enough to feed 250 million people for ten months -- which is long enough to allow for the natural decay of nuclear fallout, planting, and finally harvesting crops. (34:27)

CHAPTER III

Conclusions and Recommendations

Civil defense has languished in the US for almost two decades because of a lack of public support and high-level emphasis. In the meantime, Soviet civil defense, and indeed Soviet military might in total, have developed with an accelerating momentum that portends a dramatic shift of the strategic balance in favor of the Soviet Union. Civil defense is but one dimension where the relative capabilities of the US and the USSR are significantly different and rapidly diverging. The controversy over the value of the Soviet civil defense program, or any large scale civil defense program, is far from settled. However, the evidence to support the importance of the Soviet preparations and training seems to be increasing and winning support among US decisionmakers. Whether we accept or reject the current arguments about civil defense, they indicate a significant aspect of Soviet philosophy. As Gen. Lew Allen, Jr., USAF Chief of Staff interprets it:

. . .the massive Soviet CD effort is symptomatic of the Kremlin's determination to maintain nuclear war-fighting---rather than

purely deterrent---capabilities. This represents a major and perturbing indication of Soviet philosophy. Because they do not wish to be confined to an assured destruction capability, the Soviets seek all the capabilities, strengths, and superiorities required for winning nuclear war. (25:27)

Conclusions

Soviet--US relations seem certain to produce increased friction and conflict if continued with current convictions. The US strategy of deterrence depends on what one analyst calls "unacceptable insecurity" for both powers. Literally, this can be defined as being unable to withstand the level of destruction that the opposition can inflict, even after a preemptive counterforce first strike. As a result both adversaries would be reluctant to permit escalation of any conflict to a nuclear exchange. (11:41)

Soviet strategy seems aimed at undermining this concept. If the Soviet civil defense program can limit destruction of the leadership, economy, and population to an acceptable level from a US attack, then Soviet strategy might well be assured survival in contrast to US assured destruction. Assured survival can be more readily understood if civil defense is seen as a part of the overall strategy.

Civil defense, by carrying out protective measures and the thorough preparation of the population, seeks to achieve the maximum weakening of the destructive effects of modern weapons. (13:50)

Combining these war survival measures with preemptive counterforce strike makes a Soviet victory less remote. Soviet doctrine has long emphasized the importance of the offensive and of surprise. From a position of rough parity or quantitative superiority, it is easier still to expect a Soviet surprise attack. Soviet strategy accepts the need for a preemptive strike to prevent an attack on one's own territory. (13:49)

Add in a massive air defense system composed of forces that are said to be constantly developing new methods not only to defeat existing, but prospective US capabilities. Undoubtedly these capabilities include the cruise missile.

The sum total is that all of these capabilities represent a growing threat to US security. Recent estimates are that if a nuclear war occurred between the two superpowers, the US would need an estimated twelve years to recover, compared to a two to four year recovery period for the Soviet Union. In other words, the Soviet Union could recover from a nuclear war three to six times faster than the US. (11:39)
Victory from the Soviet view is defined:

...as the survival of the Soviet Union as a nation, with superior military and economic power to ensure a faster rate of recuperation and the ability to impose its will on the US. (13:49)

Although the Soviet threat is growing rapidly, most defense analysts believe the Soviet Union does not want a nuclear war any more than the US does. Even with a preemptive counterforce first strike the Soviets would suffer catastrophic retaliation and enormous losses. (14:62) In addition, a Soviet preparatory evacuation, requiring as much as three days to complete, would alert US forces. Estimates are that it will be at least ten years before the Soviets have enough urban-area shelters to engage in a nuclear exchange without first evacuating their people. (15:61)

A more likely approach based on the developing situation is the use of intimidation or leverage. With an effective war survival program, the Soviet Union recognizes an obvious unilateral advantage. The result could easily be that they would be more determined, more politically assertive, and more willing to take risks. In return the US would likely allow the Soviets small but cumulatively costly gains. Granted, civil defense measures will not prevent war. But relying on the relative advantage of civil defense preparations, Soviet actions or reactions are likely to be bold rather than cautious. (1:102)

The arguments over Soviet civil defense effectiveness can never really be settled without being tested in a thermonuclear war. There is no evidence that either US or Soviet leaders seek such a conflict. However, should it happen, deterrence and related preventive measures have failed. What may well be the greatest value of the Soviet civil defense program is not its capability or inability to protect the people from annihilation, but its perceived effectiveness or credibility.

The danger that the extensive Russian civil defense effort poses to the US and to the strategic balance is that the Kremlin leadership might perceive from its capability to limit the damage from an American retaliatory strike that nuclear warfare may become a viable policy option. This perception might be strengthened by the considerably greater losses that could befall the US because of its modest civil defense effort and because its strategy dictates that it must absorb the first blow. (22:13)

Recommendations

US strategy must adapt to this increasingly plausible potential. There are really two courses of action. We can devote our efforts to making our society as survivable as we perceive Soviet society to be or we can use our vast industrial and technological capabilities to ensure that a Soviet victory is unattainable, making nuclear war unthinkable. A combination of the two is my recommendation.

First, the US must revitalize its civil defense program. By recognizing and arguing over the credibility of their civil defense effort, the US has long afforded the Soviet Union a political advantage. The US can no longer allow the continuance of this unchallenged asymmetry. Only by realizing that war survival measures are indeed a critical dimension of our nuclear strategy can the US assure the validity of deterrence in the days to come. However, a crash program is neither wise nor economical. There is little chance in the near future for the US to overtake the Soviet program. Since the 1950's the Soviet program has had an average annual expenditure equivalent to one billion dollars. However, moderate US expenditures for protection of political leaders, military command and communication facilities, as well as crisis evacuation, could produce immediate benefits by radically reducing population losses and facilitating national recovery from a war. Costs for shelter construction could be minimized by providing for their dual use, much as the Europeans have done. (9:7) Both our allies and our enemies would understand the increased attention to civil defense as a US demonstration of resolve and determination to maintain an effective deterrent posture. (33:50)

Second, the Soviet Union must not be allowed to achieve military superiority while the US stands idly by, believing stability and security are enhanced as a result. The US must use its vast scientific and technological abilities to improve weapon accuracy and increase offensive capability to offset any Soviet advantages from war-survival preparations. Options currently available include the Air Launched Cruise Missile, (ALCM), the MX intercontinental ballistic missile, and renewed development of the B-1 bomber and the enhanced radiation warhead. (19:93) In addition, US targeting must be responsive to the need of achieving specific strategic objectives. The US cannot neglect the feasibility of options for a preemptive first strike, a launch on warning capability or the need to ride out a Soviet attack. Such flexibility must be central to US planning and strategy.

Currently US civil defense is receiving some much needed attention. The Federal Emergency Management Agency (FEMA) has assumed civil defense responsibilities from the Department of Defense. FEMA now encompasses the Defense Civil Preparedness Agency, the Federal Disaster Assistance Agency, the Federal Insurance Agency and the US Fire Administration. For the first time in recent years the civil defense budget is increased from 96.5 million dollars in

FY1979 to 108.6 million dollars in FY 1980. (10:4)

Such encouraging signs indicate the growth and
solidarity of a more effective deterrent posture as
an integral part of US nuclear strategy. Only a viable
US strategy will assure national security by ensuring
the Soviet Union cannot win the unthinkable war.

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