THE STRATEGIC THREAT

Robert B. Barker Assistant Associate Director, Arms Control Lawrence Livermore National Laboratory

The Soviet Union is today recognized as having a strategic nuclear weapon capability either equivalent to, or by some, as superior to that of the United States. The Soviets have spent two decades of unprecedented military buildup to ensure that they are not and will not in the future be perceived as militarily inferior to the United States. One must look with awe at their routine modernization of intercontinental ballistic missiles, their Typhoon ballistic missile submarine, their ALFA attack submarine - the world's most technologically advanced submarine, and their newest Blackjack bomber. All these systems were designed, developed, and deployed as the United States proposed, debated, and delayed comparable systems.

Whether one believes there is relative parity between the United States and the Soviet Union or whether one believes in Soviet superiority, one must address the "why" of Soviet accomplishments. Is the Soviet objective a balance of nuclear terror - acceptance of Mutual Assurred Destruction, the so-called MAD doctrine? Or, is their objective the attainment of a nuclear first strike capability against the United States - the ability to destroy U.S. nuclear delivery systems so effectively that the Soviet Union can escape damage in return?

It is surprising how difficult it is to find objective evaluations of Soviet national security accomplishments with the specific purpose of assessing whether in toto their aim is "deterrence" or "first strike". Let us then try to establish the basic criteria for each objective and compare the characteristics of the Soviet national security posture against them. Ultimately, national "intent" determines whether deterrence or first strike is the objective. But in the absence of such knowledge of Soviet national intent, as is the very real current case, prudence must cause us to assume that the intended use of a military capability is what it appears to be designed to accomplish.

Deterrent nuclear forces require survivability and destructive capability. The overall objective is to convince the adversary that he can achieve no net gain by launching a nuclear strike, in fact that his very existence as a nation will cease as a result of a retaliatory strike. Survivability requires that sufficient weapons survive an initial nuclear strike. Historically, in the United States, survivability has been achieved through diversification of the strategic nuclear force into the Triad of land-based missiles, sea-based missiles, and aircraft delivered weapons. Each of the three "legs" of the Triad has achieved survivability by different techniques. The land-based missiles have achieved survival through "hardness", through concrete and steel silos strong enough to protect the missile from nearby nuclear explosions. The sea-based missiles achieve survival through the invisibility of the ballistic missile submarines which travel quietly, deep beneath the sea. The aircraft delivered weapons have achieved survival through their ability to fly out from under an enemy nuclear attack and their ability to avoid or confuse the enemy's air defense capability.

Destructive capability, the second criterion of deterrence, requires that the numbers, accuracy, and yield of the surviving weapons be sufficient to destroy that which "matters" to the potential attacker who must be deterred. What matters? Historically, the United States has assumed that if it can threaten destruction of the political and military leadership, of the industrial base, and of conventional military capability the Soviets will be deterred from nuclear attack on the United States. If that spectrum of targets can be successfully destroyed after absorbing on initial strike, then it is hoped no same or even insame leader could conclude that any post-strike objective could be enjoyed by the leaders of the country initiating the first strike.

Deterrence then depends upon survival and destructive capability. Survival can be achieved in a variety of ways but must be fundamentally responsive, in order to retain survivability as the capabilities of the potential attacker change and undermine the survivability which one once had. Destructive capability is also responsible since it too must change to defeat any protective measures initiated by the potential attacker.

A first strike force has distinctly different features. Survivability is not a first order issue since one intends to go first, and by the definition of first strike, go first so effectively that no serious damage will be suffered in return. (If there is concern that one's first strike intentions may be detected and, if the capability exists, a pre-emptive disarming strike attempted, then the first strike force must also have some survivability.) The primary criterion of a first strike force is fast and total destruction of the victim's nuclear delivery capability. To the extent that perfection is hard to achieve, the initiator of a first strike must defend and protect "what matters" from whatever few nuclear weapons of the victim might survive.

With these different criteria in mind, let us examine the Soviet Union's national security posture. The Soviets, at first glance, have a Triad structure similar to that of the United States, land-based missiles, sea-based missiles, and bomber-delivered weapons. When looked at in detail, however, there are dramatic differences in the seriousness with which the two countries have addressed survivability.

The Soviet long-range bomber force consists of some 150 aircraft, the newest having been deployed in 1974. Only if the new Blackjack bomber, now under development, reaches significant production levels can the Soviets be credited with a serious bomber leg of their Triad.

The Soviet sea-based missile force consists of 950 missiles aboard 62 submarines. However, only a small fraction of Soviet submarines are routinely at sea, leaving the majority of submarine warheads potentially vulnerable in a few ports. U.S. concerns for the survivability of its sea-based missiles have led it to routinely keep two-thirds of its submarines hidden at sea while the remaining one-third undergo maintenance.

The Soviet land-based missiles carry 70 percent of Soviet warheads. The missiles are stored in concrete and steel silos. The Soviets here, in sharp contrast to their practices with bombers and submarines, seem to take survivability seriously. However, here again, when evaluated more closely

the "survivability" scorecard again does not look too good. For the last decade we in the United States have known that the era of the survivability of any "fixed" target is over; that the accuracy of missiles will be such that a nuclear detonation will be so close that no structure of concrete and steel can survive. In this environment the Soviets continue to base the majority of its nuclear delivery capability aboard these fixed land-based missiles.

So when assessing the characteristics of Soviet nuclear forces against the criteria of survivability, the cornerstone of a deterrent force, one comes away not very impressed with Soviet efforts in this area. Destructive capability on the other hand is clearly substantiated, given survivability.

Now lets look at how the Soviet posture compares with the first strike criterion. The need for a first strike to be fast and lethal means that the Soviet bombers and submarines are, to first order, not relevant to the assessment. The Soviets, using only two-thirds of their SS-18 force, now or in the near future will have the ability to attack each U.S. land-based silo with two accurate, high yield warheads. Therefore, only 200 out of a total of 1400 Soviet land-based missiles will be needed to destroy the ICBM leg of the U.S. Triad. In the case of the SS-19, 500 missiles would be required, leaving almost 1000 missiles for other purposes.

The few U.S. bases where sea-based missile submarines are in maintenance will require only one warhead each for total destruction of <u>one-third</u> of our sea-based leg of the Triad, an easy accomplishment for the Soviets.

The bomber leg of the U.S. Triad is based at less than twenty bases. One high yield Soviet warhead each is sufficient to destroy each base. But some, maybe even all, the bombers can be launched between the time of the detection of Soviet missile launch and warhead arrival. Once airborne, the U.S. bombers can reach the Soviet Union. There they will come up against the world's most awesome air defense capability. The Soviets are credited with over 12,000 surface-to-air missiles in addition to the interceptor aircraft and the Soviet airborne warning and control (AWAC) aircraft designed to guide the interceptors to their targets. The U.S. Air Force will tell you that today they are confident that sufficient bombers can defeat that defense - but it is not for Soviet lack of trying and lack of investment. The Soviets seem committed to negating the deterrent capability of the bomber leg of the United States.

Returning to the U.S. submarine force, we left two-thirds of the submarines at sea, twenty submarines carrying over 350 missiles with over 3500 warheads. The Soviets have a substantial anti-submarine warfare activity and the United States has gone to considerable expense to dilute its effectiveness. The Trident submarine deployment at \$1B per submarine is solely directed at making it harder for the Soviets to locate and destroy our sea-based leg of the Triad. Anti-submarine warfare is the most shrouded in secrecy of all military technology - and for very good reason. A submarine, if well located is trivial to destroy with conventional weaponry; if less well located it can be destroyed with one or several nuclear weapons. Yet the ability to localize may be easily defeated by active or passive countermeasures. The Soviets have every motivation to keep as their darkest of secrets their progress in finding and destroying U.S. ballistic missile submarines.

If we look back at what we have just covered, we find that the Soviet land-based missile force looks as much like an element of a first strike as it is possible to look. We cannot conclude that the Soviets have an overall first strike capability because the U.S. bombers and submarines have a high survivability against missile attack. But Soviet air defense and anti-submarine warfare activities, if successful, would provide missing elements of a first strike capability.

One other attribute of a first strike posture is the ability to defend against and survive whatever very small force has escaped destruction. We have already noted the air-defense capability of the Soviets. We must also note the Soviet's limited but real antiballistic missile defense capability around Moscow, the center of Soviet political and military leadership. One can also note the shelter systems for the Soviet elite and the general civil defense preparedness. If one postulates that a first strike capability is a Soviet objective, that it would be exercised only when the Soviets had high confidence of destroying virtually all U.S. nuclear delivery capability and needed an ABM and civil defense only for unlikely surviving nuclear capability, then the military and civil defense of the Soviets seems to be of what they would need in such a scenario.

We have compared the Soviet posture today with the requirements for a deterrent force and found it wanting. We have compared their posture with the requirements for a first strike and found it wanting. We have looked at the directions in which they seem to be moving and found a better match for a first strike force then for a deterrent force.

What is Soviet intent? We don't know! We can conclude that the best fit - a first strike objective - is right. We can look for excuses for their deterrent posture failings and conclude that deterrence is their objective. What is to be avoided is letting wishful thinking determine our conclusion. We should not flee the uncomfortable feeling of being sized up for attack by inventing other reasons for the Soviet program.

We must present the Soviets with the opportunity of removing the ambiguity of their intent. The administration has done this by seeking agreement via the Strategic Arms Reduction Talks (START) in placing a priority on the reduction of fixed land-based missiles. Soviet acceptance will clearly signal a lessening interest in first strike.

But waiting for arms control agreements is not enough. We must give serious consideration to the protection of this country from any Soviet first strike plans. We must support modernization of the strategic deterrent to reduce its vulnerability. We must protect this country's citizens and resources. This is your difficult job.