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EVALUATION OF POSSIBLE
STRATEGIC ARMS CONTROL AGREEMENTS
BETWEEN THE UNITED STATES AND THE SOVIET UNION

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IV. Issues for Decision

The major strategic issues that must be decided are:

- the level of U.S. and the level of Soviet ABMs permitted under an agreement (section A);
- whether or not MIRVs should be banned (section B);
- what measures, other than a MIRV ban, for insuring against the vulnerability of our land-based missile forces should be included in an agreement (section C).

The decisions on these issues are interrelated. To show these interrelationships, we consider alternative ABM/MIRV combinations and possible measures related to land-based missile survivability appropriate to each combination (section D).

There are, in addition, major issues which can be decided independently of decisions on ABM/MIRV combinations (section E):

- the approach to be taken regarding Soviet IR/MRBMs;
- the U.S. position on limiting strategic bombers systems and air defenses.

A. ABM Systems

We are tentatively planning to deploy the Safeguard* area defense:

* The JCS representative notes that all discussion in this paper is based on the Safeguard system. The U.S. is studying more advanced systems, such as localized hard point defense and sea and air-based systems. Numerical ABM limits will have to consider the possibility of one or both sides developing such systems, and insure that the USSR cannot gain an advantage by deploying early intercept ABM along its borders.

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19 radars deployed nationwide (seven detection radars -- Perimeter Acquisition Radars [PARs] -- and 12 engagement radars -- Missile Site Radars [MSRs], 465 long-range Spartan interceptors and 168 short-range Sprint missiles for radar defense. An additional 246 Sprint missiles are planned for defense of 300 Minuteman silos, the ABM radars, and the National Command Authorities (NSC), making a total of 879 ABM launchers.

Soviet goals for missile defense are unknown beyond the system of 64 launchers (each with one reload missile) around Moscow and a radar network of 29 Henhouse radars and 2 Doghouse radars (all at 6 sites), plus 4 (possibly 5) Try Add radar complexes. They are continuing a major R&D program to improve their ABM capabilities and we believe that, in the absence of an agreement, they will probably deploy area missile defenses eventually in numbers equal to or greater than Safeguard. The Hen House early warning and acquisition radars they have deployed or have under construction for ABM and space purposes will provide almost complete coverage of their perimeter.

The issue of appropriate ABM levels arises in SALT planning because while there are significant strategic advantages to the United States in having at least a Safeguard level ABM defense, there would also be advantages to us if we could by agreement restrict the Soviets to a small or even zero-level ABM system.

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1. Possible Roles for U.S. ABM Defense

There are several possible roles for a U.S. ABM system:

-- Protection of the continental United States with area defense against the kind of attack Communist China will probably be able to mount within the decade. The Safeguard system's design goal is to insure that a threat of 10-25 Chinese ICBMs (expected by the mid to late 1970s) cannot expect to penetrate the system, even using first-generation penetration aids. If and when the number of arriving Chinese ICBMs exceeds the highest levels of interceptors feasible in Safeguard (100-200 per site) or if their penetration technology advances, to overcome the U.S. counters, the system's design goal is to reduce damage to 20% or less of that to be expected without a defense and to maintain a high degree of uncertainty of the success of any such attack.

For this purpose, the area defense portion of this Safeguard system would use 17 radars (12 MSRs and 5 PARs) deployed nationwide, with 465 long-range ABM interceptors and 168 short-range interceptors at 12 sites. Other combinations, using somewhat fewer radars, might also be used for defense against first generation Chinese missiles.* For example, if the Improved Spartan were available, five sites, with ten radars (5 MSRs, 5 PARs) would provide area coverage of the entire country, less Alaska and Hawaii. Interceptor levels could also be varied, with

* OSD does not consider such a system technically

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corresponding effect on the effectiveness of the defense provided and the level of threat for which the system could significantly reduce damage.

-- Protection against accidental or small, unauthorized attacks.

Protection against accidental or small unauthorized ICBM attacks is likely to be within the capabilities of the Safeguard area defense.

Protection against accidental or small unauthorized SLBM attacks, however, would require the addition of two seaward-looking radars to the "anti-China" system.

-- Protection of strategic bomber bases. * The Safeguard area

* "The OSD representative notes that besides the primary functions described for the Safeguard area defense in the text, several important secondary functions are:

-- To provide for damage-denial against missile attack from any Nth country besides China.

-- To provide for defense of strategic sites other than missiles and bombers, such as Polaris communications sites and bases and other command and control.

-- To make certain the Soviets could not consider a small disarming attack on the basis of any presumed vulnerability such as on the U.S. command and control system.

-- To limit urban/industrial damage by a small but not insignificant amount in a nuclear war with the Soviet Union.

-- To provide an accurate and highly credible system of warning, intended targets, launch location, and damage assessment for the national command in the event of a missile attack.

-- To provide a means to track and destroy most space vehicles such as post-attack reconnaissance satellites and FOBS or MOBS and to defend key strategic targets against deorbited FOBS."

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defense system, which includes 168 Sprint missiles for radar defense, is also designed to intercept the first waves of a rapid rate, depressed-trajectory SLBM attack on the strategic bomber/tanker force to permit time for safe escape of the alert bombers and tankers.

-- Minuteman Defense. The full Safeguard system calls for 246 Sprint missiles and four MSRs dedicated to defense of Minuteman. Two of the four projected Minuteman defense sites of the Safeguard system have been approved by Congress. Authorization for a third is being sought this year. (2 PARs, 3 MSRs, 212 Sprints, and 90 Spartans are programmed for these three sites.)

-- NCA Defense. We would receive little or no warning of a single FOBS or SLBM attack on Washington as a precursor to an all-out attack by SLBMs (a large FOBS attack could be detected at launch, providing at least 30 minutes warning). A local defense of the NCA at Washington, D. C. could make a light attack on our key command authorities unsuccessful and give additional time against a large attack for decision on a U. S. response or dispersal of the NCA to a survivable command post. Such a defense could be accomplished with one or two radars and about 100 interceptors apart from the Safeguard area defense components, but is not included in U. S. plans at this time.

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2. Principal ABM Issues

Our problem is to determine what ABM agreements satisfactorily balance our objectives of limiting damage to ourselves from certain types of attacks and ensuring that our missiles will be able to penetrate Soviet defenses in a broad range of circumstances, even if the Soviets cheat by deploying ABM launchers in excess of agreed levels and/or upgrading current or future SAMs to an ABM capability.

We cannot discuss this problem adequately until we have considered the MIRV issue and the issue of insuring against land-based missile vulnerability. However, there are four specific ABM issues that can and should be faced before we consider the broader problem because they may have a decisive bearing on how the broader problem should be resolved and in particular on the desirability of a MIRV ban and of measures -- such as hard point defense and deployment of land and sea mobile ICBMs -- to preserve the survivability of our deterrent.

-- whether area defense against China should be considered essential for U.S. strategic sufficiency and therefore non-negotiable;

-- whether ABM defense of our alert bombers should be considered essential for strategic sufficiency and therefore non-negotiable;

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-- whether or not defense of Washington, D.C. (the National Command Authorities) should be considered essential to sufficiency and therefore non-negotiable;

-- whether our unilateral capability to verify compliance with a limit on ABM launcher and radar deployments is adequate.

The desirability of ABM defense of Minuteman is discussed in Section IV C on land based missile survivability.

Defense Against China

There are differences within the Government over many of the critical factors which affect whether we should insist that any SALT agreement permit us to deploy the Safeguard Phase 2 area system for defense against the Chinese ICBM threat.

The Technical Capability of Safeguard Against the Chinese Threat.

As discussed above, the Safeguard system's design goal is to deny damage from a threat of 10-25 Chinese ICBMs, even if they have first generation penetration aids. If the Chinese threat continues to grow, the system's goal is to reduce damage to 20% or less of that expected with no defense. Proponents of the system assert that these design goals will be met.

Some argue, however, that the Chinese could effectively prevent Safeguard from meeting its design goal by building some 100 ICBMs and

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concentrating their fire on an area of the U.S. defended by a single ABM site. They argue that even before the threat reaches this level, the Chinese could negate the system by developing and deploying simple penetration aids, which they believe could defeat the system, despite its design goals. Moreover, the probability that some weapons would leak through our defenses (a probability which increases as the number of attacking missiles per site increases) would reduce still further our confidence in the capability of Safeguard.

They note that the first increment of damage above zero which might arise from a failure of the system to give full damage-denial could be a very large one. For example, one three megaton weapon detonating over one of our six largest cities could kill at least one million people instantly, in addition to causing substantial secondary casualties and extensive industrial damage. Even if a Safeguard-level ABM system did have a damage-denial capability initially, further expansion or improvement of the Chinese ICBM force, they assert, would soon erode this capability to the point where it would not provide credible support for diplomacy avowedly based on damage denial with ABMs.

The Political/Diplomatic Usefulness of the System Against China. In this context, the principal purpose of the area defense system would be to

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deny or to reduce to a minimal level U.S. fatalities from a Chinese nuclear attack, and to reinforce the credibility of our diplomacy in Asia and our commitments to Asian nations in the face of a Chinese nuclear capability. The question is whether a light area ABM defense of U.S. cities would permit the U.S. to take actions against a nuclear-armed China which we would deem too risky in the absence of such a defense.

Noting that President Nixon has assured our Asian allies that our nuclear shield extends to them, some argue that the credibility of that shield would be enhanced if our Asian allies knew that because of a Safeguard area defense, the prospects of China blackmailing the United States by threatening American cities had been greatly reduced. In their judgment, even a small Chinese nuclear threat against unprotected U.S. cities could make a major difference in the effectiveness of U.S. diplomacy in Asia. Therefore, the credibility of the nuclear shield and the maintenance of a satisfactory Asian balance of power could be enhanced by a Safeguard area defense. The certain capability of the CPR to inflict several million fatalities could exert enormous influence on U.S. policies and actions in Asia, or on the confidence Asian nations could have in these. A Chinese ability to hold U.S. cities hostage against U.S. intervention on the behalf of U.S. and allied interests in Asia could increase Chinese influence of adventurism in Asia, promoting instability or nuclear proliferation.

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In this view, it is unlikely that what some have regarded as "traditional caution" in China's foreign policy can be counted upon to restrain a Chinese threat to its neighbors, U.S. interests in Asia, or the U.S. itself. Given the militancy of the Communist Chinese Government, the stated aims of the CPR, the probably different Chinese view of population losses, and the U.S. reluctance to use nuclear weapons, and the fact that the Chinese may expect to take advantage of these factors, it is not deemed prudent to base U.S. policy on the sanguine proposition of Chinese self-restraint in foreign policy. To the contrary, the possession of nuclear weapons could make the Chinese more adventurous, especially if they feel that a nuclear threat against undefended U.S. cities will reduce the likelihood of U.S. military countermeasures in Asia.

Given our interests and obligations in Asia and the Western Pacific, we have, according to this view, two basic alternatives:

(1) We can rely on our strategic offensive forces for deterrence of Chinese nuclear attack on the U.S. or its allies. If, nonetheless, we are presented with a Chinese ultimatum to let them have their way in Asia or risk a nuclear attack on a U.S. city, the President would be confronted with the choice of backing down in Asia or standing firm,

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risking the destruction of U.S. cities and loss of American lives or initiating a strike against Chinese ICBMs before they are launched.

(2) We can supplement and sustain the deterrent value of our offensive forces and reduce substantially the risks entailed by standing firm in the face of Chinese nuclear threats by deployment of a ballistic missile defense system designed to protect our cities and population against the Chinese Communist ICBM threat.

On the other hand, others argue that Safeguard-level ABM would at best make only a limited contribution to increasing the credibility of our policy in Asia and that, on balance, we would gain more by keeping Soviet ABM levels very low. They argue:

-- China is probably developing nuclear forces to underline its claim to great power status and to provide a deterrent to possible U.S. or Soviet nuclear attack rather than for blackmail purposes. Despite its revolutionary rhetoric and support for subversion, its basic military position remains defensive.

-- So long as the Chinese strategic force remains relatively small, a condition which is likely to persist for many years, the Chinese will almost certainly recognize that the actual use of their nuclear weapons against neighbors or the superpowers would involve substantial risks of a devastating counterblow to China. There are no indications they are prepared to take such risks.

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-- To be significantly more useful than our general retaliatory power in deterring Chinese nuclear attacks or threats in Asia or against us directly, a defense would have to be able to ensure that casualties in the U.S. could be held to "damage denial" levels (less than about one million at worst). In their opinion, the technical limitations of the system are such that it would be effective for damage denial only as part of a U.S. first-strike capability. They further argue that no system which requires a U.S. first strike to be useful is a realistic or sensible one for the U.S.

-- Even if the system was believed to work well in defending the continental U.S., the Chinese could bypass it by attacking Alaska, Hawaii, U.S. forces overseas, or major Asian cities and by using other delivery systems (bombers, submarines, clandestine introduction). Extension of ABM coverage beyond the continental U.S. would be possible only if ABM levels greater than the area defense of Safeguard Phase 2 were permitted.*

-- Publicly-relying on such a defense as the basis of the credibility of our Asian diplomacy could also have detrimental effects on our Asian and European relations:

*The JCS representative notes that ABM coverage could be extended to Hawaii and Alaska, if warranted by the threat and permitted by the agreement. This would be particularly true if sea or air-mobile ABM systems were permitted. In this case, coverage could be extended to include deployed U.S. forces and the cities of our allies.

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-- Asian countries might be made more fearful of China's nuclear capability, in reaction to our show of concern and in the belief that the U.S. was diverting the Chinese nuclear threat away from the U.S. and toward them;

-- Doubts about the effectiveness of the system, following earlier insistence that lack of an anti-Chinese defense would leave us impotent in the face of Chinese nuclear blackmail, might make Asian nations unwilling to rely on U.S. nuclear guarantees in the face of Chinese threats;

-- Our NATO allies would interpret claims that the U.S. needs an anti-China ABM to make its deterrent umbrella effective in Asia as raising questions about whether U.S. deterrence alone is sufficient in Europe against the far greater Soviet threat, against which the U.S. admittedly does not have effective ABM protection. Some representatives of NATO allies have indicated objections to a SALT agreement which would allow ABM defenses against third-country attacks.

-- Insisting on such a system if the Soviets insist on low ABM levels could jeopardize the chances of reaching an agreement which would impose meaningful constraints on the U.S.-Soviet strategic arms competition.

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Defense of U.S. Bombers

Some believe U.S. bomber forces as currently deployed will become vulnerable to a Soviet SLBM attack in the near future as Soviet SLBMs are deployed on patrol within range of U.S. bomber bases.

-- Some maintain that preserving the option to defend alert bombers with ABM should not receive high priority since there are alternative protective measures (improvements in warning-to-take-off times and further dispersal to many new bases in the interior of the U.S.) which present substantially fewer problems for an arms control agreement. They argue that:

-- these alternative measures may be required as early as 1972 to counter the SLBM threat, while full ABM coverage of the bomber bases will not be available until 1978;

-- Soviet countermeasures, such as more depressed SLBM trajectories or faster SLBM launch rates, which would also make ABM defense less effective;

-- the ABM reaction time to an SLBM attack would be so short (5 minutes or less) as to require that local commanders be given nuclear release authority, a procedure which may be politically unacceptable;

-- the Soviet face formidable problems in attacking both bombers and missiles without giving one U.S. system or the other adequate warning

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for launch. Recognizing that this is a problem for the Soviets only if they judge that we are likely to launch our Minuteman missiles during the 15 minutes between the first detonation of SLBMs on our bomber bases and the arrival of Soviet ICBMs and if the Soviets do not use high altitude nuclear bursts to pin down the Minuteman force, they assert that, in planning such an attack, the Soviets would probably have to assume that we would launch our missiles. Moreover, without very detailed knowledge of the degree to which Minuteman is hardened against the effects of high altitude nuclear bursts, it is doubtful that the Soviets would base a first strike on a pindown tactic.

-- Others argue that protection against this threat is an important goal of the U.S. ABM system. In the context of an arms control agreement limiting U.S. offensive missile systems, protection of our bomber force may be even more important. They argue that:

-- other measures to protect bomber (improvements in warning-to-take-off times and further dispersal to many new bases in the interior of the U.S.) will increase bomber survivability to an extent dependent upon the firing rate and amount of depression of a trajectory of present and future Soviet SLEMs, characteristics of which we cannot determine;

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-- the Safeguard system is not nearly as sensitive to these SLBM characteristics as are the other means to increase bomber survival;

-- airborne alert is not a long-term solution because it is very costly (\$3.0 billion per year to keep 30% of the bombers and tankers on continuous airborne alert) and we probably could not keep much more than 30% of the force airborne;

-- a coordinated attack on U.S. bombers and ICBMs could also include a pindown tactic on Minuteman which would preclude early launch and, even if it did not, it would present the President with the difficult choice during the 15 minutes between the first detonations on the bomber bases and the arrival of the Soviet ICBMs of launching the Minuteman at Soviet cities or risking destruction of the Minuteman force.

Defense of National Command Authorities

Without NCA defense, little or no warning would exist against a single FOBS or SLBM launch on Washington as a precursor to an all-out attack, and warning would be a matter of only 4-6 minutes in an all-out attack by SLBMs and FOBS. Some believe that a deliberate single attack against Washington would not be a plausible scenario, even as a precursor to an all-out attack.

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Even the modest additional time which ABM (about 100 interceptors) defense of the capital would give for decision on the U.S. response to a nuclear attack would obviously be desirable and could be significant. Even if no additional time were gained for decision, the NCA defense would increase the resources required for a certainly successful attack on Washington.

Proponents take the view that:

-- even the modest additional time which ABM defense of the capital would give for decision on the U.S. response to a nuclear attack would be desirable and could be significant;

-- an ABM defense of the NCA could be useful in handling accidental launches, provocative attacks, or Chinese attacks by assuring the survival of the necessary command and control links to permit responses short of an all-out nuclear exchange.

Others believe that:

-- a deliberate single attack against Washington is not a plausible scenario, even as a precursor to an all-out attack;

-- for massive coordinated Soviet attacks (60-120 simultaneously arriving RVs), an ABM defense of Washington may well provide no additional time at all;

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-- with an NCA defense, there is still some possibility of the Soviets covertly expanding Moscow defense to cover large populated areas, especially if distant ABM-capable radars could be made available;

-- there would be clear verification advantages to a total ban on ABMs as opposed to a low limit adequate for NCS defense.

Verification

Verification of ABM Launcher Limits

In our verification studies of the deployment of ABM launchers (as opposed to upgraded SAMs) there is disagreement about the level of Soviet cheating we could confidently detect:

-- ACDA, State, and CIA believe that the Soviets might have 100-150 mobile ABM launchers and fixed ABM launchers before the cheating was detected, and moreover, that cheating probably would be detected before a significant change in U.S. retaliatory capability had been effected.

-- OSD and JCS believe that the number of undetected mobile or fixed interceptors under a careful concealment program could be substantially higher than 150 if the Soviets emplace mobile or moveable interceptors in an operational status within buildings as much as 10 to 50 miles from the controlling ABM radar site, using the kind of remote launch techniques to be used in the U.S. Safeguard system.

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Verification of ABM Radar Limits

For clandestine increase in ABM capability, either using SAMs or covertly-built ABM interceptors, the critical factor is whether the radars are available to support the added interceptors.

If radars were unlimited or the permitted level of radars were high (Safeguard level), we would face the possibility of a Soviet clandestine program to surpass the agreed level of ABM launchers by deploying concealed fixed or mobile ABM launchers or by upgrading their SAM launchers to an ABM capability and tying them into the allowed ABM control network.

Building new ABM radars with current methods takes 2-5 years and would be detected within six months to a year of initiation unless concealment attempts were made. It is conceivable that the Soviets could clandestinely construct advanced phased array acquisition radars and bring them to IOC before we detected the effort.

-- CIA, State, and ACDA believe that the complexity of building as many as 5-10 such radars, coupled with the need to test the radars, would eventually lead to their detection almost certainly before IOC.

-- OSD and JCS believe such a buildup could go undetected until the Soviets chose to stop trying to conceal their existence.

With respect to the feasibility of a limit on ABM radars:

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-- JCS and OSD argue that such radars would be hard to define, that equivalence between U.S. and Soviet radars would be difficult to define, that the limit (which the U.S. would obey, whether the Soviets could verify compliance or not) would interfere with radars needed for other civilian and non-ABM military purposes, and that the utility of a radar limit in verifying an ABM launcher limit may disappear with the development of radar technology which would allow use of simpler, quicker methods to build radars for ABM.

-- The other agencies (CIA, State, and ACDA) argue that ABM-capable radars can be defined and verified adequately for purposes of an ABM radar limitation, that U.S. radars intended for non-ABM purposes need not be affected, and that the Soviets would be pinched far more than we by a limit because they would need more for comparable coverage and because they lag behind us in the number of ABM interceptors which can be served by a single radar.

All agencies except JCS also argue that, even if not fully verifiable, an ABM radar limit would be in our interest for its inhibitory effect. Moreover, even if there were no radar limit, we would not build more ABM radars than needed for permitted ABM systems, but the Soviets could freely add radars to support later upgrading or system expansion without even bothering to conceal the effort.

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All agree that the need to limit radars is of far greater significance at relatively low ABM levels. All also are agreed, however, that if levels are set at the Safeguard area defense, sufficient radars would probably have to be permitted on both sides to reduce substantially the significance of radar capability as a limit on ABM interceptor buildup.*

Supplementary Measures

ABM verification measures supplemental to national means could perhaps substantially aid in the Soviet ABM launcher/radar limit verification problem. Such measures, cooperative in nature, could include agreed pre-announcement as to deployment of new launchers of either mobile or fixed configuration. Deployment of new Soviet ABM radars could also be treated in this manner.

Upgrading of Current Soviet SAM Systems to an ABM Capability

There are differing views about the present ABM capability of the SA-5 and our ability to detect Soviet attempts to upgrade this system, if it does not already have an ABM capability.

-- State, CIA, and ACDA support the majority position taken in the most recent NIE, viz., that it is highly unlikely that the SA-5 has any

* State and ACDA believe that even at Safeguard Phase 2 permitted ABM levels, a limit on additional radars could still reduce the risk of large-scale Soviet radar deployment for a major damage-limiting capability.

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present ABM capability. They further state that any attempt to upgrade this system to provide meaningful ABM defense would be of such a magnitude that it would run a high risk of detection.

-- OSD and JCS support the minority position taken in the same NIE, viz., that the state of available evidence is such that an ABM role cannot be excluded for the SA-5 system, that it is highly probable that the system was developed to provide an intercept capability against aircraft, MRBM's, and SLBM's, and that it is possible that the system also was designed to operate in conjunction with other facilities to intercept ICBM's. They further believe that the elements necessary for the SA-5 to have an ABM role might not be detectable by national means and could exist without U.S. knowledge. They also point out that the most recent NIE specifically assumes no major arms control agreement and makes no estimate of what the situation might be if there were an agreement.

There is general agreement that, of the other Soviet SAMs currently deployed, only the SA-2 could be a possible candidate for use in ballistic missile defense. There is considerable evidence to indicate that the SA-2 sites are not now prepared for this role. While we could not rely on national means for detecting minor modifications to the SA-2,

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installation of command and control links, or provision of nuclear warheads, an SA-2 upgrading effort involving large scale hardware changes and troop training would run a high risk of detection.*

Future Soviet SAM Systems. (To be provided.)

* OSD believes that detection of upgrading would not be confident since large-scale troop training cannot always be detected in time as in the case of the SA-5.

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