NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20506

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MEMORANDUM FOR:

The Vice President
The Secretary of State
The Secretary of Defense
The Director, Arms Control and Disarmament Agency
The Chairman, Joint Chiefs of Staff
The Director of Central Intelligence

SUBJECT: SCC Meeting, PRM-38, Tuesday, August 22, 1978

Attached is the final draft of the response to PRM/NSC-38. This draft will form the basis of the August 22nd SCC meeting scheduled at 3:00-4:30 PM in the White House Situation Room.

Christine Dodson
Staff Secretary

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Rec'd in S-1 at 1:45 pm 8/19/78 ETC

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EOA

Response to PRM-38

Long-Range Theater Nuclear Forces

August 19, 1978

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Section V (continued)

EXECUTIVE SUMMARY

ISSUES FOR SCC DISCUSSION

A. What is the nature of the theater nuclear problem?

The evolution of Soviet theater and strategic nuclear forces has revived or created new military and political questions about the structure of nuclear deterrence for the defense of Europe. (See Chart I for summary of current forces.)

Since the early 60s, the Soviets have been able to devastate Europe with long-range theater nuclear systems (SS-4/5, etc.). Soviet doctrine and force posture reflected such a massive use of nuclear weapons that the Soviets would have to reckon with a US strategic response. The US was perceived to have superiority in strategic and theater nuclear weapons.

Three changes have brought this deterrent posture into question:

— First, qualitative and quantitative improvements in Soviet theater nuclear capabilities have brought the Soviets closer to more credible responses to NATO nuclear use at lower levels (e.g., nuclear-capable aircraft, Frog follow-on).

— Second, the Soviets have introduced new long-range theater nuclear systems — SS-20 and Backfire. While this will not significantly alter Soviet capacity to devastate Western Europe with major employment of long-range TNF, it has revived European concern about the threat that has long been posed by these systems — especially since they are unconstrained in SALT, while some possible US response options could be constrained by SALT and MBFR.

— Third, US acceptance of strategic parity, in SALT terms, has deepened concerns in Europe about the credibility of US strategic use in the defense of Europe.

The PRM has identified two competing US views about the military and deterrent consequences of these changes: Some believe that the mobility of SS-20 has made limited nuclear strikes on Western Europe more credible because the Soviets could execute such strikes without fear that a NATO response would eliminate the remaining force. They also believe that in the context of strategic parity, the Soviet improvement of long-range theater nuclear forces has highlighted NATO's lack of a comparable capability in the theater, having relied mainly on

strategic forces to deter nuclear strikes from the Soviet Union on Europe. This "gap" deprives NATO of an escalation option, below strategic use, and thus undermines deterrence. Finally, they think that US TNF modernization programs lack dynamism and rely excessively on short-range battlefield systems and on vulnerable dual-capable aircraft for longer-range missions.

Others feel that limited SS-20 options are not credible, since the three SS-20 RVs each have high yield and since the Soviets would invite attacks on the USSR by using it as a base for attack on Europe. They also point out that the Soviets have long had parity in assured destruction capability and despite this, the US strategic deterrent remains coupled to Europe by the US presence and strong interests there, by the fact that any Soviet attack on Europe would be devastating, and by continued commitments by American leaders. They doubt that in their response the Soviets would differentiate between US-controlled attacks on the USSR from Europe or from outside Europe. They also point out that the US has some capability for a limited response against the USSR from European territory (F-111), and that NATO has roughly the same range capability to attack into Pact territory as the Pact has into NATO territory, when basing is taken into account. In sum, they believe that the current mix of short- and long-range systems is adequate, though modernization is needed, especially a reduction in vulnerability.

These considerations aside, the views of our Allies are of critical importance to the future solidarity of the Alliance, and our response to their concerns must be carefully weighed. Because their interests are not identical to ours, our Allies do not necessarily see the problem as we do. As the only major NATO power to have renounced nuclear weapons, the Germans have a special stake in the credibility of the US deterrent. The Germans are concerned with the adequacy of the NATO deterrent in light of strategic parity. They also feel that the US is preoccupied with the homeland - homeland strategic balance at the expense of those aspects of the strategic balance that impact more directly on European security -- the Soviet long-range theater nuclear systems. The Germans have expressed a primary interest in controlling the Soviet threat through arms control while improving NATO's own long-range capabilities.

The other Allies share these concerns to varying degrees, though are less vocal. The British are concerned that US interests in SALT and the US - Soviet relationship could be to the detriment of their nuclear relationship with us. The British and French are, however, wary that a significant shift toward more long-range systems in Europe could appear to be an attempt to "decouple" the US strategic deterrent from Europe; and they are concerned that arms control negotiations could constrain their own independent nuclear options. Still, both want to maintain FRG confidence in the NATO deterrent posture.

B. What are possible strategies and approaches?

Two broad strategies are possible: (1) to attempt to solve the problem through new initiatives that do not include significant steps toward new hardware modernization or arms control approaches; (2) to go further and respond to the European interest by pursuing a twin strategy toward hardware modernization and arms control proposals.

Those who believe that there is a military and deterrence problem believe that NATO should acquire an increased capability for selective nuclear strikes on the Soviet Union from Western Europe and for enhancement of the in-theater contribution to the NATO general nuclear response against the USSR. The aim would be to deter limited use of the SS-20 and strengthen the coupling of the strategic deterrent. Survivability, good penetration capability, and high political visibility with the Allies would be important characteristics.

— A force as small as 100 systems could contribute to selective use and provide a visible link to US strategic forces, but whether selective use of such a force would be adequate to halt Soviet aggression is scenario-dependent. This force would not change heavy reliance on US strategic systems for strikes into the Soviet Union in the general nuclear response.

— A force as large as 1,000 or more systems would provide NATO with most of the capability it needs for the General Nuclear Response without US strategic systems, but could suggest notions of a separate theater balance and appear to be an attempt to decouple the US strategic deterrent.

Some believe, however, that the present European problem is a recurrence of long-standing European concerns about the US commitment to nuclear deterrence in Europe. They believe that this concern has been intensified by certain US decisions — B-1, ERW and perhaps international economics. They note that the US has been able to deal with these concerns in the past through political, institutional and other measures, and that the present problem may also be susceptible to new demonstrations of US leadership and commitment to the security of Europe, before taking significant steps toward new hardware or arms control solutions; e.g., commitment of more Poseidon/Trident, institutional arrangements to strengthen strategic planning, modernization of the shorter-range forces, increased consultations on US arms control positions, etc.

Others believe that attempts to treat the problem without moving on hardware and arms control will not suffice and will raise suspicions about American intentions and commitment. These suspicions could harm Alliance solidarity and undermine attempts to improve the conventional balance in the LTDP.

There are risks that a purely hardware route, especially with large deployments in Germany, could cause the Soviets to react in ways that could have a negative impact on both US and Allied security, e.g., in SALT and in force deployments against Europe.

A purely hardware approach also risks political opposition on the Left in Europe, opposition that could be fired by a Soviet propaganda campaign and that could threaten to undermine Western Europe's coalition governments.

Arms control could help stabilize and regulate long-range theater nuclear competition in Europe, control the Soviet threat, and build Allied confidence in long-term stability. However, there are technical and political problems that arise in seeking control of theater nuclear arms. Nonetheless, it may be difficult to avoid the arms control issue since it is likely to arise in SALT III.

Arms control could serve to mitigate the risks of a purely hardware approach — with the Soviets and domestic audiences in Europe and the US. At the same time, clear US willingness to enhance long-range strike capability could be an added inducement for the Soviets to negotiate about their systems. Without such apparent willingness, arms control alone would be unlikely to produce agreement on any effective limitation on Soviet systems.

We cannot yet tell whether an arms control agreement that is effective and acceptable can be negotiated, nor whether such an agreement would preclude the need for additional Western deployments of long-range theater nuclear systems.

Some of these objectives for hardware and arms control could create public presentation problems. The public may not support purchase of systems if these are perceived as intended for use only as bargaining chips, though it may be willing to support a force designed to match the SS-20. Similarly, an arms control approach whose only objective is to provide political support for hardware is likely to be seen as cynical. On the other hand, public support for carefully selected force deployments in support of our NATO Allies and for a serious related arms control effort can be forthcoming, especially in Europe.

If purely political solutions are not sufficient, the problem is not "whether arms control or hardware," but rather how to manage a combination of both approaches.

C. What decisions are needed at this point, prior to the Fall consultations?

There will be a number of stages in the modernization and arms control consultations through the end of this year which could affect how we orchestrate our positions. The schedule for arms control consultations will begin with bilaterals early this Fall, which could be followed by an NAC on the same themes later in the Fall, and probably another round of bilaterals before the end of the year as our thinking unfolds. The HLG will meet in early Fall prior to the NPG Ministerial in mid-October. We need to begin work almost immediately on a paper for this phase of the HLG. While these consultations proceed, long-range theater nuclear programs will be bringing critical decision points nearer and shaping both the hardware and arms control options that are realistically available.

In consultations so far, the US has been ambivalent toward both hardware modernization and arms control in order to preserve options pending future study. We have stressed that both approaches need to be examined together. This study has not reached a point where we can agree to a well defined integrated hardware / arms control approach. But it does raise the question of whether we want now to take a more definitive stance toward the concept of an integrated strategy without making a final decision. It also suggests that further analytical work could be simplified by the elimination of infeasible or undesirable options.

1. How should the US approach the HLG meeting?

Although the HLG supported "an evolutionary adjustment" toward "somewhat more" long-range in-theater strike capability, subject to a detailed examination of the political and military issues involved, the USG has not endorsed this conclusion. The President was non-committal at the Summit. The Allies will be watching closely to see how the US approaches this problem in the Fall meeting. The issue now is whether we embrace this HLG conclusion and continue the process of detailed examination, or whether we remain non-committal, while proceeding with the examination.

On the one hand, embracing the HLG conclusion would not represent a final decision for a new long-range force posture,

but would be the first step toward additional hardware. Embracing the conclusion would allow us to concentrate on the political and military issues. However, it may take us further toward long-range systems than the political leaders in some Allied governments are ready to go.

On the other hand, we may prefer to remain non-committal because we may need more time for either USG analysis of credible alternative integrated strategies for both arms control and hardware, or to decide whether a purely political initiative is feasible, or both. The question is whether the Allies can help us with our analyses -- especially the political and military dimensions -- without forcing us into commitments we are unready to make. In this case, we would rely on sustaining our programs as a sign of good faith. However, continued ambivalence could stand in the way of the detailed examination of the issues that we and our Allies need before coming to a final conclusion, and over the long run would raise questions about US sincerity to examine the issue, thus exacerbating the political problem.

In any event, we will want to use the HLG meetings to discuss with our Allies some of the military and political implications of certain long-range theater nuclear options. We will want eventually to raise questions of domestic politics and public presentation and of possible Soviet responses. We do not want the Allies to choose a specific hardware approach at this point.

2. How should the US approach the arms control bilaterals?

The working level has largely agreed that any hardware and arms control approaches should proceed simultaneously and be closely integrated. If the SCC agrees, we would want to indicate this view to the Allies in both the arms control bilaterals and the HLG. Also, we should indicate a positive attitude towards arms control if we associate ourselves with the HLG conclusion. In this case, it would be important to stress that we have not yet defined a specific arms control approach that we are comfortable with.

Our initial round of bilateral consultations on arms control should probably be used to discuss and agree with the Allies what our objectives might be in entering into arms control negotiations, and to go into the technical problems that we see. We may want to give them a paper along the lines of Section III of this study.

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PRM 38

Section II

POSSIBLE LONG RANGE THEATER NUCLEAR MODERNIZATION

August 16, 1978

I. INTRODUCTION

This section examines the military issues and related political issues associated with a potential decision to proceed with the deployment of improved long-range nuclear delivery systems in Europe.

First, this section describes the candidate systems for such improvement and the military rationale for providing more long-range capability. Then the section defines the potential European target sets for such systems and lays out the survivability, range and basing considerations applicable to these targets. Next, the section discusses various force levels and the potential for Allies' participation and cost sharing. The section concludes with a qualitative evaluation of eight alternative force postures to illustrate the range of options available and the tradeoffs among those options.

Assumptions and Constraints

Existing NATO documents and the NPG High Level Group Report develop several assumptions and constraints which, if accepted by the U.S. government, would guide or limit the choices of improved systems. With respect to long-range systems:

- There is a need for an "evolutionary" adjustment in NATO TNF that would provide somewhat more in-theater long-range capability than at present.
- NATO's TNF should continue to be modernized consistent with agreed NATO strategy in order that they may continue their essential role in the NATO TRIAD and continuum of deterrence.
- An excessive emphasis on a longer-range strike capability could convey a perception of decoupling, signaling an intention to seek a balance independent of the other elements of the NATO TRIAD.
- There should be no perception of sanctuary as regards attacks into the Soviet Union.
- There should be no implication of increased roles for NATO TNF's.
- NATO should seek to maintain the widespread participation of NATO nations in the TNF role.
- Modernization of the TNF must not divert resources from the conventional improvements.
- NATO's long-term modernized NATO TNF can be accomplished within the numbers of warheads associated with the present TNF.

Although existing policies and the views of the HLG provide an extremely important point of departure, and reflect the carefully considered views of the Allies, the systems, targets and alternative force postures examined in this section are not necessarily constrained by this guidance on the presumption that policy makers may wish to examine a broader range of potential improvements.

II. LONG RANGE TNF SYSTEMS

There are seven candidate NATO TNF systems which could meet the requirement of 1000km or greater range capability. These are:

Cruise Missiles	- Ground-Launched Cruise Missile (GLCM)
	- Sea-Launched Cruise Missile (SLCM) (Sub & Surface)
	- Air-Launched Cruise Missiles (ALCM)
Ballistic Missiles	- Pershing II Extended Range Ballistic Missile (PIIXR)
	- Medium Range Ballistic Missile (MRBM)
	- Sub-Launched Ballistic Missile (SLBM) (b)(1)
Dual Capable Aircraft	- F-111, A-6, A-7 (Particularly with standoff armament such as a or longer-range ALCM) (b)(1)

Discussion:

A. CRUISE MISSILES:

(b)(1)

Cruise missiles are in some ways similar to manned aircraft. However, because many of the airplane multi-weapon delivery and human engineering requirements can be eliminated, the cruise missile can be made less complex and considerably smaller than manned aircraft. In addition, pre-launch survivability is better because its deployment during periods of crisis and conflict is not tied to fixed bases. Other features of the cruise missile include its very small radar cross section, very low-altitude flight, relatively high accuracy at long ranges, and an all-weather capability. In addition, because they are relatively inexpensive, they may be deployed in large numbers to complicate and saturate the enemy's defenses. The land-attack cruise missile, whether air, sea, or ground-launched, will carry a single nuclear warhead with a selectable yield capability. US cruise missiles are currently planned to have a system operational range to . Due to necessary evasive and navigational in-flight maneuvers a range allowance is being built into the missile beyond . (b)(1)

(b)(1)

The cruise missile should be survivable in all but the most severe threat environments. Cruise missile survivability against present WP defenses derives from its capability to navigate accurately over long range, fly at very low (terrain clearance) altitudes, and remain relatively undetectable due to its low observables (radar cross section, infrared or visual). [redacted] (b)(1) Additionally, the effects of saturation or precision attacks would substantially reduce the capability of these sophisticated air defenses.

- SLCM: A land-attack Sea-Launched Cruise Missile (SLCM) is currently in full scale development with an IOC of 1982. SLCM survivability and flexibility will be determined by the launch platform ships. They have the advantage of being able to deploy to other theaters within a relatively short time and without requiring land bases. SLCMs will require minimal force structure overhead as the delivery platforms already exist. They could also not be included in NATO's preplanned strike programs without constraining other activities of the platform.

- GLCM: The Ground-Launched Cruise Missile (GLCM) will be similar to the TOMAHAWK Sea-Launched Cruise Missile, except it will be land based. As presently envisioned the missile will be carried in centrally-based mobile launchers, each with four tubes. During peacetime, the launchers may be housed in protective shelters at existing MOBs. Each operating base might have 36 launchers with a total of 144 missiles. Operational launchers will have the capability for rapid load-out and dispersal to remote locations. The launch vehicle is accompanied by a mobile communication vehicle and launch control vehicle, and the unit will be self-sustaining for short periods to ensure readiness at dispersed locations.

- ALCM: For the strategic mission, the US has programmed the long range Air-Launched Cruise Missile (ALCM) to be carried on B-52s and is also looking at the possible use of wide-body transport aircraft as additional cruise missile carriers (CMC). [redacted] strategic ALCMs could be launched from outside the Warsaw Pact radar perimeter and still cover more than [redacted] percent of the total Warsaw Pact target area. Launch points would be selected to utilize ALCM range and numbers to overcome area defenses and to enhance the penetration capability of the manned bomber force. Small numbers of CMC's would be required because of their capacity to carry a large number of cruise missiles, [redacted]. For this reason, however, CMCs would become high value targets. Because of the heavy Soviet air defenses in Europe, and because CMCs would be accountable in the SALT II aggregates, if the ALCM's range was less than [redacted] their usefulness as a NATO system might be limted. Moreover, because of their low number and high cost, CMCs do not readily lend themselves to broad Alliance participation. Dual-capable tactical aircraft could also carry ALCMs; however, the draft SALT II Treaty limits deployment of

(b)(1) (b)(1) (b)(1) (b)(1)

(b)(1)

ALCMs with a range of over [redacted] to heavy bombers; consequently, an F-4 equipped with ALCM's would count as a heavy bomber.

B. BALLISTIC MISSILES:

Ballistic missiles such as the Extended Range Pershing II (PIIXR), the Medium Range Ballistic Missile (MRBM) and the Submarine Launched Ballistic Missile (SLBM) would have shorter flight time and higher penetration probability than cruise missiles and could in principle be employed against time-urgent targets. At the same time, they are relatively more expensive than cruise missiles. As with the cruise missile, the ballistic missile would rely on mobility for pre-launch survivability. In terms of escalation control, ballistic missiles may have advantages over cruise missiles by producing an unambiguous signature which would indicate both their origin and their ultimate target, and not requiring as large attack sizes in order to ensure penetration.

(b)(1)

Pershing II Extended Range (PIIXR): PIIXR is a long-range variant of the basic Pershing II missile [redacted] and is currently in the conceptual stage with a projected IOC of no earlier than 1985-1986. Its accuracy would be increased by maneuvering reentry vehicles and an all-weather radar activated in the terminal phase of the trajectory. At the same time, mobility and survivability would be improved somewhat.

- MRBM: The MRBM is currently in the early conceptual phase. The MRBM could be operated in a mobile mode similar to GLCM or Pershing. It should be possible to produce a lightweight, accurate ballistic missile whose transporter could be operated on the existing Western European highway system, similar to GLCM and Pershing, by the late 1980s. With an MRBM System of this size, dispersion and pre-launch survivability should be similar to that of GLCM. The MRBM could be MIRVed.

(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

- SLBM: The Poseidon SLBM weapon system carries sixteen missiles [redacted] the 1980s.* The SLBM is the most survivable of the TNF strike systems, since SSBNs on patrol are virtually immune from detection. The characteristics of the system make SLBMs a good general nuclear response weapon.

(b)(1)

[redacted] in their ability to carry out selective theater nuclear strike. As with SLCM, they are not a visible sign of NATO's TNF capability.

C. DUAL-CAPABLE AIRCRAFT (DCA):

DCA can, attack mobile or multiple targets, be retargeted or recalled in flight, fly a number of sorties and evade enemy defenses. In addition,

* France has its own SSBN force, with 64 SLBMs.

DCA have a self-defense capability. DCA also have some limited capability for immediate bomb damage assessment or verification of delivery. However, DCA generally have a lower probability of penetration than other systems and are influenced by severe weather and enemy defenses. Land-based DCA would be less survivable than ballistic or cruise missiles which had been dispersed in a crisis situation. Currently some land-based DCA are on 15 minute alert in order to respond to enemy attack or, in the case of US aircraft, to disperse rapidly to avoid destruction. The land-based DCA presently provide a visible tie between strategic and tactical nuclear forces. Additionally, sea-based A-6 and A-7 have the advantage of moveable launch platforms to enhance their capabilities (but not necessarily their survivability).

D. EFFECT OF SYSTEM MIXES ON MILTARY EFFECTIVENESS.

While each of the systems previously described has specific operational characteristics, their military utility and survivability by designing force postures can be enhanced by employing a mix of different weapons systems, but the costs could increase.

For example:

- (b)(1)

- Ballistic missiles have a greater capability against mobile and/or time-sensitive targets. DCA, because of the presence of an on-the-scene observer, can within limits carry out terminal aim point selection, mission abort, or bomb damage assessment of earlier strikes.

- Mobile systems on land and at sea substantially complicate the planning of preemptive attacks.

- Fixed land-based systems probably provide the highest degree of responsiveness, in terms of timeliness.

Any improvement to the long-range element of theater nuclear forces must meet SACEUR requirements for a balanced mix of systems to deny the enemy a simple response options against varying targets needed for escalation control. Through more costly, a multi-system force provides the highest assurance of success and the greatest perceived "balance", once it is regained.

E. ALLIED REACTIONS TO LONG-RANGE CANDIDATE TNF SYSTEMS

While the primary purpose of the next meetings of the High Level Group will be to hear Allied views, we do have some idea as to their potential reactions.

III. MILITARY RATIONALE, OPERATIONAL FACTORS, BASING, SURVIVABILITY AND RANGE CONSIDERATIONS

A. MILITARY RATIONALE

NATO's fundamental objective is to deter Warsaw Pact aggression. To achieve a credible deterrent it is essential that rational and feasible military options be available, which are founded on responsive, survivable, and militarily effective forces sifficient to meet any type or level of aggression. In addition, this force capability must be clearly recognizable by the Warsaw Pact as evidence of NATO's resolve to escalate the conflict to general nuclear war, if necessary.

The NATO TRIAD with its component parts of conventional, theater nuclear, and strategic nuclear forces has been developed to enable the Alliance to execute the strategy of flexible response. Within the TNF leg of the TRIAD, NATO maintains a mix in both quality and quantity of battlefield, maritime, medium, and long-range strike systems to serve as bridge between conventional and strategic forces.

(b)(1)

Survivable, accurate, reliable, long-range, TNF contribute to a full range of NATO options:

-- by conveying to the Soviets the message that they cannot employ nuclear systems from their own territory or other peripheral sanctuary areas against NATO with impunity;

-- by threatening enemy conventional force concentrations and key support installations throughout Warsaw Pact territory, including the USSR, thus diminishing the likelihood of a quick Warsaw Pact victory;

-- by complicating enemy planning and making him operate in a nuclear survivable posture to the full depth of the theater even in a conventional attack;

-- by providing a counterbalance to possible Soviet first use of chemical weapons;

-- by providing a capability for the deliberate and discrete use of nuclear weapons to signal NATO determination to escalate the war beyond the ongoing level of conflict, unless the Pact acts to terminate the fighting;

-- by ensuring the unquestioned ability, even following a Soviet first strike, to execute a General Nuclear Response in conjunction with the SIOP;

-- by reducing the need for cross-targeting to achieve SACEUR's military damage requirements.

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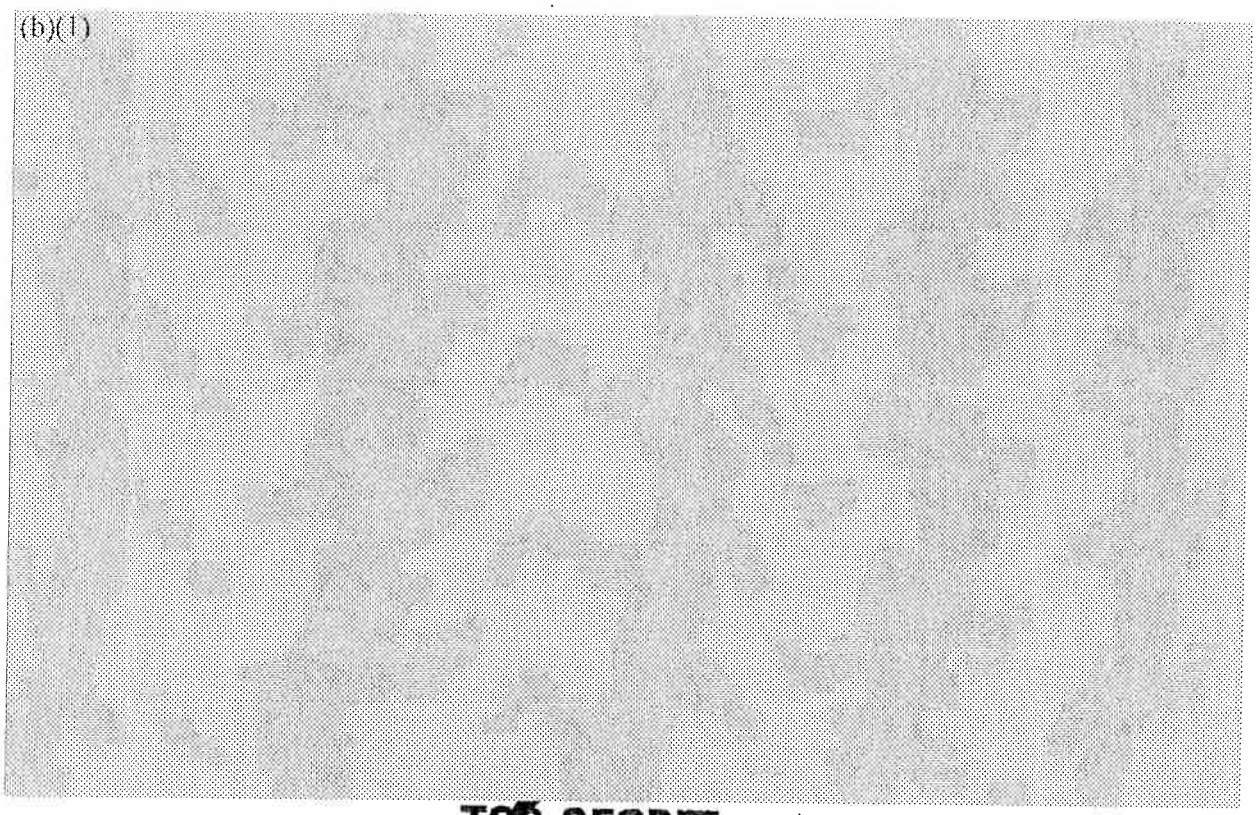

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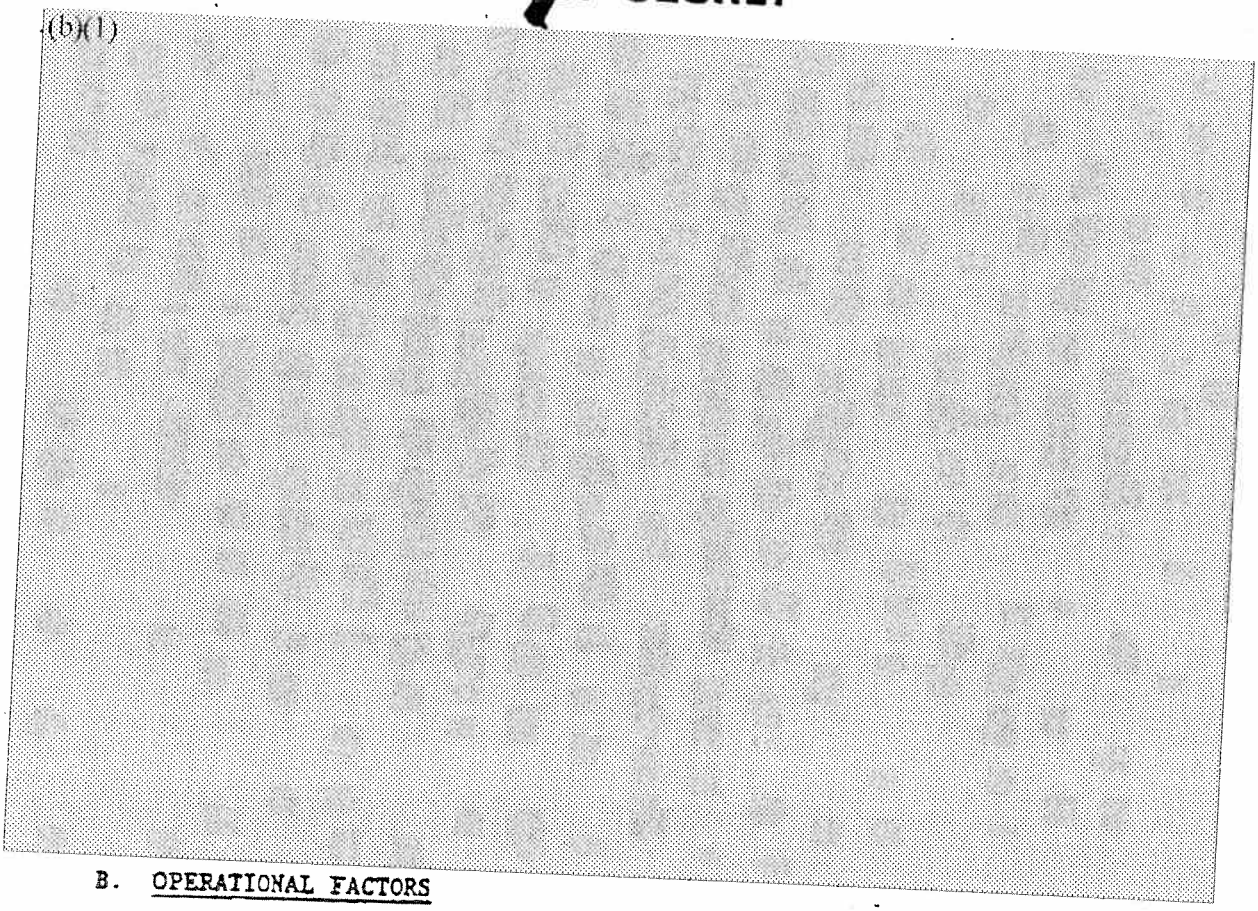

B. OPERATIONAL FACTORS

The underlying principles for determining operational factors/ considerations are the capability to place reliably a weapon on a target and the effect that capability or weapon can have on the political and military situation as well as force sizing requirements. Many of these factors/considerations are common to both selective use and general nuclear response, while some are unique to the particular use.

1. Common Factors

The long range systems currently scheduled to carry out NATO's Selective and General Nuclear Response include POSEIDON, POLARIS, PERSHING, and aircraft (F-111, Vulcan, F-4, F-104, F-100, Jaguar, A-6, A-7, Buccaneer). These systems are limited in their ability to strike all types of fixed targets in SACEUR's Scheduled Program or for certain uses in Selective Employment Plans. PERSHING 1A is not, of course, available against most of the targets facing the Northern and Southern Region nor does it cover targets in the Soviet Union. POSEIDON could be used in any region provided selective release targeting objectives could be accommodated within the

MIRV characteristics of the system (footprint) and that the fixed yield and accuracy of the system enable target damage objectives to be achieved without unacceptable collateral effects. For example, POSEIDON would not be suitable against hard targets or targets requiring low yields. In addition, the disclosure of a submarine's position by the launch of a missile could jeopardize the survivability of the submarine and its remaining missile systems. The DCA in the theater nuclear role are subject to attrition while carrying out their conventional missions, and subject to further losses when penetrating Warsaw Pact air defenses while executing long-range missions.

In considering the kinds of future long range systems, NATO needs to consider a number of operational requirements: 1) Damage Expectancy; 2) the Target Base; and 3) the Soviet response.

Damage Expectancy (DE) is the probability of damage to be expected in an attack of an installation with the planned weapons. It is based on the product of probability of arrival and probability of damage. The probability of arrival is essentially the reliability of placing a weapon on a target and includes such factors as pre-launch survivability, weapon system reliability, penetration capability, and weather/darkness factors. The probability of damage considers only the accuracy of the delivery system (CEP), the hardness and size of the target, and the yield and burst height of the weapon. To insure application, the required Damage Expectancy requires a larger number delivery system than one weapon for one target.

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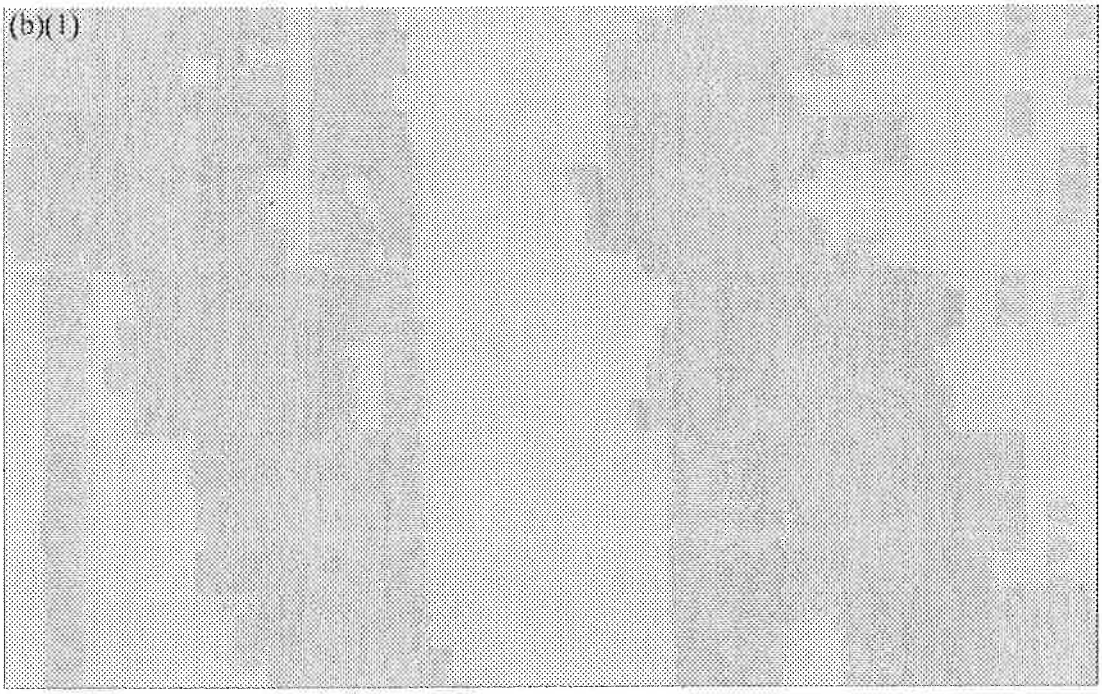

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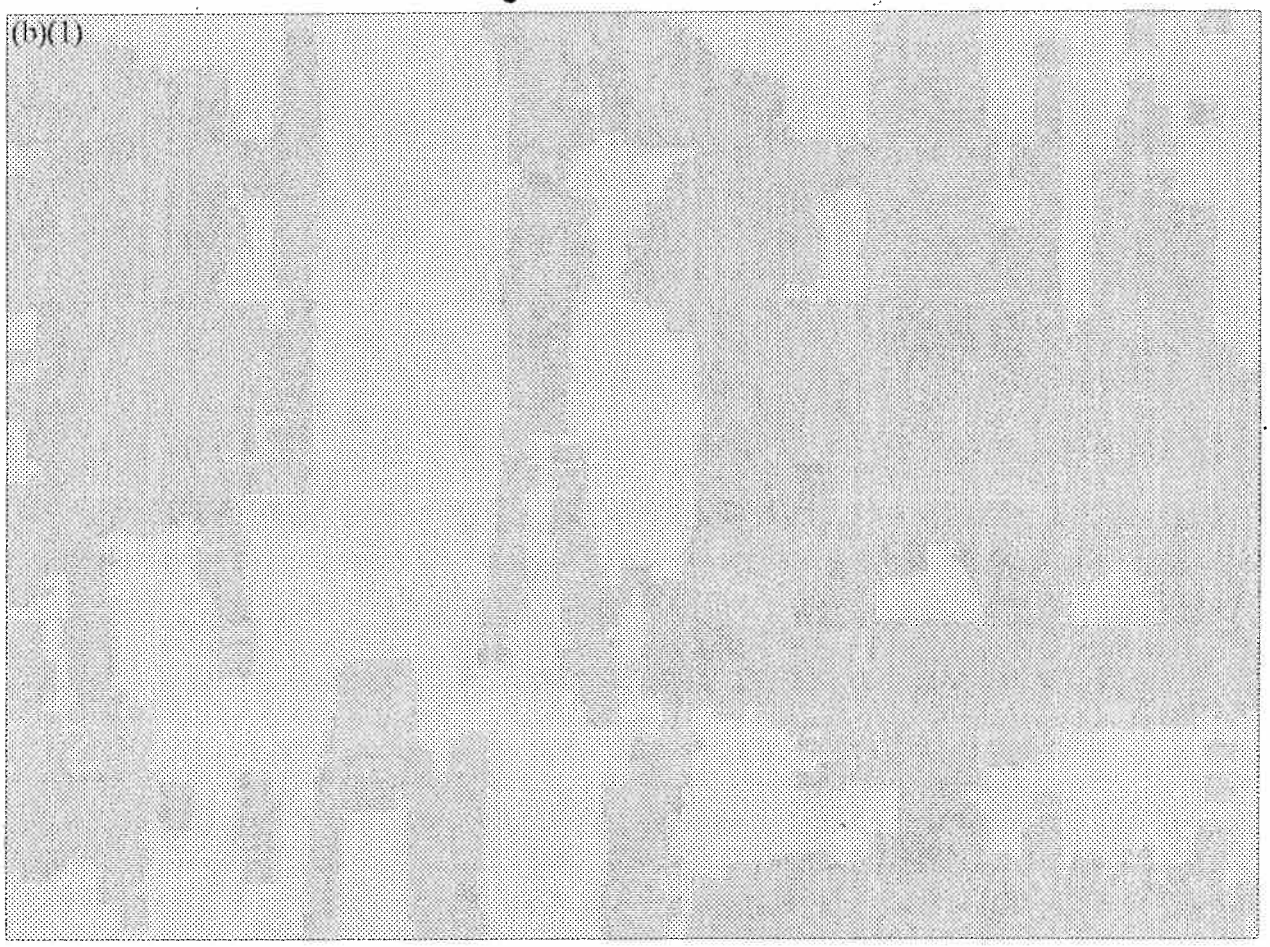

4. Unique Advantage of Land-Based, Long Range TNF

European continental-based long-range TNF systems, though perhaps more vulnerable than sea-based systems, nonetheless, offer inherent political and military advantages to NATO, by:

- Serving as a direct and visible link between NATO's territorial integrity and risk to the Soviet homeland in the event of armed aggression by the Warsaw Pact.

- Attacking more efficiently mobile second and third echelon targets of opportunity.

- Providing expanded opportunities for Allied participation and risk sharing in deterrence or the conduct of the war.

- Reducing Soviet opportunity to limit damage in Western Europe in a nuclear first strike, thus reducing the value of an occupied Western

Europe as a Soviet objective while at the same time placing the Soviet Union at risk.

- Enhancing SACEUR capability to target more fully opposing threat in the scheduled programs.

- Providing additional options which can prevent the enemy from predicting with confidence NATO's specific response, thus encouraging him to conclude that an unacceptable degree of risk would be involved regardless of the nature of his attack.

PLANNED PROBABILITY OF DAMAGE ON FIXED SACEUR
NUCLEAR TARGETS OF INTEREST GIVEN UNOPPOSED
PERFECT EXECUTION OF SIOP AND SSP

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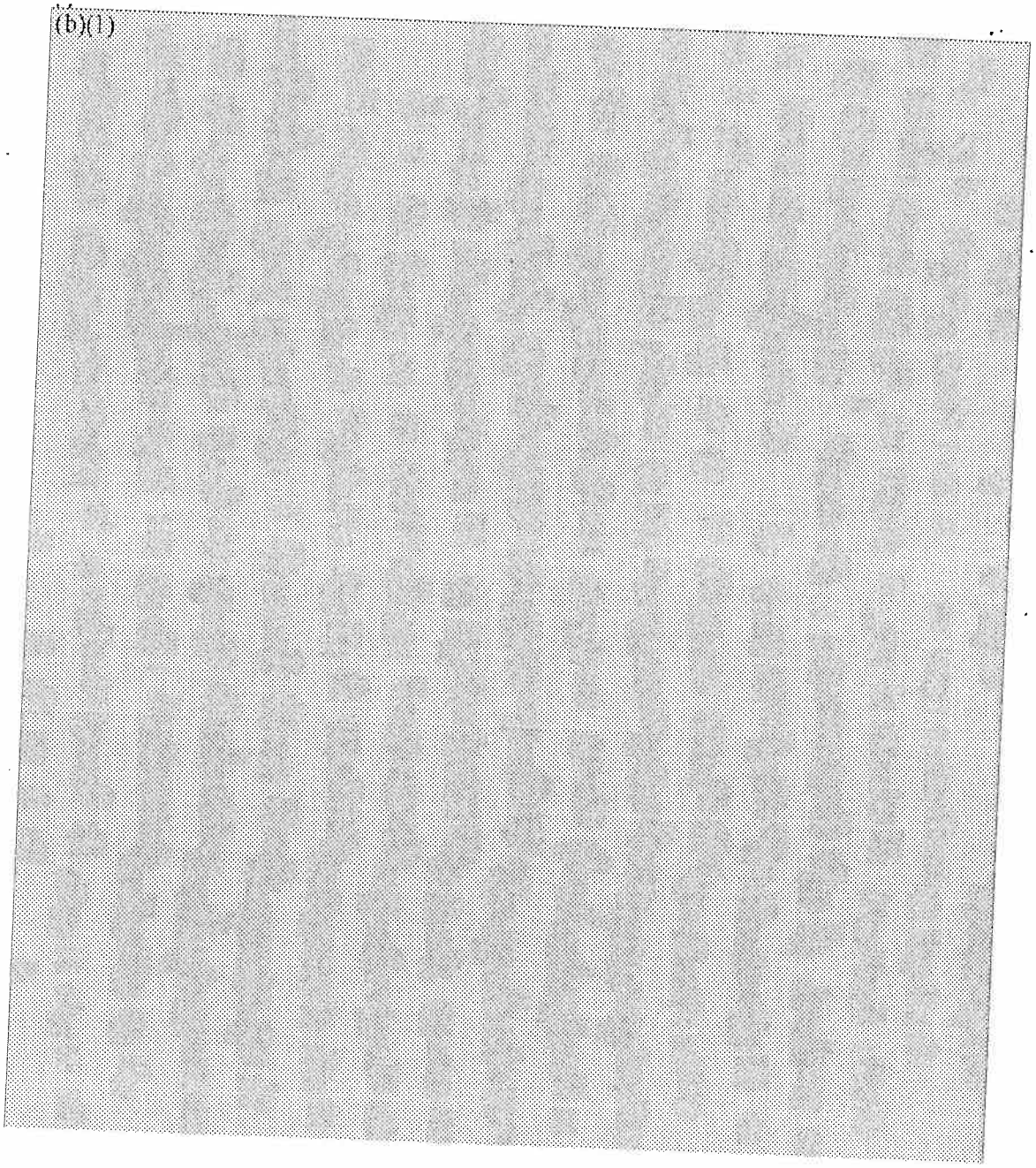

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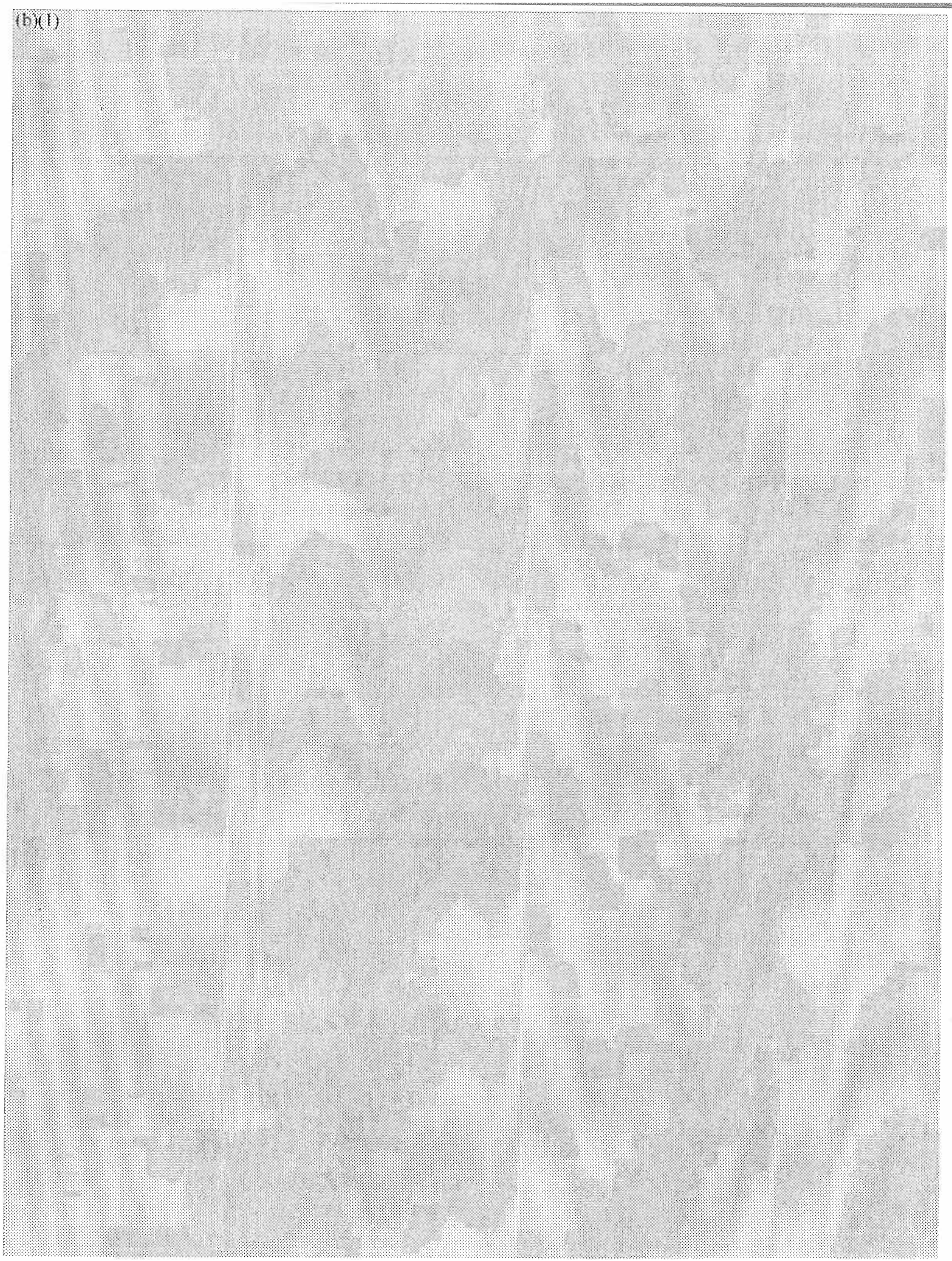

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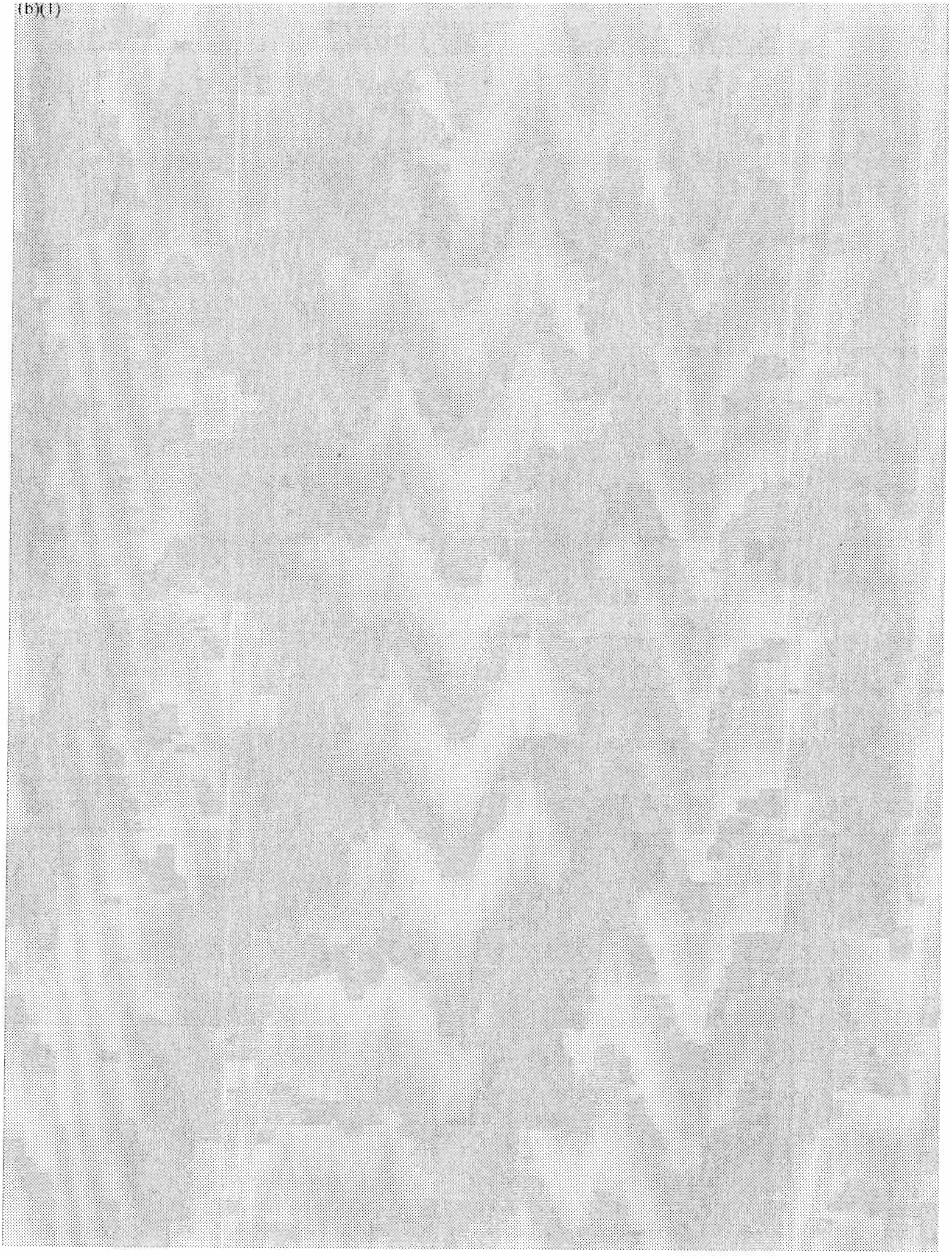

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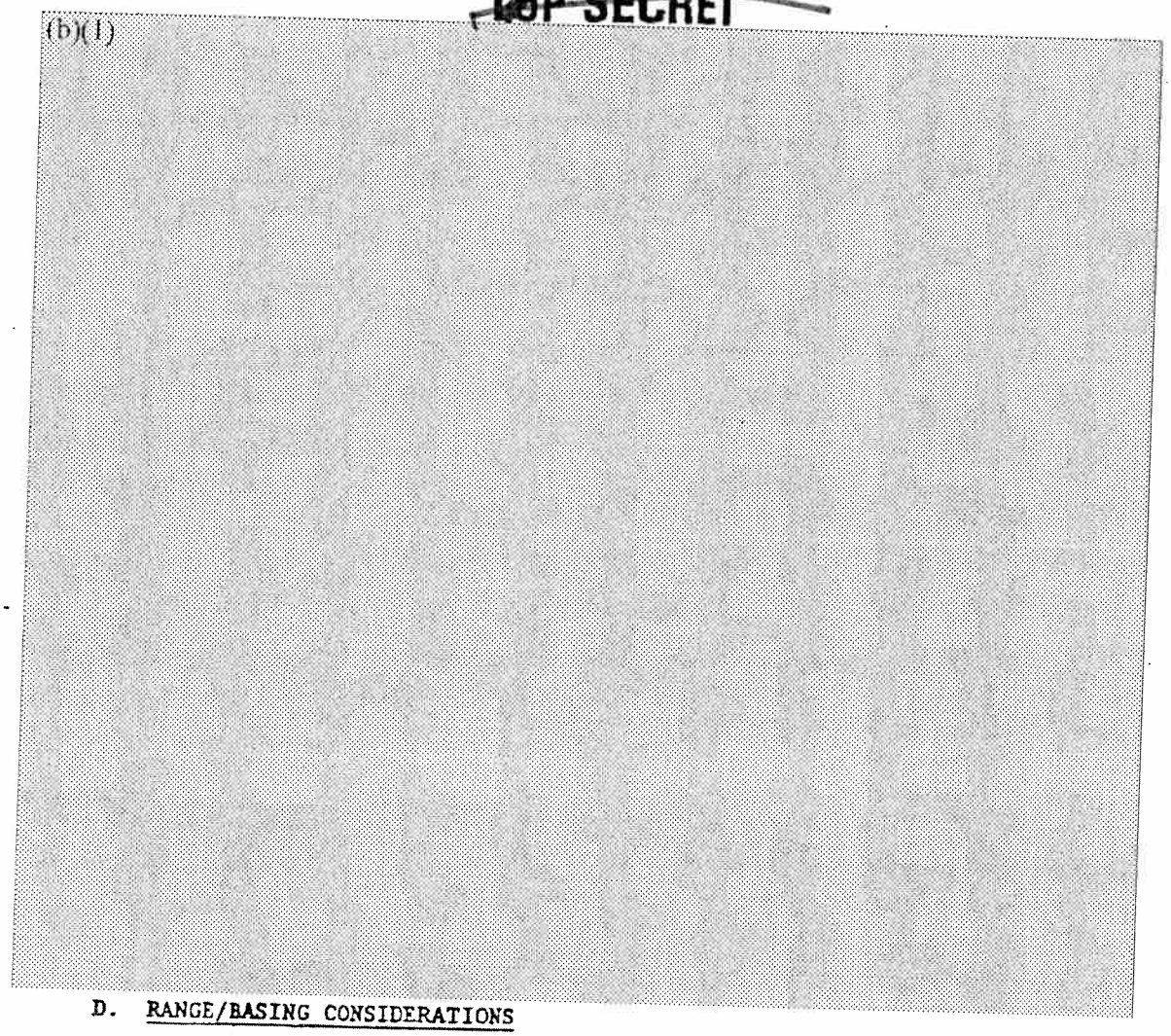

D. RANGE/BASING CONSIDERATIONS

This section will consider three principal issues associated with the potential deployment of long range systems: 1) target coverage; 2) survivability and basing considerations; and 3) political/arms control constraints.

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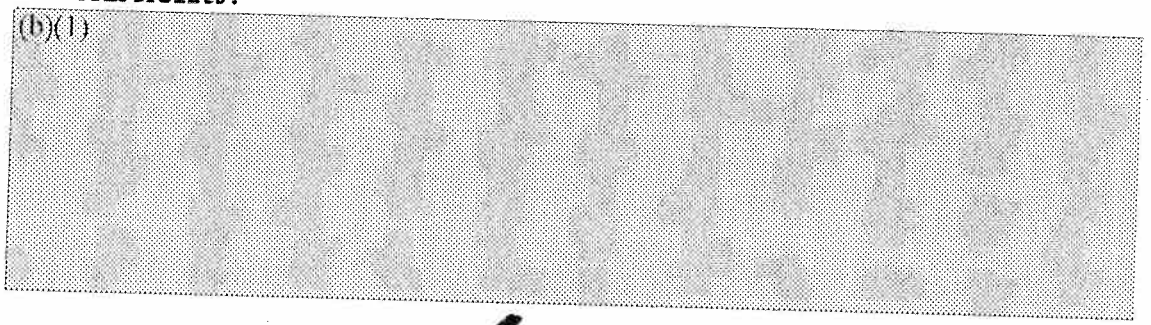
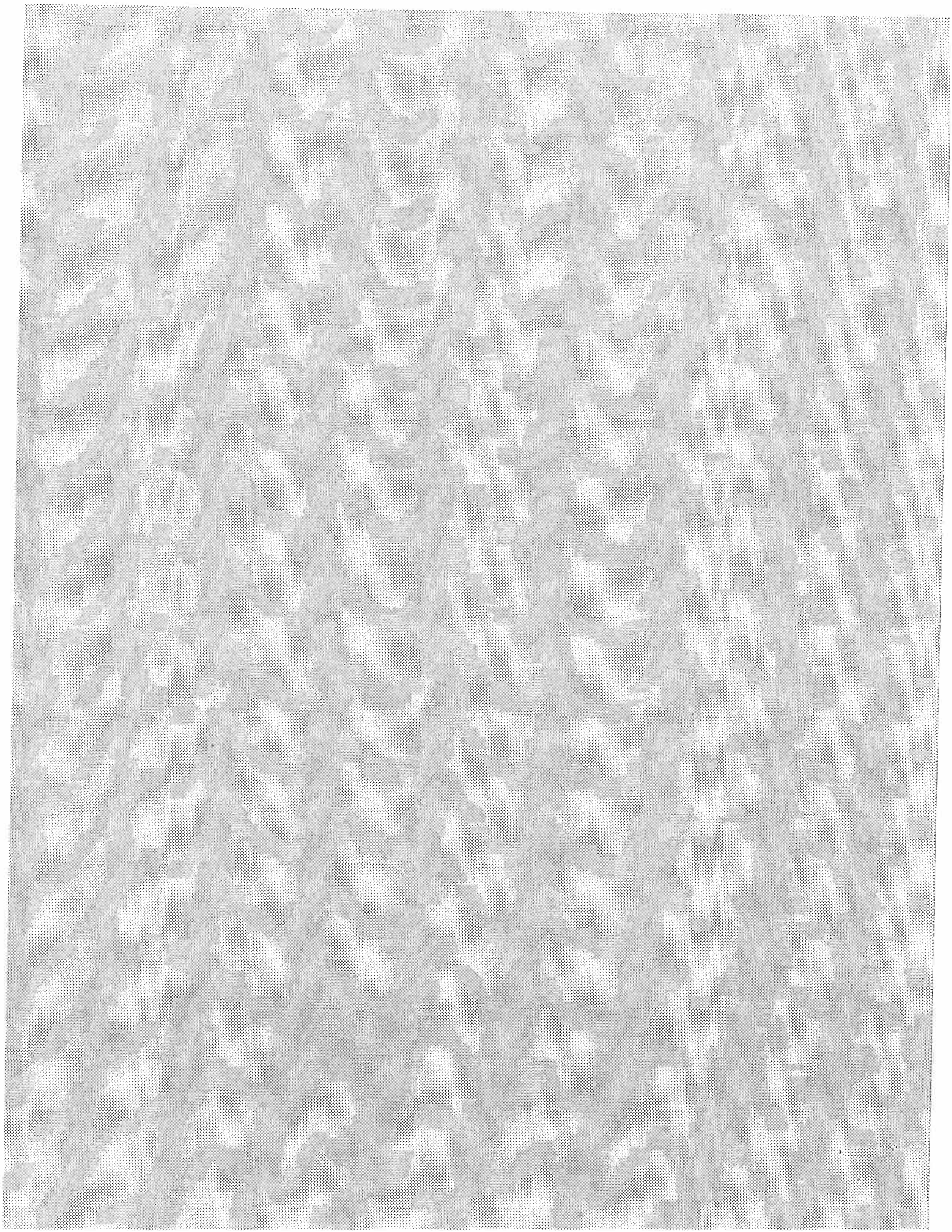
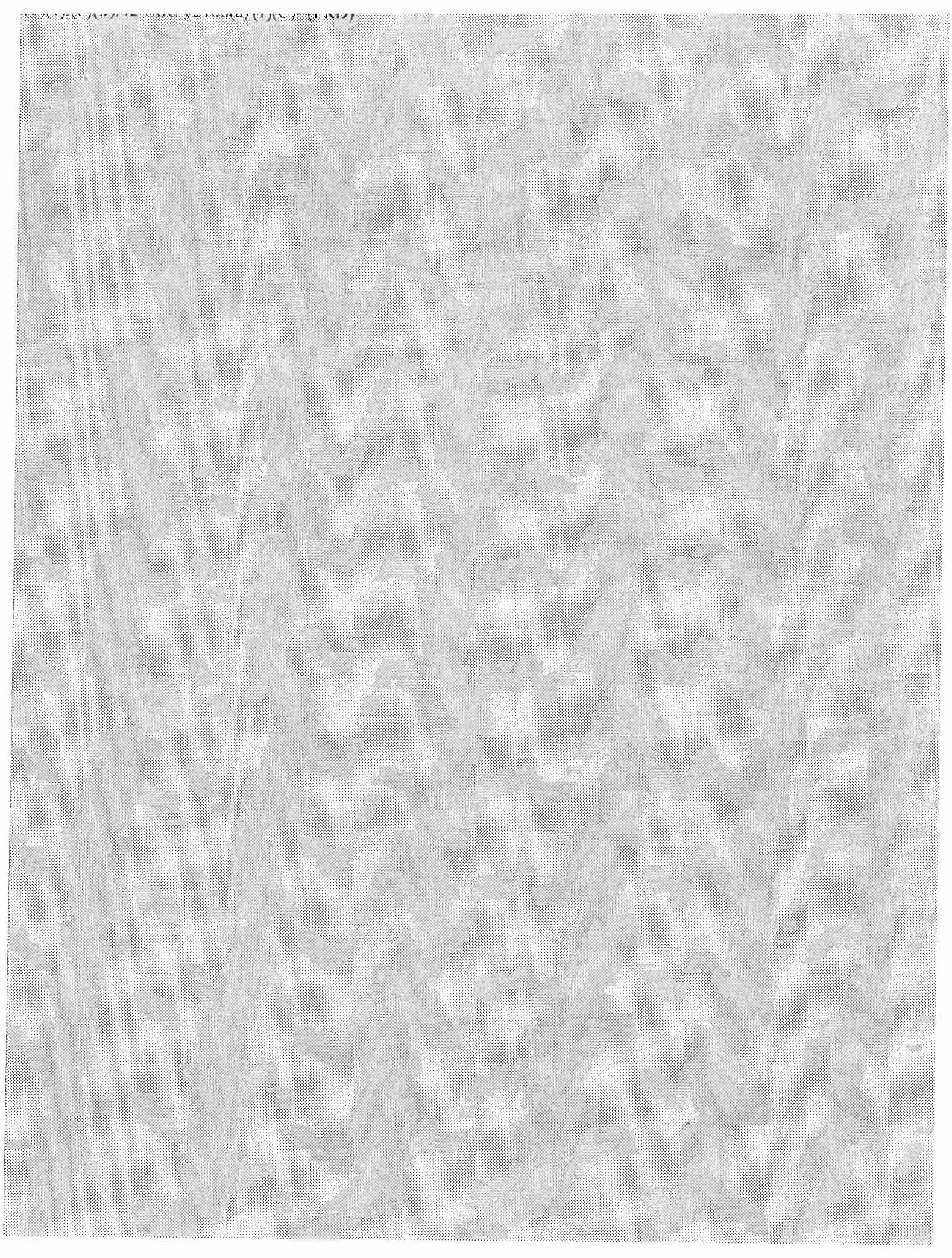




(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)



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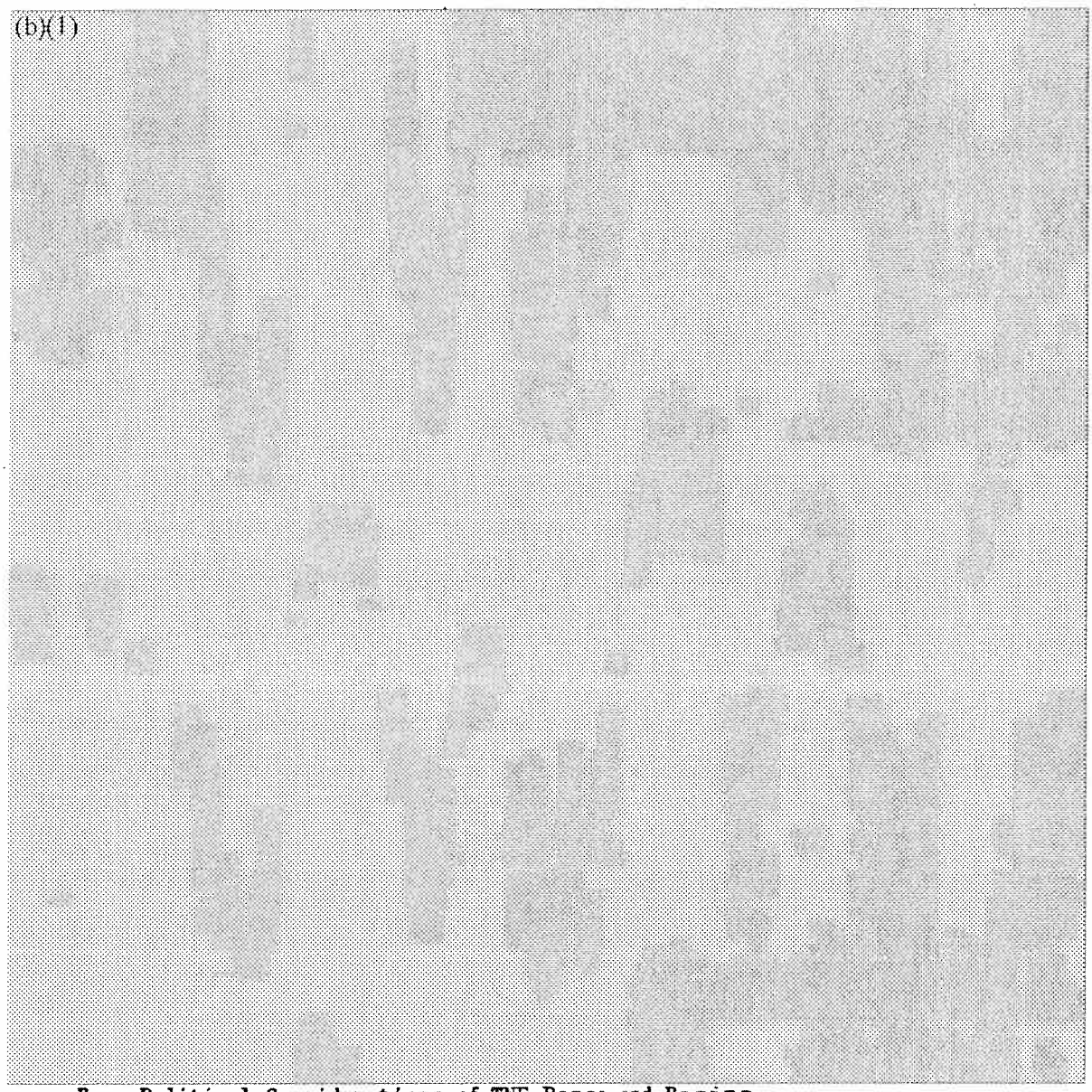

E. Political Considerations of TNF Range and Basing

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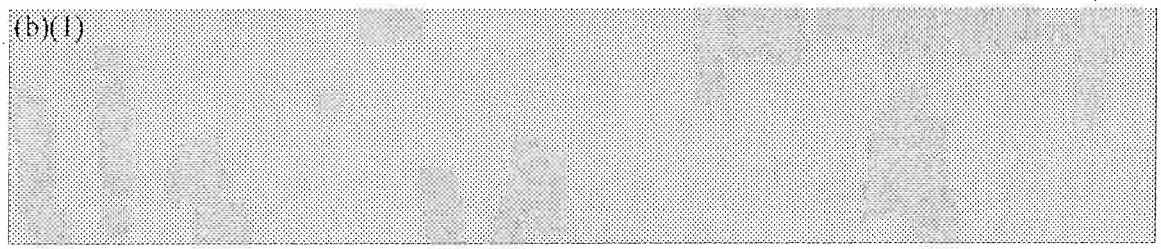

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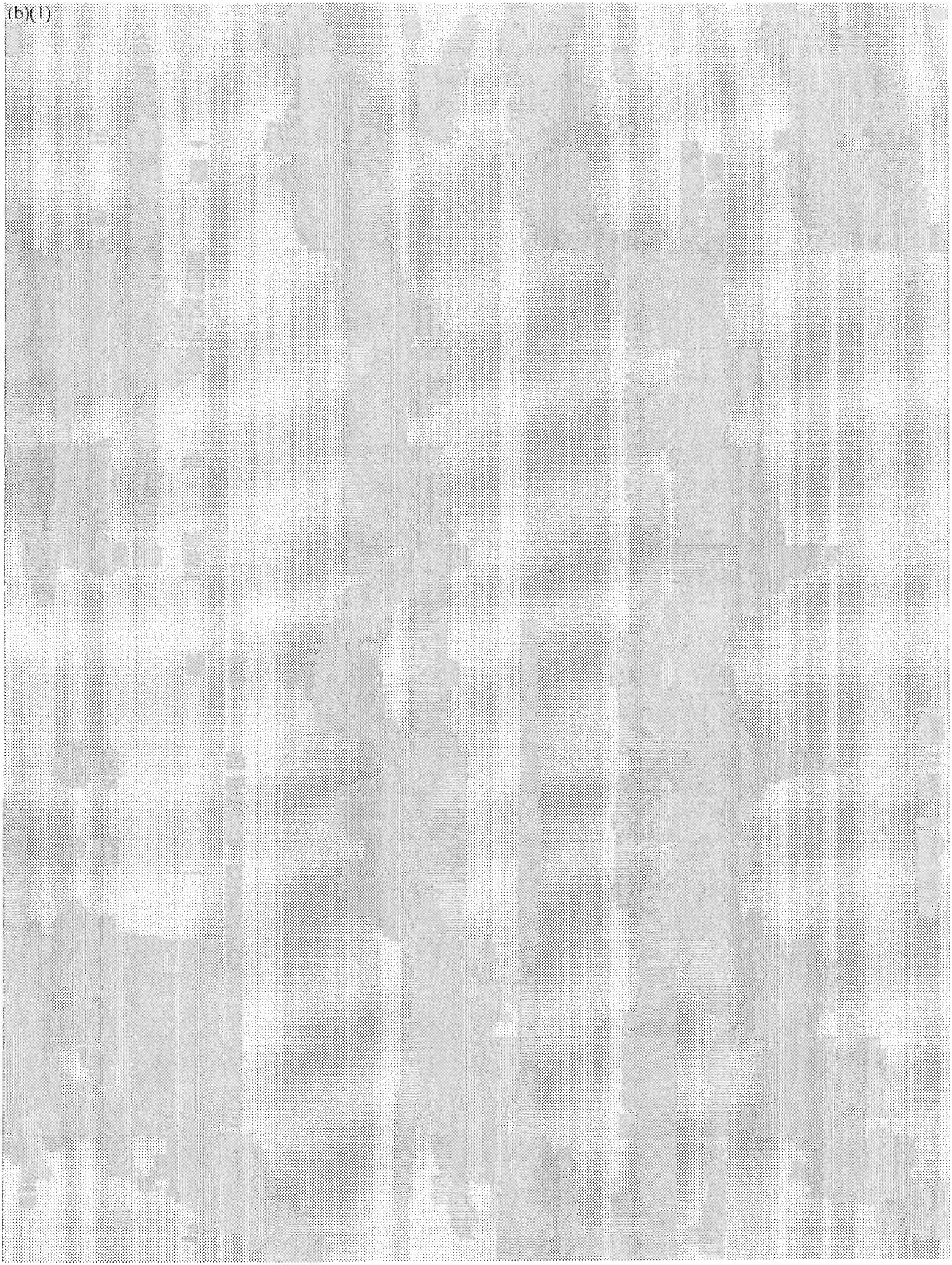

IV. FORCE SIZE

If a decision were made in principle to deploy a long-range theater nuclear capability in Europe which can strike the USSR, the question of the size of that capability would have a major impact on its deterrent value, its military contribution, its cost, its effect on political perceptions, and possibly its impact upon arms control prospects.

A. SOME BROAD APPROACHES TO SIZING THE FORCE OF LONG-RANGE SYSTEMS *

1. Match Soviet Forces. One approach would be for NATO to match Soviet long-range theater nuclear forces. The degree to which NATO TNF should balance, quantitatively and qualitatively, the nuclear forces of the Soviet Union is primarily a political question. The candidate levels to be matched are as follows:

	1985 and Thereafter		
	Launchers	Missiles	RVs
Longer-range			
SS-20	250	1250	3750
Backfire (LRA)	300	600	600
Fencer	150	?	300
Medium Range			
Scaleboard	120	240?	240?
SCUD follow-on	400	800?	800?
Tac Aircraft	900	?	900

Not all of the Soviet longer-range systems would be directed against NATO. If force-matching is mostly a political and perceptual matter, the question is raised whether it should be done against launchers, which are countable and fewer, against missiles or RVs, which are controlable and larger, or against reload missiles, which are unknown. Costs would vary considerably depending on the choice.

* This section does not discuss the intricacies of cross-targeting or various other ways in which SACEUR's military requirements might be met.

2. Target coverage. A second approach is to hold at hostage a certain number of Warsaw Pact targets. SACEUR's present target base includes:

(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

3. Replace current systems on a one-for-one basis. A third approach is to replace on a one-for-one basis current launchers with improved systems. Such an approach would achieve greater survivability and greater penetration probabilities while nominally maintaining the same TNF force levels. If dual capable aircraft were freed up for other roles, their replacements would have to be additive to current force structure. MRBMs could replace Pershings on their current launchers; however, this raises the question of the availability of systems for shorter-range missions.

The current NATO force structure includes:

(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

Possible replacement alternatives are:

(I) F-111s, Vulcans, and Pershings (about 400 Launchers).

(II) F-111s, Vulcans, Pershings, and SLBM RVs (about 550 launchers)

(b)(1)

5. Attain size to permit Allied participation. A fifth approach would be to acquire sufficient launchers to insure widespread Allied participation. Current NATO longer-range systems are as follows:

US	300	(F-111, Pershing, Poseidon tubes)
UK	120	(SSBN Tubes, Vulcan)
FRG	72	(Pershing)
Total	492	

At this stage, it is doubtful that any of the smaller countries could afford to buy any launchers. The US, UK and FRG will continue to be the three most likely countries to be involved in owning long range theater nuclear systems.

6. Size forces within the overall TNF posture. If the roles of theater nuclear forces within the overall NATO posture are not to be changed and priority is still devoted to conventional force improvements, certain restraints on the size of new long-range forces will be introduced.

(b)(1),(b)(3):42 USC §2168(a)(1)(C)-(FRD)

[redacted]

B. ILLUSTRATIVE FORCE SIZE.

What would be the effect of adding increments of long-range forces to the existing TNF of: less than 100 systems; a few hundred to a thousand; and over a thousand?

1. Less than 100 long-range weapons. In general, procurement of complex weapons requiring supporting systems tends toward excessive unit cost when they are purchased in limited quantities. A preliminary analysis of where the cost plateau occurs in the candidate systems indicates that it is above a force size of approximately 100-200 weapons (see chart, next page). Of course total cost for smaller options would be less since total procurement would be less. Furthermore, while such limited numbers would have some utility in the execution of selective employment options, the overall numbers would appear to be very low, in view of the large numbers of SIOP and other forces. This is not to suggest that the initial operational capability represented by a few tens of longer-range systems would not be an important response to the Alliance political and strategic concerns, or provide arms control bargaining leverage vis-a-vis the Soviets.

2. From a few hundred weapons to less than a thousand. Such a force would be easily achievable within existing TNF force levels. The size seems to be large enough to provide adequate survivability and flexibility, given care in the force/ system design. A force of this size might be able to relieve NATO of the need to generate up to

[redacted] (b)(1)

3. Over a thousand to few thousand.

There are certainly sufficient targets to justify a force of this size and such a force would obviate many of the concerns which arise regarding pre-launch survivability and penetration probability. However, it would seem excessive for the following reasons:

-- Considered in the context of a modernization to be carried out within the general TNF force levels it would convey a fairly

clear message that the role of TNF in NATO strategy had significantly changed.

-- The cost of such a large force would almost certainly have to be at the expense of improving NATO's conventional capability.

-- This range of force size begins to approach levels similar to SIOP forces which could convey an implication, to both NATO and the Warsaw Pact, of a decoupling of US strategic forces from the NATO Triad.

C. SUMMARY

The higher the costs, the less politically saleable the package. Moreover, even if we were to say that the costs should be paid at the expense of other programs in NATO (with total defense expenditures kept relatively constant), there would be reluctance to unbalance Alliance efforts under the LTDP. The larger and more rapid the deployment -- even if money were not a major issue -- the more conspicuous would be the departure from earlier practices in the Alliance, and the greater the political difficulties would be for each ally. Finally, the larger the deployment, the more concerned our Allies -- including the FRG -- would be that we were, in fact, creating the means to decouple: to fight a nuclear war entirely with resources located in or near the continent, holding US strategic systems aloof.

At the other extreme, a minuscule deployment of new systems would probably also be unacceptable to Bonn, since it would not constitute a credible psychological offset to the SS-20, nor would it represent a credible bargaining chip for arms control purposes.

Military consideration--i.e., the operational problem of providing for viable escalation control at each potential level of theater nuclear war--support rejection of a small or token force. The need for survivability against the threat posed by Soviet TNF systems at all ranges indicates a mix of systems for force effectiveness somewhere in the middle range of deployment size. Therefore, we would expect to find a package of systems which is militarily effective and big enough to be impressive; not too big and too costly to be repugnant; reasonably explainable in terms of military rationale; and therefore the right vehicle for political consensus in the Alliance.

V. PARTICIPATION AND COST-SHARING ARRANGEMENTS

As a general principle, NATO seeks widespread participation in the theater nuclear forces. This principle was expressed in the 1969 Provisional Political Guidelines (PPG), in NATO Ministerial Guidance, and in the recent HLG Summary. The main advantage is that of shared risks, as an expression of the solidarity of the Alliance. There can be other advantages, such as shared costs and the economies of more than one nation sharing development and acquisition costs of a given system vice independent national developments of similiar systems.

There are several qualifications to the general principle. All nations do not participate in all the Alliance nuclear weapons systems, e.g. (b)(1) The smaller countries face obvious problems of costs and economies especially for the more expensive, nuclear-capable-only, long-range systems. Secondly, with the exception of the UK, the US must supply (and thus bear the costs of) the nuclear warheads and control the release of all the warheads. Thirdly, the US seeks to avoid nuclear proliferation and the emergence of independent national forces, thus limiting the kind of sharing arrangements available.

A. COUNTRY POSITIONS

Inevitable differences among the several nations of the Alliance will influence what sharing arrangements would be possible for long-range nuclear systems.

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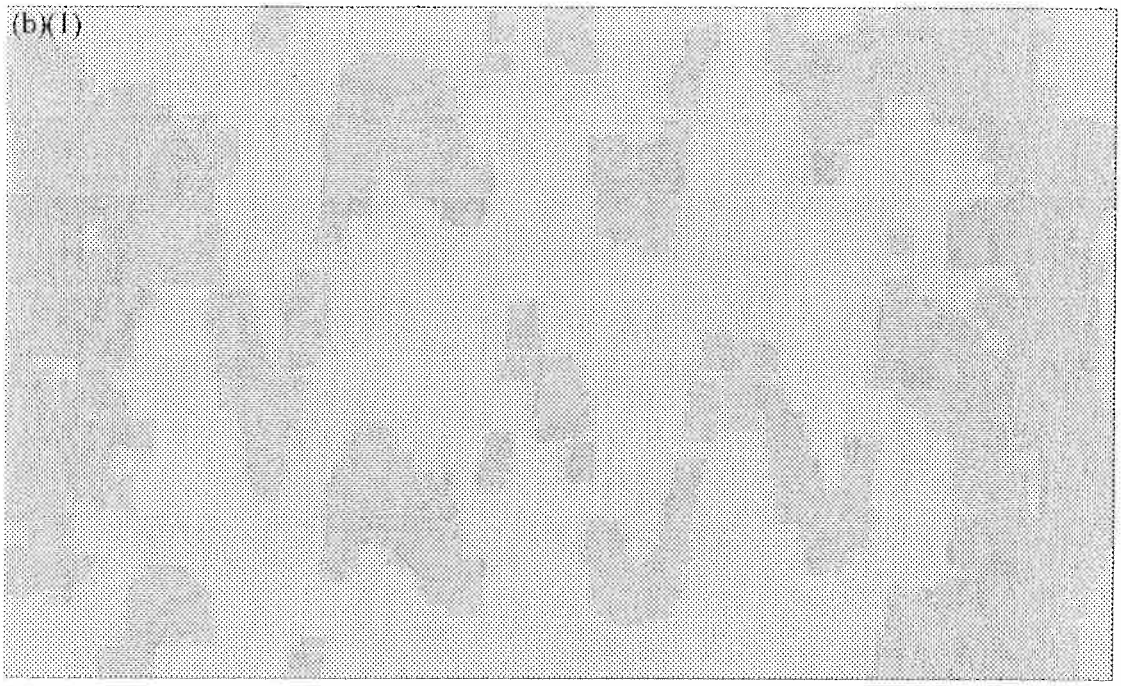

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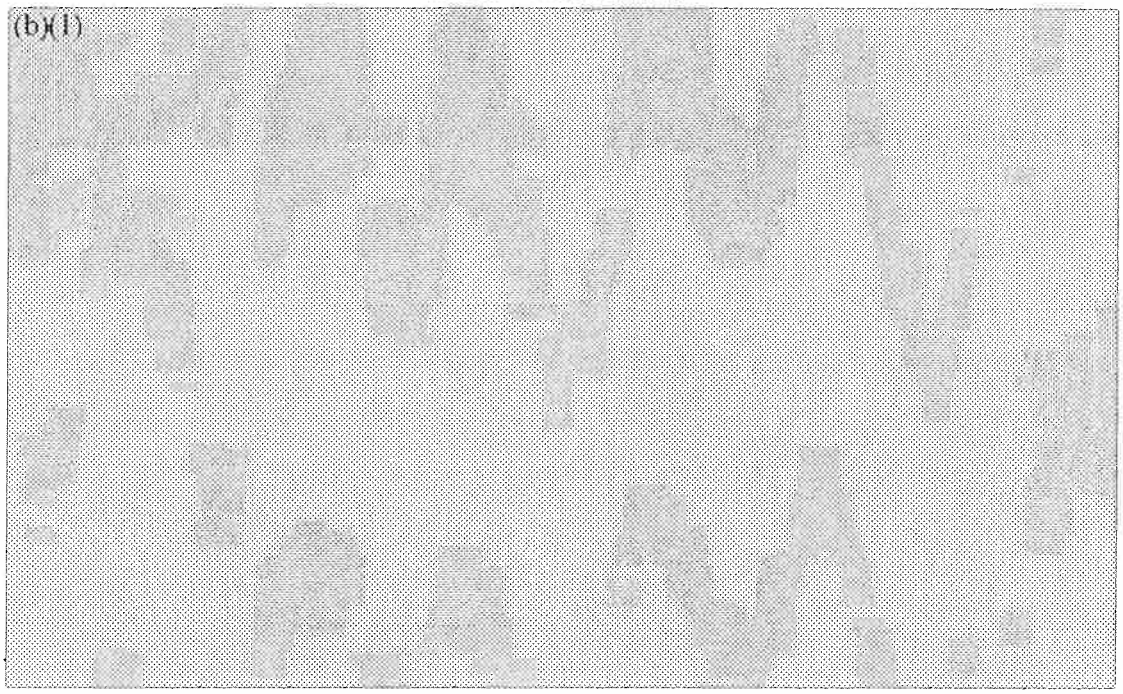

B. KINDS OF ARRANGEMENTS.

There could be many kinds of participation and cost-sharing arrangements for new long-range systems. The following four probably bracket the possibilities:

1. US unilateral deployments. Systems would be developed, procured, manned, and supported entirely by the US and would remain entirely under US control (though targeted by SACEUR under existing arrangements). Nations would provide basing, including, presumably, land acquisition and local construction costs and perhaps share in O&M costs. This type of arrangement is used for the UK based F-111s. It has merit in that it provides a visible commitment of US forces to NATO and the force itself is clearly and unambiguously tied into US C^3 channels. This would have the advantage of augmenting NATO's long range TNF capability while retaining control in US hands and thus placing the main political and SALT non-circumvention burden on the US. This option would open up the clearest opportunity to negotiate bilateral limits on long-range theater systems and in the broader sense to soften the probable sharp Soviet reaction that NATO acquisition of a long-range TNF capability is likely to produce. It would also offset potential objections to FRG access to long-range systems.

However, this arrangement would have several disadvantages:

- Cost-sharing schemes would probably be limited to infrastructure funding.

- Basing opportunities and Allied participation would be limited. Even with the F-111 and SSBN precedents,

(b)(1)

- U. S. Congress would object to a unilateral US contribution to the Alliance.

(b)(1)

(b)(1)

3. National Development and Production of Long-Range Systems. The various nations would produce the systems themselves, with US technological support and sale of critical components.

(b)(1)

4. Multi-national force. Nuclear warheads would remain under US control, but multi national purchase, ownership, and manning of the force (i.e., individual smaller national units in a combined basing and command structure) would be arranged. This arrangement envisions an international force with multinational ownership of the systems and multinational manning of the force. Overall command would likely remain with the US and authority for release would remain unquestionably with the US. Cost-sharing arrangement might be similar to the AWACS formual of national shares.

The advantages of such an arrangement are that it provides for the broadest degree of national participation and visible presence throughout the Alliance, as well as the greatest survivability. The major problem is its political feasibility. Multilateral procurement negotiations have been difficult, witness the 1960's MLF and the present AWACS.

VI. ALTERNATIVE FORCE POSTURES

Nine illustrative TNF force postures have been postulated to illuminate the most important issues associated with a potential US/NATO decision to deploy new long-range systems. For the most part, the alternatives focus on the increment which provides the additional long-range capability with the presently existing components of the TNF remaining essentially unchanged. These alternatives are not proposed as actual candidates for future decision. The numbers and characteristics of the long range systems are illustrative of a general range.

Each of the alternatives illustrates a different set of issues:

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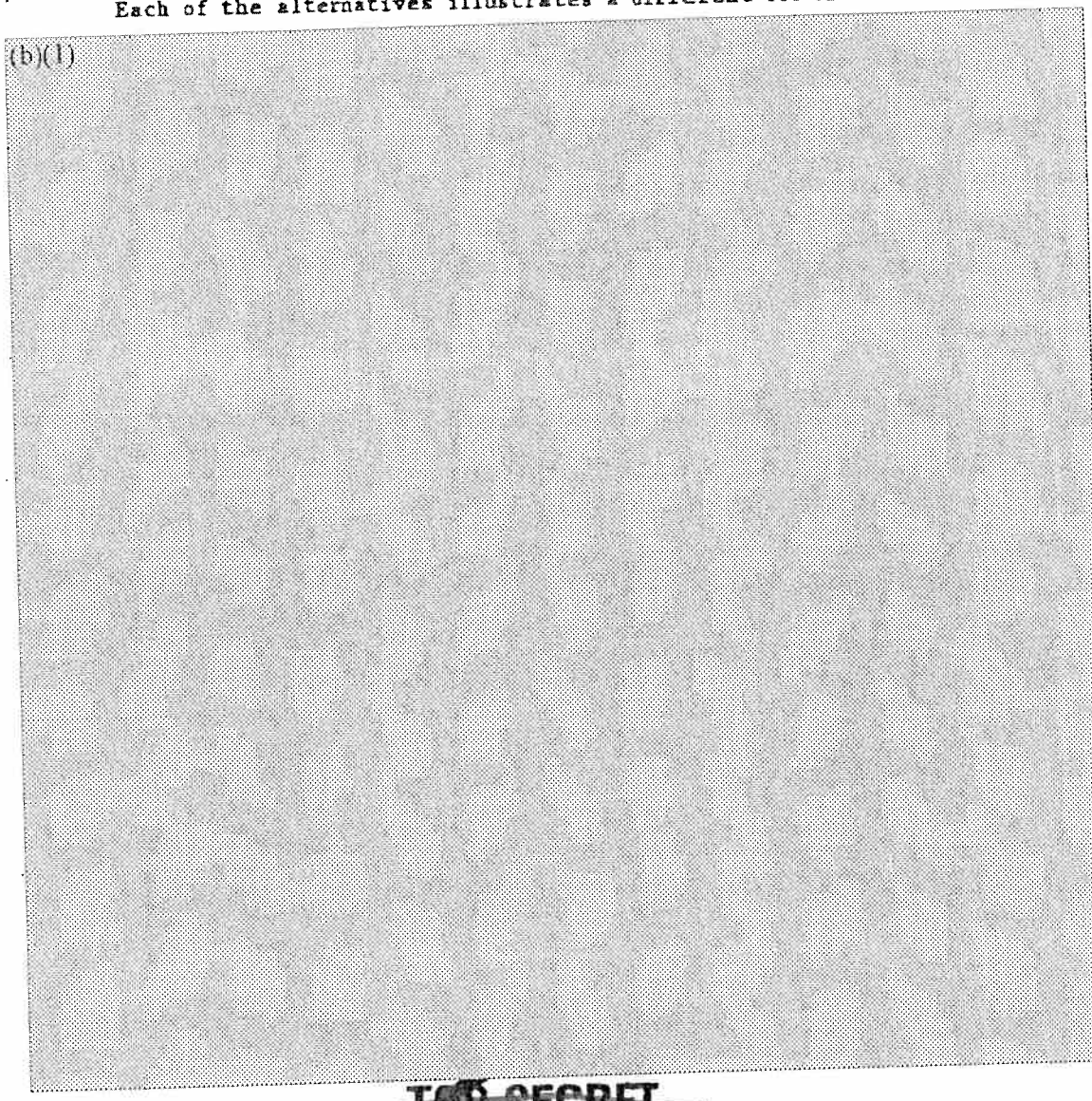

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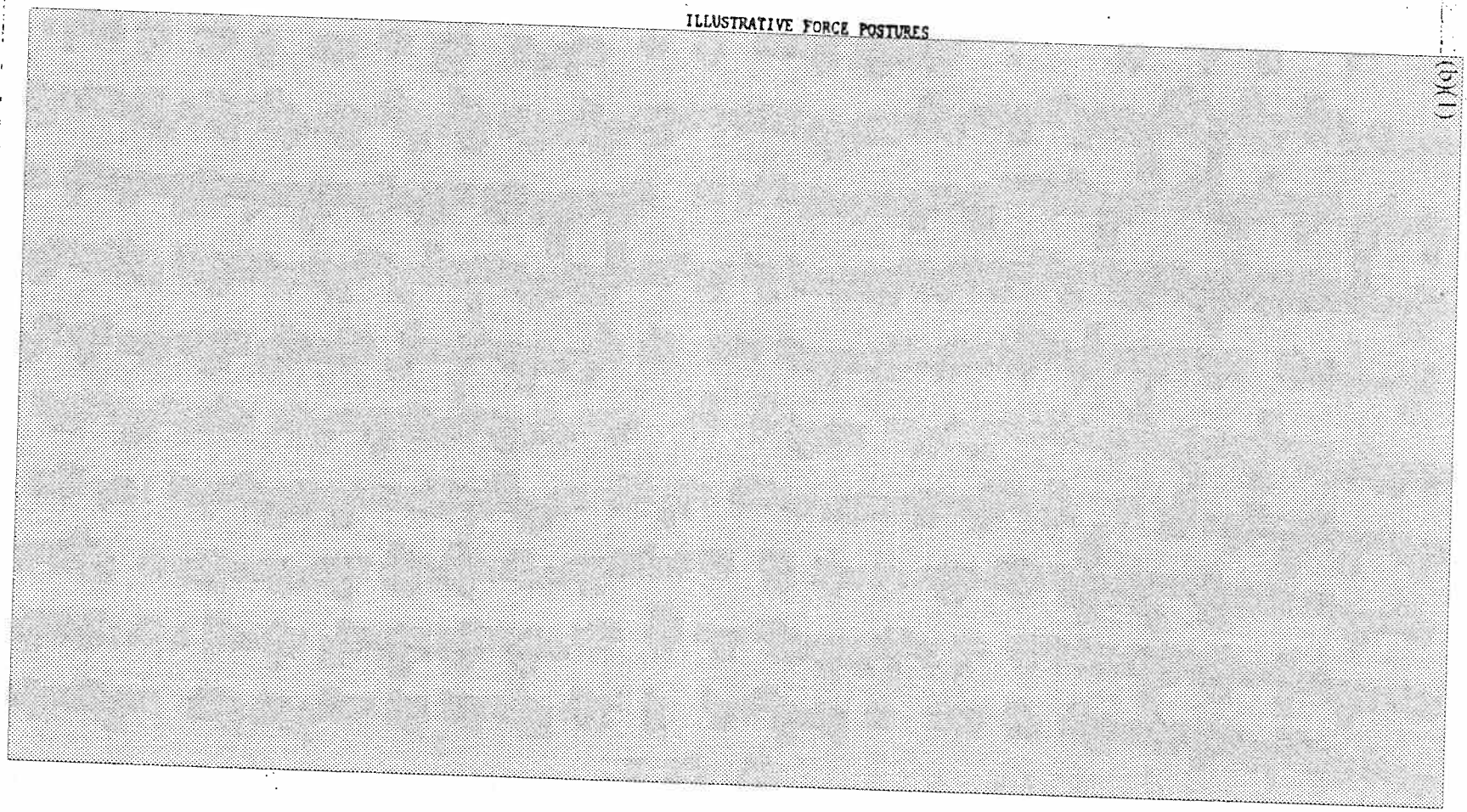
ILLUSTRATIVE FORCE POSTURES



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Force	Name	Issues	Increase in New Systems Capable of Striking SU	IOC[3/]	Cost Implications

(b)(1)

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Alternative I (Current Capability)

(b)(1)

Force Characteristic - 1985	Launchers (approx)
(b)(1)	900
Lance Missiles	100
Pershing II	180
(b)(1)	
F-111 and Vulcan	200 A/C
Polaris (UK)	64
Poseidon	40
Total Number of NATO TNF	2,284

(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

(b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

A. Military and Deterrent Implications

(b)(1)

(b)(1)

4. The forces would provide a capability to delay, halt, or defeat enemy forces in contact with NATO forces

(b)(1)

B. Political and Arms Control Implications

The Allied reps in the HLG have expressed their desire to increase NATO's capability to strike targets in the Soviet Union. Although they have supported the US interest in modernizing battlefield and theater support weapons systems, they continue to exhibit an uneasiness. They do not wish to create the impression that an aggressor could hope to confine the conflict to NATO territory (or some portion of Eastern Europe). More importantly, the Allies are concerned with the implications of the Soviet TNF buildup of forces for the continued coupling of US strategic forces.

(b)(1)

C. Cost*

The ten year cost of maintaining and modernizing the present NATO TNF force would be approximately 14 billion dollars. This figure serves as a baseline for the cost of the alternatives which follow.

* See Appendix I

(b)(1)

[redacted]

NATO would deploy in the theater a MIRVed Mobile MRBM, (b)(1) [redacted] (b)(1) plus a new "Strategic" aircraft. The survivability of the force, as well as Allied participation and cost sharing, would mirror the Soviet model. With respect to other NATO TNF, little would change.*

A. Military and Deterrent Implications

(b)(1)

[redacted]

B. Political and Arms Control Implications

This force could not be deployed until the end of the 1980s.

This alternative would remove any Allied perception of asymmetry between NATO and Warsaw Pact long-range TNF. However, the size of the force might raise serious questions in NATO regarding the coupling of US strategic forces to the NATO Triad and the extent of the US commitment to Western Europe. Moreover, the size and costs could create serious tensions among our Allies as regards cost sharing, participation, and base rights as well as opposition among the US and European publics.

* This alternative force is viewed by the interagency working group as unrealistic both in terms of allied acceptability and of the large size and cost. However, the two sides forces would in essence represent a "Eurostrategic Balance."

C. Costs

The costs of matching the Soviet SS-20 and Backfire would be an estimated 27 billion dollars (10-year life cycle costs)* or 13 billion dollars above the costs for the baseline TNF posture. Unless overall defense expenditures were increased or funds were drawn from US strategic programs, this alternative would be accomplished only at the expense of conventional forces. Operations and maintenance costs for this force are also likely to be very expensive, particularly if pre-launch survivability requirements dictate extensive peacetime dispersals. In that case, costs could be prohibitive.

* Assumes 200 MRBM launchers and 200 FB-111 H aircraft.

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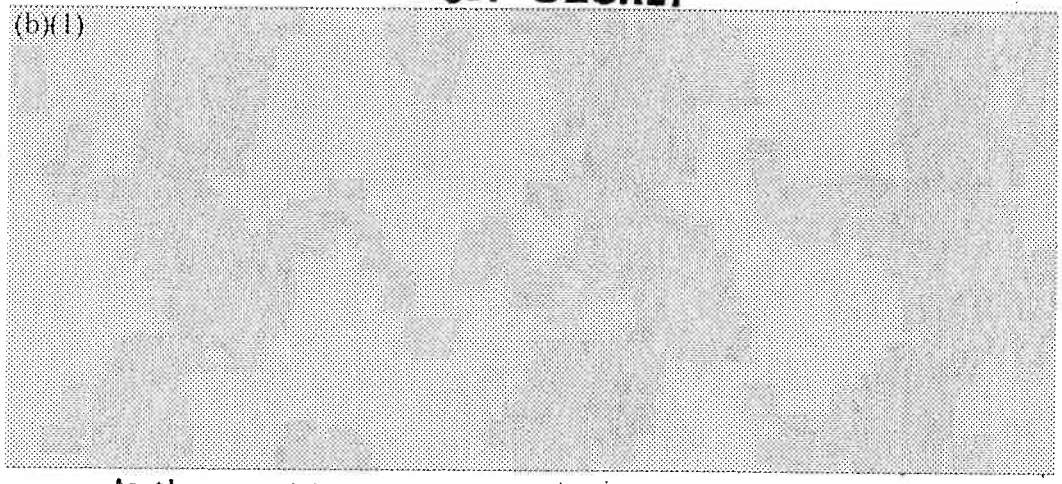

As the system is intended to be used late in a sequence of escalation, it must be able to survive even a massive Soviet pre-emptive nuclear strike. (b)(1)

A. Military and Deterrent Implications.

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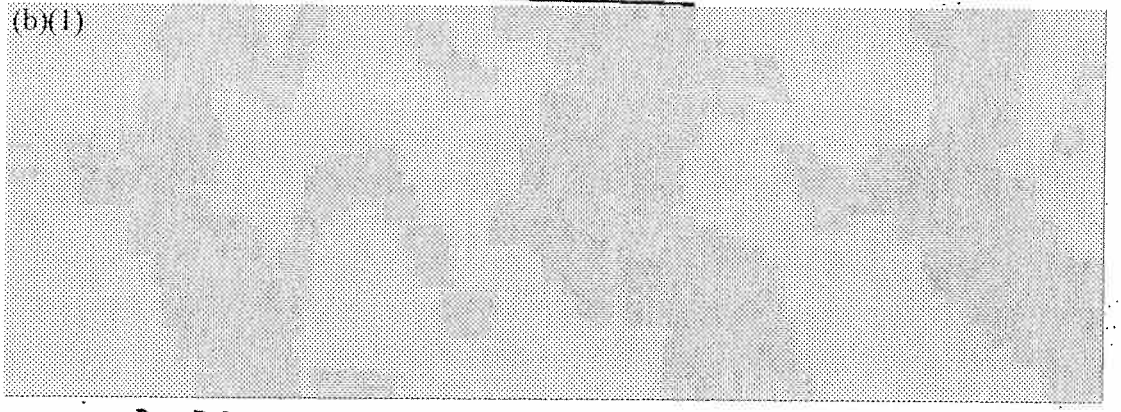

B. Political and Arms Control Implications.

This alternative, by "matching" the Soviet deployment of the SS-20, raises the issue of its effect on Allied perceptions of the coupling of US strategic forces to the NATO Triad and the willingness of the US to share in the risks involved in NATO defense. With respect to arms control, the cruise missile force would remove some of the "hair-trigger" problems associated with ballistic missiles. The threat posed to the Soviet Union would not be a disarming (b)(1) On the other hand, NATO could be critized for introducing a new long-range missile system in the European theater, thus fueling the arms race.

C. Cost.

The 10-year life cycle cost of the incremented force in this alternative is approximately 22 billion dollars, or 8 billion dollars above the baseline, thus potentially requiring trade-offs with conventional force improvements. The degree of peacetime dispersal required could make the additional associated costs and manpower providing security and support prohibitive.

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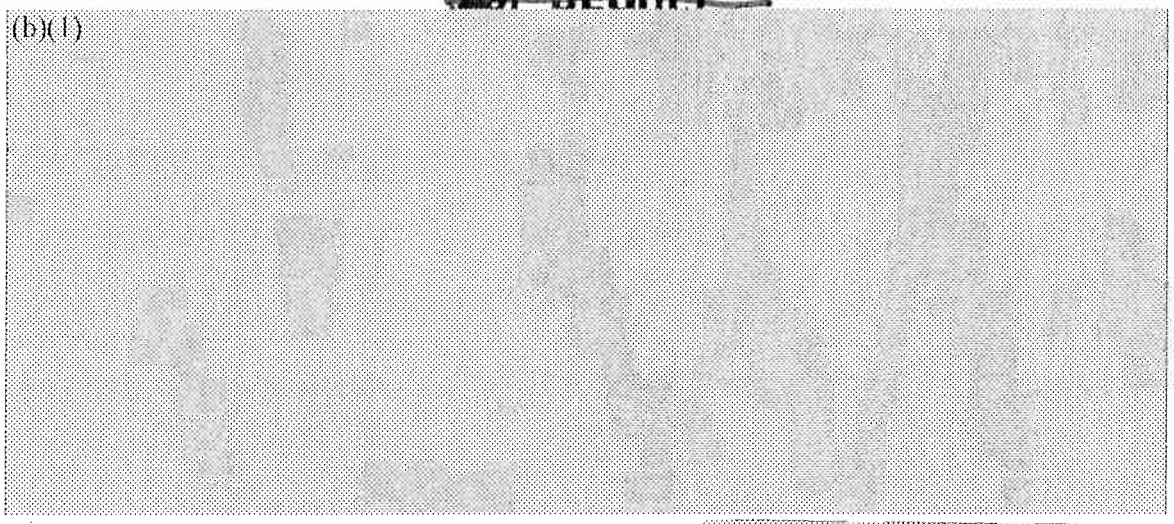

A. Military and Deterrent Implications.

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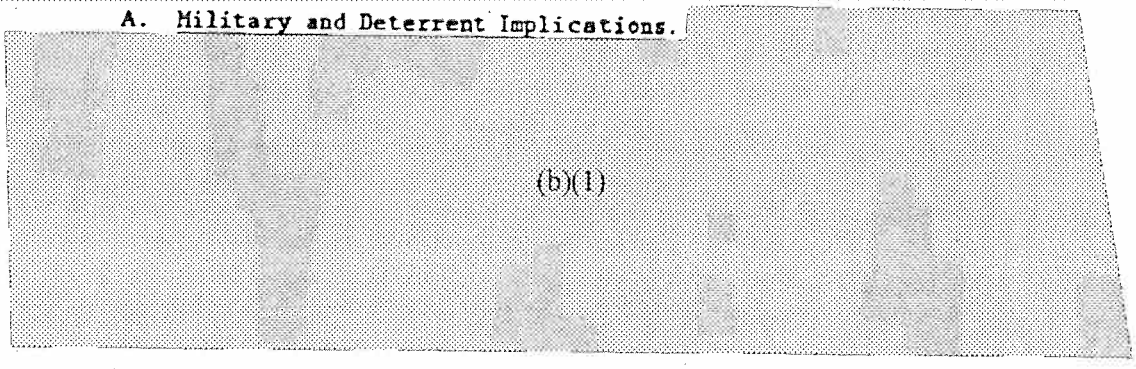

B. Political and Arms Control Implications. NATO would most likely view this alternative as a direct counter to the SS-20, although differences in the demography and relative target values open to each do not necessarily make them equal, politically or militarily. The linkage of this force to US strategic forces would lie in US control and targeting in coordination with SIOP. The NATO Allies, on the other hand, might view this force as a decoupling the US strategic deterrent. The dispersal requirements for this force appear to be politically infeasible, as basing an MRBM in any county except the FRG would appear most unlikely; another drawback of this force would be the time it will take before NATO could deploy the MRBM.

C. Cost. Investment costs of an MRBM force of this size would be high, something on the order of 24 billion dollars in 10-year life cycle costs, or 10 billion dollars above the cost of the baseline, and likely at the expense conventional improvements. To maintain a mobile system and provide the desired survivability that separates the MRBM from DCA and air bases will entail high costs for maintenance and daily operations. Personnel must be available for multi-shift duty, and new bases would be required in widely dispersed areas for training and logistics functions

even if one succeeded in keeping most of the missiles and warheads away from those locatable sites. Security costs would be high from the simple multiplication of sites to be kept secure.

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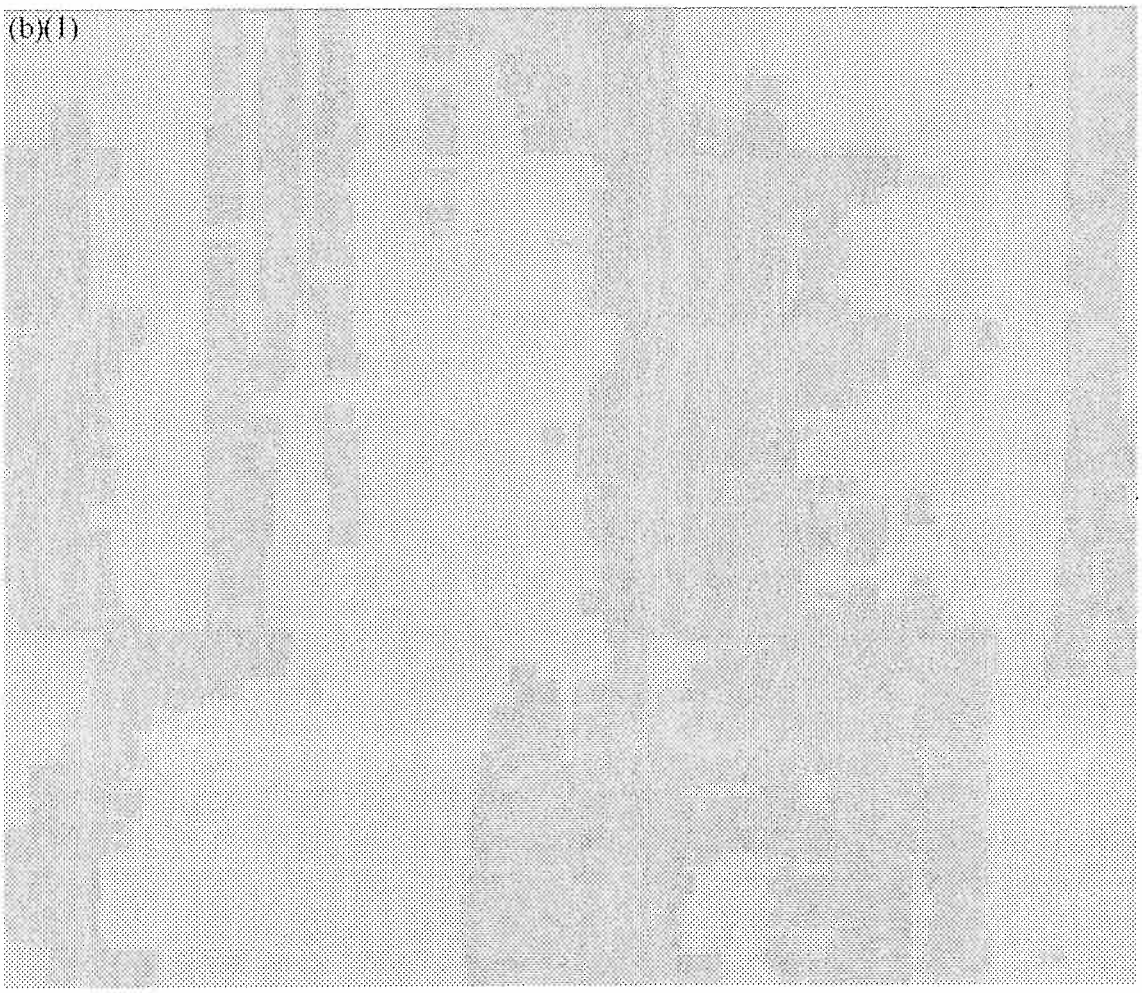

*There are obviously other ways to structure this force, changing the mix among it elements. This combination sought to field not less than 100 of each new missile and to retain a balance between land and sea based weapons.

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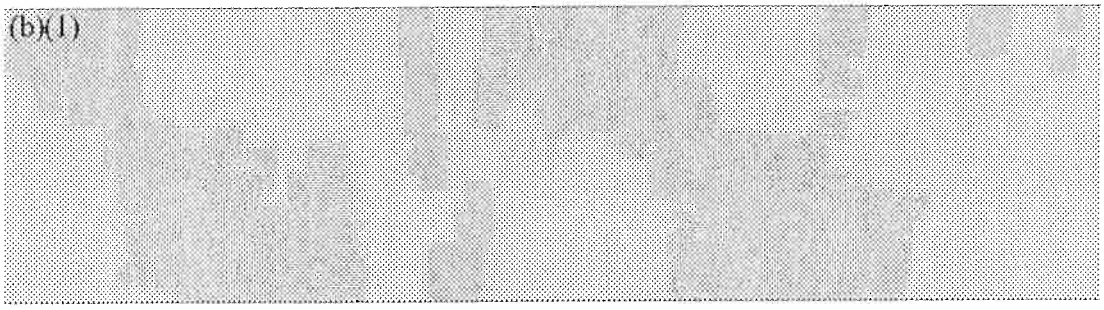

B. Political and Arms Control Implications. Land basing of the Pershing II and GLCM force would insure force visibility and greater survivability than current NATO forces. This force would be a limited response to the SS-20, probably not large enough to raise widespread concern over decoupling, and because it would be introduced beginning in the early 1980s, it might prove an incentive for arms control negotiations.

C. Costs. Pershing investment costs would be in hardware for the missiles and warheads. O&M costs would depend upon the degree to which present field maneuverability is sustained. GLCM would require new facilities and ground equipment as well as missiles and warheads. Unless new ships were to be procured, the SLCM cost would require only an increment to existing fleet costs. The total 10-year life cycle cost of this alternative would be approximately 18 billion dollars, or 4 billion above the current TNF program costs.

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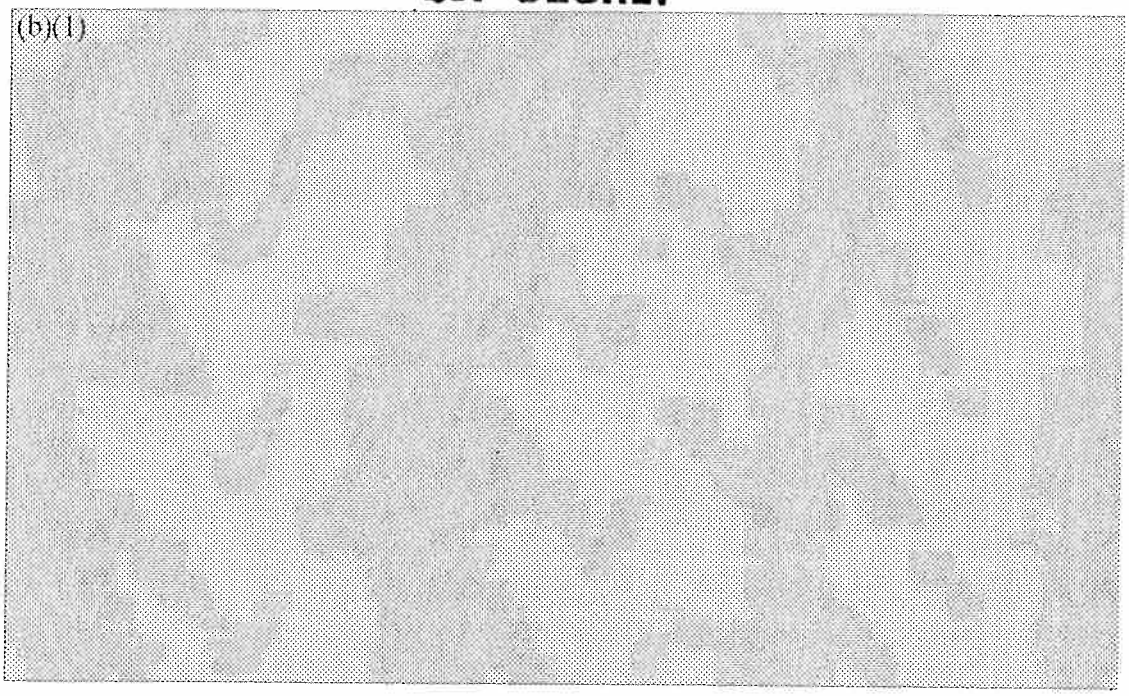

A. Military and Deterrent Implications

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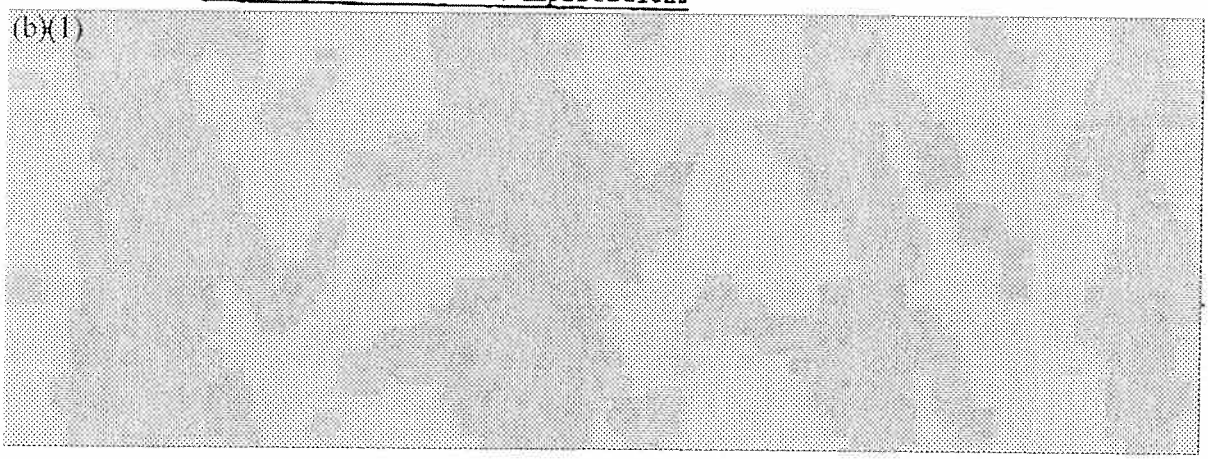


B. Political and Arms Control Implications

The Allies would perceive this force as a US commitment to modernize long-range TNF and as visible evidence to the Soviets of NATO's commitment to the nuclear defense of Europe. As a response to the SS-20 and BACKFIRE, the force would provide a near term response and perhaps bargaining leverage in any future arms control negotiation, and leverage in achieving broad arms control objectives. The force would

provide sufficient Allied participation to encourage involvement by all countries in modernizing theater nuclear forces.

c. Costs. For Pershing, the investment costs would be in hardware for the missiles and warheads. GLCM would require new basing facilities, launching equipment, missiles and warheads. FB-111H's costs would be shared with the Allies. The total 10-year life cycle cost of this alternative would be approximately 23 billion dollars or about 9 billion dollars above the base line.

(b)(1),(b)(3) 42 USC §2168(a)(1)(C)--(FRD)

[redacted]

A. Military and Deterrent Implications.

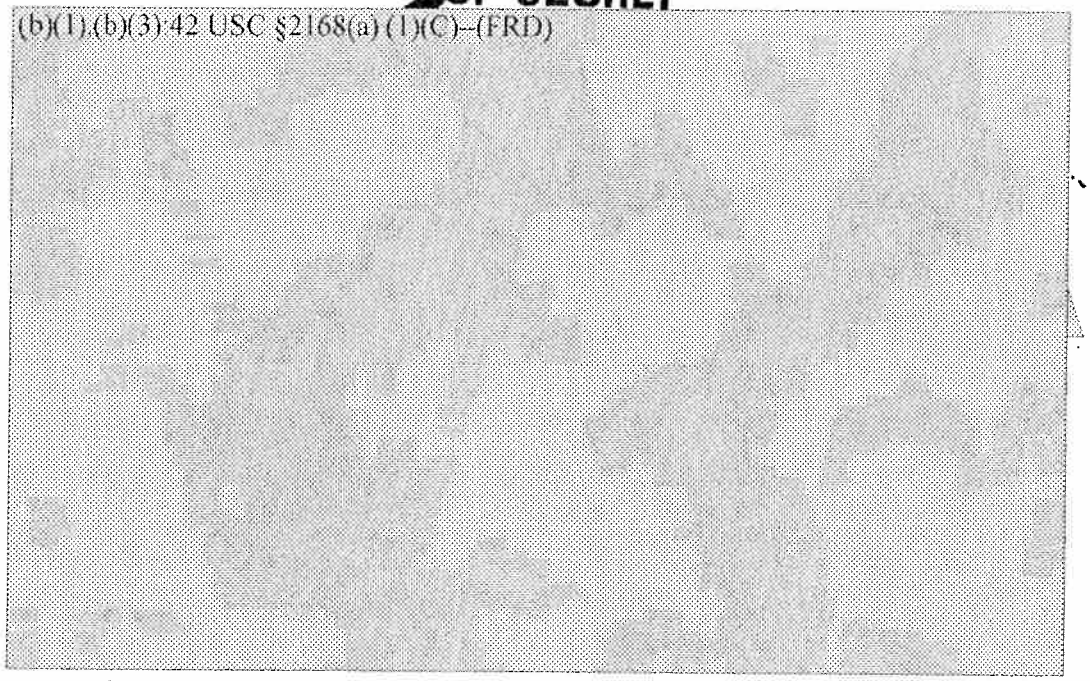
(b)(1)

[redacted]

B. Political and Arms Control Implications. The Allies traditionally have been somewhat skeptical regarding the credibility of sea-based nuclear strike forces. This skepticism derives from concerns about the willingness of the US to employ these systems, their capability for rapid withdrawal for use elsewhere, their lack of visibility, and lack of Alliance participation. Whether this predominantly maritime alternative, which includes a small land-based long-range capability, would be a sufficient Allied response to the Soviet TNF buildup, is uncertain. Whether impact on Allied views would be greater than commitment of more SLBM RVs also in unclear.

C. Cost. The provision for dedicated underseas platforms and additional platforms to permit continuous peacetime dispersal has a potential to increase both the investment and O&M costs over that of similar sized long-range alternatives. The estimated 10-year life cycle cost might be expected to be in the order of 24 billion dollars, including the cost of the ten submarines, or 10 billion over the baseline cost.

(b)(1),(b)(3) 42 USC §2168(a)(1)(C)-(FRD)



With respect to participation and cost sharing, NATO would continue present arrangements with the SLCM probably being

(b)(1)

A. Military and Deterrent Implications.

(b)(1)

(b)(1)

If the present SALT II agreement is accepted the CMC would probably have to be counted against the US sub-ceiling on MIRVed missiles.

The costs associated with the ALCM variant would be largely dependent upon how many CMC were chosen but not be significantly different from the basic alternative.

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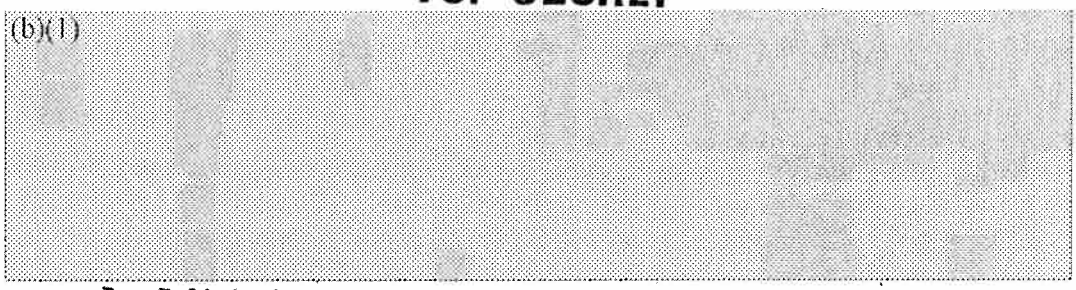
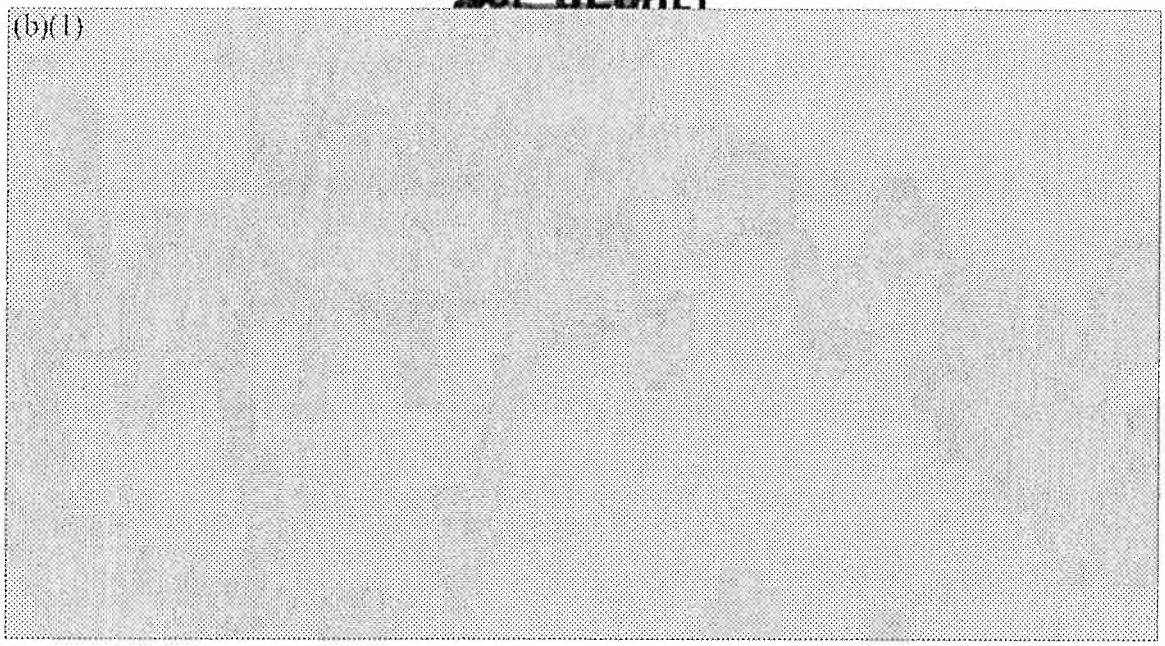


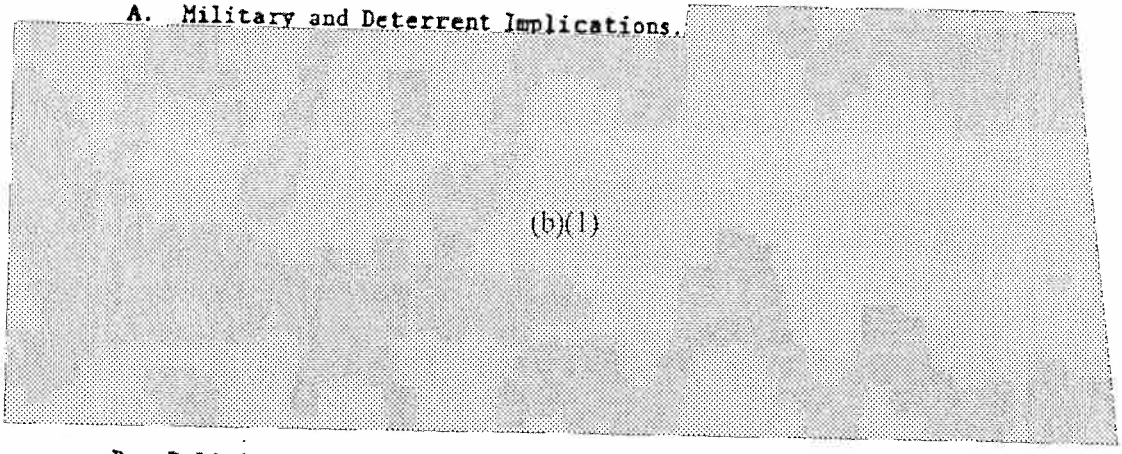
B. Political and Arms Control Implications. This alternative meets the Allies' desire to respond to Soviet theater nuclear modernization by introducing a visible long-range capability. The quantity is not large enough to suggest decoupling. Whether it would be sufficient as the NATO response to the SS-20 and Backfire is uncertain. The alternative would not signficantly change many of the relationships regarding cost and risk-sharing nor pose any need to alter the present nuclear control arrangements.

C. Costs. This alternative could be implemented at or under the cost associated with maintaining or modernizing the UK SLBM and Pershing forces both in terms of investment and O&M, since personnel requirements can probably be held at present levels or even reduced. The estimated 10-year life cycle cost would be established at about 17 billion dollars, or 3 billion dollars above the baseline.

(b)(1)



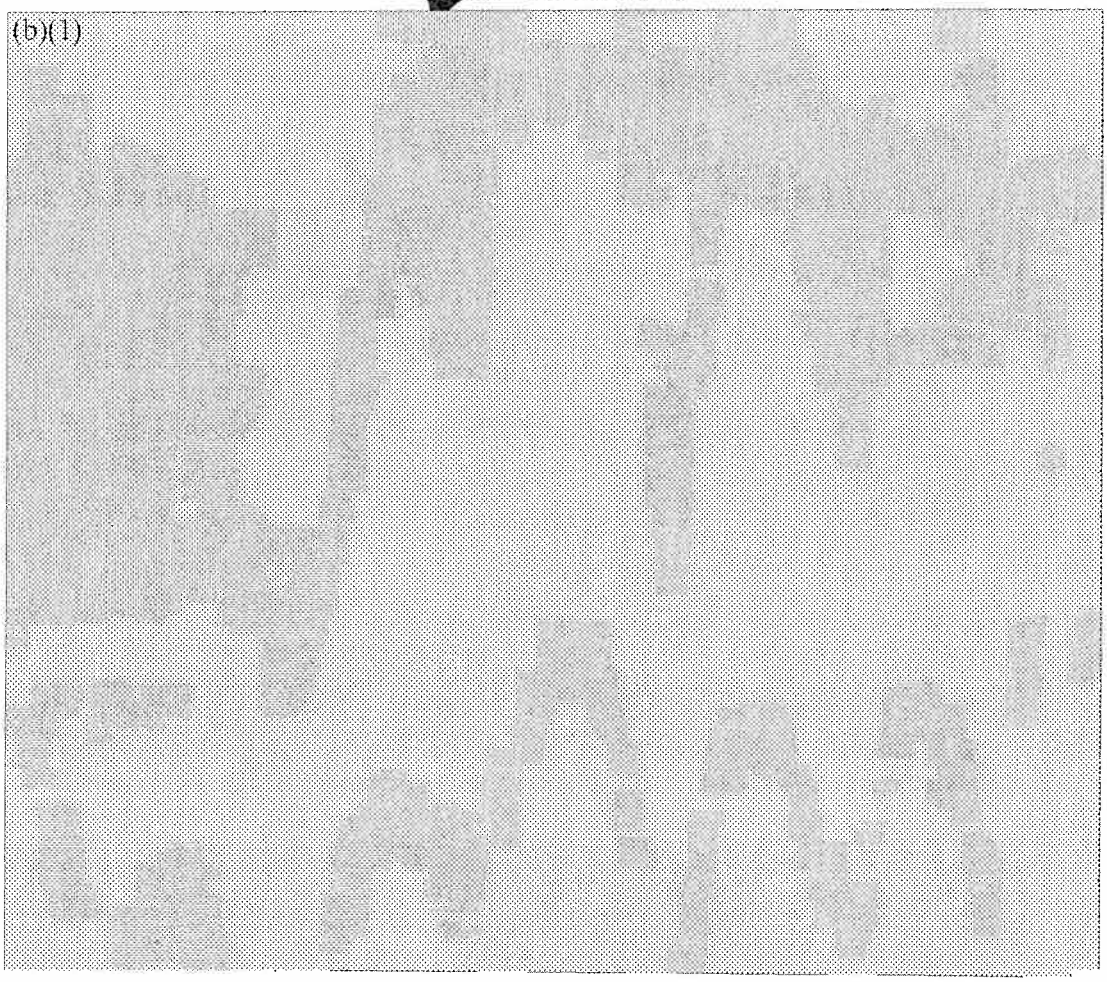
A. Military and Deterrent Implications.



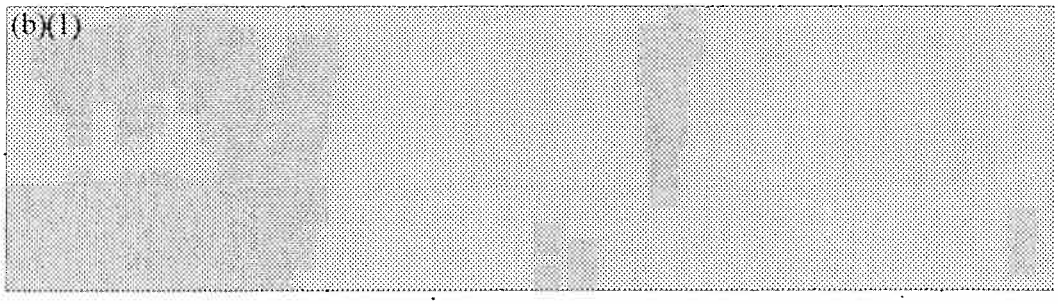
B. Political and Arms Control Implications. The Allies reaction will depend upon how they perceive the intended coupling, including the value of a force which provides a continental land-based threat to the Soviet Union but which falls short of a full retaliatory response. One view might be that this change represented a "dangerous tokenism," i.e., provocative to the Soviet Union without providing any substantial benefits to NATO. Another view might be that such a largely symbolic deployment would strenghten the credibility of the US strategic deterrent and contributions to a potential arms control agreement by indicating NATO's willingness to deploy a long range nuclear capability.

C. Costs. The 10 year cost of this alternative would be approximately 15 billion dollars. As it would replace the present Pershing force, NATO could expect to maintain the over-all TNF posture at only slightly greater cost (1 billion dollars) than Alternative I, the "Null Case."

(b)(1)



(b)(1)



B. Political and Arms Control Implications.

This alternative would alleviate Allied concerns for asymmetry between NATO and Warsaw Pact TNF but may raise the decoupling issue. The balance in NATO/Warsaw Pact theater nuclear forces would be better apportioned. Soviet incentive to engage in negotiations on arms limitations might be enhanced. Political acceptability of some weapon systems

by the Allies might be troublesome unless associated with some arms control objective. On the other hand, this force offers opportunities for Allied participation and risk sharing.

C. Costs. MRBM and GLCM would require new basing facilities, launching equipment, missiles and warheads. A mobility feature in the MRBM could increase costs depending on the mobility deployment concept. SLCM costs include missiles only and installation on surface platforms. Submarine costs were considered sunk costs. FB-IIIH's costs would be shared with the Allies. The total 10-year life cycle cost of this alternative would be approximately 28 billion dollars or about 14 billion dollars above the baseline forces.

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ANNUAL COSTS OF U.S. TNF IN NATO
FY 1977 $
(From Army Cost Book & FYDP)

Army

Lance BN $9.4M x 6 BNs =	$ 56 M
8" BN $9.7M x 13 BNs = $126 x 1/3*	$ 42 M
155 mm BN $10.6M x 17 BNs = $180 x 1/3*	$ 59 M
Nike Hercules Btry $2.9M x 16 Btrys	$ 46 M
ADM Team $.06 x 100**	$ 6 M
Pershing Force (3 BN + 1 INF BN)	$143 M
	$352 M

Navy (b)(1),(b)(3):42 USC §2168(a)(1)(C)--(FRD)

Poseidon $40.8/SSBN x 2.6 SSBNS	$106 M
[redacted]	
A6.A7 $1.1/AC x 140 AC = $154 x 1/3*	$ 50 M
	$156 M

Air Force

F-4s $1.02M/AC x 300 AC = $306M x 1/3* =	$100 M
F-111 $1.66M/AC x 156 AC = $259 x 1/3*	$ 85 M
	$185 M
Grand Total	$693 M

- Annual Cost of U.S. TNF Based in Europe 700 M/yr x 10 yrs.*** — $ 7 B
- Programmed Procurement (No Impact on O&M Assumed)
  - -- (b)(1) — $ .5B
  - -- [redacted] — $1.3B
  - -- PII (108 LCHRS + 90 Reloads) — $ .9B

  $ 2.7 B
- Allied TNF Annual Cost 1/2 U.S. $300M - $400M x 10 yrs — $3B - 4B

TOTAL . . . . Base Case — 14B

* Arbitrary allocation of 1/3 for nuclear mission.
** 4 men/team @ $15K/man/year.
*** Assume additional TNF in CONUS which could be deployed to NATO approximate the annual cost of Allied TNF ($300M - $400M).

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E2C

III. Long-Range Theater Nuclear Systems in Arms Control

A. Background and Objective of Arms Control Negotiations on Long-Range TNF

1. Negotiating Background

There are by now four principal TNF-related negotiating precedents: Soviet attempts to include US forward-based system (FBS) in SALT; cruise missile and Backfire limitations; the agreement in the joint statement of principles to negotiate protocol issues in SALT III; and the NATO "nuclear offer" (Option III) in MBFR.

FBS

Long-range theater nuclear systems were first introduced into the SALT process early in SALT I, when the US briefly argued for the inclusion of Soviet IR/MRBMs. The Soviet Union rejected the inclusion of such systems on the grounds that SALT limits should apply only to systems which threatened the homeland of the other side. According to this criterion, the Soviets then insisted that Allied nuclear systems and US FBS--i.e., US missiles and dual-capable aircraft able to reach Soviet territory from bases in the UK, Continental Europe, and Asia, and from forward-deployed aircraft carriers--be dealt with in SALT.

Soviet proposals on FBS have taken several forms. In their initial SALT I "radical" solution to the FBS issue, the USSR urged that all FBS (both carrier and land-based) be withdrawn some unspecified distance from Soviet territory, that their forward bases be liquidated, and that Allied nuclear systems be included in the limitations. Later, they demanded "compensation"; in exchange for systems not withdrawn, the Soviet Union should be allowed to deploy a larger number of strategic missiles.

US responses to these Soviet demands in SALT I were based on the so-called "Helsinki formula" of December 1970, which stated that consideration of "other nuclear delivery systems" (both US and Allied) would have to be deferred until such time as "all the elements of an initial agreement on central systems have been worked out." Although the Soviets clearly viewed this formulation as inadequate, the US successfully resisted the inclusion of US FBS and Allied systems in the 1972 Interim Agreement.

Once the Interim Agreement was signed, the Soviets immediately served notice that the FBS issues would be central to their approach to SALT II, and staked out a maximum negotiating position in the first session. The US firmly rejected any FBS limits in SALT II, and the Soviets agreed not to include FBS in the SALT II guidelines drafted

8107/3, 8596

at Vladivostok in 1974. Subsequently, they proposed non-transfer provisions which were aimed at constraining FBS. The US rejected the non-transfer proposal, but offered to deal with the question through a generalized non-circumvention provision. In the context of the SALT II agreement now being negotiated, the Soviets also raised the FBS issue in discussions of the Joint Statement of Principles for SALT III. Here the Soviets called for a "radical solution" to the question of US forward- and carrier-based systems, as well as Allied systems, as a goal for SALT III negotiations. The US refused to commit itself to any such discussions, and eventually the Soviets tabled language which dropped any explicit reference to Allied systems and US FBS, replacing it with the more general formulation that future limitations and negotiations take into account "all relevant factors that determine the strategic situation."

Cruise Missiles and Backfire

Once the FBS question had been removed from SALT II at Vladivostok, its place as a contentious issue was taken by the cruise missile and Backfire issues. There are clear technical differences between these two systems./ However, the two sides have used practically identical arguments (that their own system was primarily a theater system and thus peripheral to the central strategic balance) in resisting consideration of Backfire and medium-range cruise missiles as strategic systems.

Neither issue has yet been resolved. Our major European Allies see a basis for concern in the different formal treatment the cruise missile and Backfire have received in SALT II. In the case of Backfire, [redacted] the US has indicated a willingness to exclude this system from the overall aggregate, if the Soviets would provide certain specific assurances that would limit production to the present rate and inhibit Backfire's ability to be employed in an intercontinental role. To many Europeans, this formula may be perceived as heightening Backfire's theater role.

Several of our NATO Allies--especially the FRG--have expressed concern that the Joint Statement of Principles, in conjunction with the Protocol, raises the possibility that SALT III will deal only with central systems and cruise missiles. The FRG also fears that US agreement to continue to negotiate on Protocol issues means that the US theater options (e.g., cruise missiles) will unavoidably be less open, and they note that no similar potential limitation exists for Backfire or the SS-20.

To allay these concerns, in February 1978, the US informed the NAC that it was contemplating handling the

FBS/cruise missile question by a unilateral declaration outside the Agreement, stating that "any further limitations on US systems primarily designed for theater missions should be accompanied by appropriate limitations on Soviet theater systems." After bilateral discussions with the FRG, France, and the UK in June 1978, the US has decided that it will issue the declaration, at an appropriate time after signature of SALT II.

At present, the major cruise missile provisions in the draft SALT II Treaty and Protocol relevant to potential TNF negotiations involve cruise missile definitions and range limitations. The US position is that SALT limits should apply to nuclear and conventionally armed cruise missiles only for the period of the Protocol. After expiration of the Protocol, the US maintains that the numerical and range limits will apply to all armed cruise missiles deployed on heavy bombers, but only to nuclear-armed cruise missiles on other aircraft. Limits on conventionally armed cruise missiles, if any, will be subject to further negotiations. On the other hand, the Soviets maintain that SALT limits apply to all cruise missiles for the full period of the Treaty.

Non-Circumvention

The sides have now agreed to the US-proposed language on non-circumvention, which provides that neither side shall circumvent the agreement "through any other state or states, or in any other manner." There is no explicit non-transfer provision; nevertheless, the existence of a non-circumvention provision referring to "other states" has raised Allied concerns that US flexibility to transfer systems, components, and technology might be restricted. They have consistently urged that this provision be given a narrow interpretation. For instance, the Petrignani Group paper urged (in 1977) that non-circumvention not constrain: (a) systems which are of less than SALT ranges, but which because of European basing could be considered strategic by the Soviets; (b) transfer of technology which is common to strategic and non-strategic systems; and (c) continued US support for the UK. The Allies have also talked of interpreting the non-circumvention commitment as tied exclusively to those systems limited in the Treaty.

In response to these concerns, the US has indicated its willingness to issue, after signature of SALT II, an interpretive statement to the NAC and to Congress about the significance of the non-circumvention provision. In essence, the statement will present the view of the US that: (a) the provision simply makes explicit the inherent obligation any state assumes when party to an international agreement, and does not impose any additional obligation whatever, beyond the specific obligations of the provisions of the Treaty and Protocol; (b) we have made clear in the negotiating record that transfers of weapons or technology

to our Allies will continue, and cannot, therefore, ipso facto constitute circumvention; (c) transfers of systems not numerically limited or prohibited by the agreement would not be affected; transfers of numerically limited systems would not necessarily be precluded, but would be dealt with on a case-to-case basis; transfers of systems prohibited to the US would be precluded; (d) the provision will not affect existing patterns of collaboration and cooperation with our Allies, nor preclude cooperation in modernization; and (e) in accordance with recognized international practice, no third party can be bound or legally affected by the obligations the US assumes.

MBFR

The only other current TNF-related negotiating concern involves the NATO "nuclear offer" (Option III) in MBFR. However, Option III is a carefully circumscribed offer, reflecting a "most threatening elements" rationale and is not designed to deal with the overall theater nuclear balance. Option III does set a numerical limit on all US nuclear capable aircraft, and on all US launchers for ballistic SSMs with a range exceeding 500 km. It thus covers MRBMs and Pershing II Extended Range systems but not GLCMs, and does not include European systems.

In the abstract, it is also possible that the proposed US unilateral statement on theater systems could be construed as reopening the question of nuclear limits in MBFR; however, the intended meaning of the statement is that limitation on US systems other than those already proposed in MBFR should be accompanied by appropriate limitations on Soviet theater systems.

2. Possible Objectives in Negotiating Long-Range TNF

There are several hypothetical political and military objectives that negotiations on long-range theater nuclear forces could be intended to serve. They are by no means mutually exclusive; broadly speaking, they could include:

--responding to European concerns about the perceived implications of strategic parity, and about Soviet theater modernization. In this case, negotiations would be tailored to discourage European (and Soviet) perceptions of decoupling, maintain US political and strategic leadership, avoid de facto Soviet oversight of European force planning and deployment decisions, and maintain future European TNF hardward options, including national systems.

--improving NATO's nuclear posture relative to the Soviet Union/Warsaw Pact. There are three related aspects:

-limiting the Soviet threat to NATO's deterrent posture, by directly constraining the number or kinds of deployed Soviet long-range nuclear systems.

-reducing the vulnerabilities of NATO's deterrent posture. Except to the extent that it limits the Soviet threat, arms control cannot directly improve the survivability of Western systems. Hence, the objective here is a negative one: negotiating packages should be designed to permit necessary changes in composition and mix that would reduce the overall vulnerability of US/NATO's TNF.

-creating a more favorable political context for Western theater nuclear force improvements. Independent of the outcome of any negotiations, a serious and plausible arms control effort may aid in improving the domestic political acceptability (both in the US and in Europe) of Western TNF modernization.

--stabilizing the European nuclear balance over the long term, by avoiding a bloc-to-bloc competition in long-range theater nuclear systems. While the previous set of objectives seeks to improve the balance, this one seeks to stabilize it. The focus here is on deployment stability. For example, Soviet deployments of such systems as the SS-20 have already created pressures for counter-deployments. Arms control might seek to moderate those pressures (by limiting Soviet deployments), as well as restrain the Soviet response to future Western deployments.

--sustaining the SALT process. The rationale would be that theater systems would become more significant as SALT reductions and other limitations took effect, and that negotiations on at least selected long-range theater systems might be necessary both to enhance the negotiability of other SALT issues with the Soviets, and to enhance European support for the SALT process itself.

--inhibiting nuclear proliferation. Some political leaders in non-nuclear weapons states have argued that US and Soviet nuclear modernization programs, especially those that have become politically prominent, are inconsistent with the nuclear powers' advocacy that other states forego developing nuclear weapons altogether. Large-scale deployments of nuclear-armed cruise missiles, in particular, could be cited as evidence that the nuclear powers had deflected the arms race into a new channel. Whether or not such arguments bear any real relation to national decisions to go nuclear is a matter of dispute, but, to the extent that they do, they reinforce the objective of avoiding a bloc-to-bloc competition in long-range TNF.

It should be noted that, although arms control can in principle serve a variety of objectives, there are also some potential disadvantages of an arms control approach

in general which need to be examined. For example, it is conceivable that an arms control agreement--especially one which establishes equal aggregates at relatively high levels--might propel the US and NATO toward a greater level of deployments than they might otherwise decide is appropriate on military and/or political grounds alone. But a final assessment as to whether an arms control approach would be preferable to no arms control cannot be made in the abstract. Rather, such an assessment would seem to depend upon, first, an agreement as to the military and political criteria against which negotiating outcomes would be measured; second, a judgment as to what kinds of unilateral measures we would wish to take if we were free to do so; and third, the detailed provisions of the agreement.

However, even if no final judgment can be made in advance, it does seem possible to specify some of the general conditions in which an arms control approach would be most attractive:

--cases in which the motives for US/NATO deployments are directly threat-related (i.e., tied to the current or projected level of Soviet deployments, rather than taken to improve intrinsic military or political characteristics of the force);

--cases in which the USSR seems most likely to react to US/NATO TNF deployments with new deployments of its own;

--cases in which the US itself would not choose unilateral force improvements, in the absence of European pressure to do so; and

--cases in which, for political or budgetary reasons, the US and NATO were unwilling or reluctant to make unilateral deployments sufficient to meet military requirements.

B. Issues in Theater Nuclear Arms Control

1. Systems to be Covered

This section describes the systems and forces which are candidates for arms control negotiations on theater nuclear forces. Given the discussion in the preceding section, the primary focus is on US and Soviet theater nuclear forces in Europe. Systems limited by the SALT II Treaty (SLBMs, ALCMs) are not considered. Because issues of compensation and non-circumvention are likely to arise, the theater nuclear forces of the NATO and Warsaw Pact members are also discussed. For tabular data, see page I-39 and the Annex.

The figures given below for long-range forces include the USSR to the Urals; figures for shorter-range forces include only those in the three Western Military Districts (WMDs).

a. Long-Range Systems

For purposes of discussion, ballistic and cruise missiles are categorized according to whether they are land- or sea-based.

Land-Based Missiles

Candidate Soviet land-based systems are the 456 SS-4/SS-5 M/IRBMs deployed in the Western USSR and presumably intended for use against NATO. These systems are being retired concurrent with the introduction of the mobile SS-20 IRBM, of which as many as 200 firing units (a TEL and three missiles) may be deployed in western Russia by the mid-1980s. Additionally, about 100 SS-20 firing units may be deployed against the PRC during this same period. A substantial number of the currently-deployed Soviet ICBMs (SS-11, SS-17, SS-19) have a variable range and retargeting capability, and could be used against either intercontinental or theater targets. But these missiles are presently included in SALT provisions and hence would not be candidates for further negotiation.

The US land-based system which is the primary candidate for inclusion is GLCM, planned for an IOC in 1982. Presently, procurement of 696 GLCMs is planned, providing 600 nuclear-armed GLCMs for unit equipment. The proposed GLCM launch platform is a truck-mounted launcher rack with four missile tubes. (Additionally, the possibility of US deployment of an extended range Pershing or a new MRBM could weigh in any negotiation.

Sea-Based Missiles

Candidate sea-based launchers are US SLCM platforms (1982 IOC), Soviet SLCMs, and those Soviet SLBMs not limited by SALT. Presently, six Soviet Golf II class submarines are deployed in the Baltic; each has three SS-N-5 ballistic missiles. (Some Soviet Y-class SSBNs, with SS-N-6 SLBMs, also apparently have theater assignments. They would be covered by SALT II, and are not further considered here.) Possible systems on the US side are planned deployment of land attack sea-launched cruise missiles. The US Navy presently plans to install both nuclear-armed land attack and conventionally-armed anti-ship SLCMs on all submarines of the 594, 637, and 688 classes (about 90 platforms), as well as on cruisers and Spruance-class destroyers (52 platforms). It is anticipated that not more than eight SLCMs (a mix of land attack and anti-ship versions) would be deployed on each SSN, which would result in about 720 deployed

SLCMs on SSNs world-wide (of which perhaps one-third would be at sea on a day-to-day basis). The US also has 400 Poseidon RVs allocated to SACEUR, but these would not be candidates for negotiation because they are included in present SALT limits.

Long-Range Aircraft

On the US side, and apart from heavy bombers limited by SALT, the system of greatest concern to the Soviets is the F-111 fighter bomber (and the FB-111, if limits are world-wide or if it is deployed in the theater); 175 (156 UE plus 19 float) are currently based in the UK. Additionally, the Soviets might seek to include US carrier-based aircraft (A-7 and A-6) in the Atlantic and Mediterranean.

Soviet long-range aircraft are currently deployed with the forces of Long Range Aviation (LRA) and Naval Aviation. Available for use in Europe are the bombers of the 1st (Smolensk) and 2nd (Vinnitsa) LRA Armies and those in Naval Aviation deployed in support of the Baltic, Northern, and Black Sea fleets. There are approximately 400 LRA aircraft and 250 Naval Aviation Badger, Blinder, and Backfire medium bombers in these commands. Additionally, LRA bombers deployed with the Far East Bomber Corps (Irkutsk) and Naval Aviation bombers with the Pacific Ocean Fleet Air Force might be included in negotiations.

b. Other US and Soviet Theater Nuclear Systems

Other US and Soviet theater nuclear systems which theoretically might be included in negotiations are nuclear-capable tactical aircraft, tactical ballistic missiles and rockets and nuclear-capable artillery.

Aircraft

US aircraft which are considered nuclear-capable and based in Europe are the F-111, discussed earlier, and the F-4. Currently, there are about 490 such aircraft (excluding carrier aircraft) based in Europe.

Because Soviet practices with respect to nuclear delivery aircraft differ from those of the US, almost all contemporary tactical aircraft are judged to be nuclear-capable. These aircraft include Fishbed (Mig 21 J/K/L), Flogger B (Mig 23), Flogger D (Mig 27), Fitter A (SU-7), Fitter C (SU-17), Foxbat (Mig 25), Brewer (Yak-28), and Fencer (SU-24). Approximately 2,500 of these types of aircraft are deployed with Soviet forces in Eastern Europe and in the western Soviet Union. However, only about one-third of Soviet aircraft are nuclear-qualified and -assigned.

Missiles

Additionally, both the US and Soviet Union have tactical missiles deployed in Europe. US nuclear-capable systems comprise 115 Pershing Ia launchers (108 UE plus 7 float) with 198 missiles (the more accurate Pershing II is planned to replace the current system on a one-for-one basis) and 40 shorter range Lance launchers (36 UE plus 4 float). US forces also have nuclear-capable Nike Hercules SAM launchers which could be used in a surface-to surface role.

Soviet forces are presently equipped with the SCUD surface-to-surface missile and the FROG rocket; 60 SCUD and 124 FROG TELs are presently deployed with Soviet forces in eastern Europe, 120/240 including the Western Military Districts (WMDs) of the USSR. Finally, there are an estimated 72 Scaleboard launchers deployed in the western Soviet Union. Replacements for all of these systems are expected in the 1980s. The Soviets have completed development of follow-ons for the FROG (the SS-21) and for Scaleboard (the SS-22). A possible follow-on to the SCUD (presently designated KY-13) is in an early stage of flight testing.

Artillery

Nuclear-capable artillery are also possible candidates for consideration. US forces presently have 155 mm and 203 mm artillery deployed in Europe, of which about 612 tubes are nuclear-certified. Soviet forces in Europe do not have nuclear-capable artillery. It has been estimated that the Soviets have the technology to develop a nuclear projectile for the 152 mm artillery, but no evidence exists that they have fielded such a capability. Soviet 203 mm artillery and 240 mm mortars apparently are nuclear-capable, but these systems are presently deployed only in USSR. Soviet forces in the WMDs have 48 203 mm artillery tubes and 48 240 mm mortars.

c. Other Allied Systems

Other NATO and Warsaw Pact members possess a variety of nuclear delivery vehicles. On the NATO side, as discussed previously, these include national systems as well as those held under dual-key arrangements.

Both the UK and France have national nuclear forces which are not part of the dual-key arrangement. The UK's national forces consist of both long-range and shorter range nuclear systems. Four submarines, each with 16 Polaris missiles, provide an independent long-range strike capability. In addition, the UK controls the warheads for its own tactical aircraft, such as the Buccaneer S-2B, the Jaguar, and, when it enters the inventory, the MRCA Tornado. French national

forces are composed of 18 IRBMs, four submarines each with 16 MSBS ballistic missiles, 36 operationally-assigned Mirage IVA light bombers, 30 Pluton tactical ballistic missile launchers, and some older nuclear-capable Honest John rockets (without nuclear warheads). There are also tactical aircraft (Mirage IIIE, Jaguar A/E, Vautour IIB, Mirage V-F, and the carrier-based Super-Etendard) which could be used for nuclear delivery.

NATO nuclear systems whose warheads are held in dual-key arrangements encompass tactical aircraft, surface-to-surface missiles, and nuclear-capable artillery. Allied dual-capable aircraft which could be used for nuclear delivery, presently number about 800 and include the Buccaneer, Jaguar, F-4, and F-104. Planned introduction of the F-16 and MRCA Tornado will modernize this force. Also deployed with NATO forces are about 144 Honest John and Lance launchers, 278 nuclear-certified 155 mm and 203 mm artillery tubes plus substantial numbers of these tubes whose crews are not nuclear-trained and with no warheads assigned, and 224 Nike Hercules SAM launchers. FRG forces also have 72 Pershing launchers with 100 missiles.

Non-Soviet Warsaw Pact forces are equipped with both SCUD and FROG launchers, numbering approximately 125 and 485 respectively, about 400 tactical aircraft which might be capable of nuclear delivery, and substantial numbers of 152 mm artillery.

d. Criteria for Inclusion/Exclusion

Although a wide variety of systems could theoretically be included in theater nuclear force negotiations, one possible focus could be on the most politically "visible" systems. "Visibility" is by no means a clear-cut concept. Political perceptions--including Allied concerns about Soviet theater modernization--do not necessarily correspond to neat analytical categories. Hence, "visibility" neither provides precise and consistent a priori technical criteria for inclusion,* nor necessarily reflects a consistent military

*The lack of consistent technical criteria for "visible" systems complicates the problem of formulating provisions, in an actual negotiation, to "catch" systems of interest (visible or otherwise). In the case of visible systems, such provisions could include: range threshholds for aircraft and missiles; date of deployment criteria (designed, for instance, to exclude older, less visible systems, such as SS-4/5 and Badger); place of deployment, gross take-off weight for bombers; ALCM-carrying capability; warhead numbers (MIRV or not); and so on.

logic. Rather, "visible" systems appear to be those systems which--by virtue of their long range, modern technology (mobility, accuracy, MIRV capability), and general potential for circumventing SALT--have crystallized European concerns about the dynamic trends in the theater nuclear balance and about the implications of strategic parity. At present, the systems which have attained greatest political visibility are US GLCMs and potential new MRBM, and the Soviet SS-20 IRBM and Backfire bomber.

Political visibility as a criterion for inclusion could reinforce several objectives of any theater nuclear force negotiation. First, the negotiations would be responsive to the interests of some NATO Allies, who have repeatedly expressed concern over the military implications and attendent political impact of Soviet modernization of long-range theater nuclear forces.

Second, some would argue that focusing on these modern systems would directly strengthen the arms control objective of stabilizing the European nuclear balance over the long term, on the grounds that deployments of highly "visible" long-range systems have the greatest likelihood of generating political pressure for counter-deployments. (Indeed, the highly visible systems already deployed by the USSR have already created much of the political pressure that now exists for new Western deployments of in-theater long-range systems.)

Finally, because the visible long-range theater systems are closely intertwined--both politically and militarily --with central systems covered in SALT, focusing on these systems might reinforce the SALT process itself, in two ways. Such a focus could at least maintain, if not actually increase, the support of the NATO Allies for SALT by assuring them that theater asymmetries would be controlled so as not to undermine strategic parity, and that US-Soviet bilateral negotiations would not ignore Alliance concerns. In addition, inclusion of theater nuclear forces might increase the negotiability of other SALT issues. A solution to the GLCM question with acceptable limits on US and Soviet theater systems, for example, may allow progress in other areas of SALT.

But political visibility alone clearly is not a sufficient criterion for determining which systems should be included in any negotiation. In particular, it does not necessarily illuminate the military issues involved. Nor does it address the Soviet sensitivities that will inevitably come into play, or the technical issues (especially verifiability) at stake.

TNF-related military issues would appear to play two roles. First of all, they play an indirect role, in that the military attributes of modern systems constitute one component in perceptions, which in turn lead to political visibility. Secondly, military criteria play a direct role in determining: (a) what limits would be acceptable on Western systems; and (b) the overall acceptability of a negotiated outcome, especially in comparison with the outcomes expected in the absence of any negotiations. In sum, the military acceptability of a negotiated outcome will be a bedrock requirement, even if some of the particular features of an arms control approach are determined by other criteria.

Although political visibility and military significance are related, the fit is far from perfect. First, while shorter-range Soviet/Warsaw Pact theater nuclear systems are being rapidly modernized, and could in some respects pose as great a threat to Western strike forces as do longer-range systems based in the USSR, they have so far attracted relatively little political attention in Europe.* On the other hand, there is no guarantee that systems which are relatively "invisible" today will remain so in the future. European concerns about the shorter-range nuclear systems could certainly increase, especially if important limitations were placed on systems of longer range, and if the Soviets chose to accelerate the modernization and deployment of lower level systems as a means of circumventing a long-range TNF agreement. In fact, this is a general problem with arms control agreements: they often tend to attract increased political attention to, and military interest in, those systems not subject to limitation.

Second, there is some debate as to the extent to which the newer and more "visible" Soviet/Warsaw Pact long-range theater nuclear systems in themselves pose a qualitatively new threat to NATO, above and beyond the threat already posed by older and less "visible" forces. For example, the vulnerability of NATO main operating air bases (like that of other "soft" targets) is much less dependent upon the accuracy of Eastern systems than upon Eastern capability for target acquisition. Hence, the modernization of the Soviet IRBM force with the SS-20 may not significantly increase the first-strike threat to those bases, since the higher yield of the SS-4/5s compared to the SS-20 compensates, at least in part, for their lower accuracy and single RV. On the other hand, the SS-20 may

*The relative lack of political attention to Soviet/Warsaw Pact shorter-range missiles and new tactical nuclear-capable aircraft indicates that modernity alone does not make for visibility; i.e., the visible systems are modern systems, but not all modern systems are, at present, politically visible.

significantly increase Soviet flexibility for limited and selective escalation. This is due to its mobility, which complicates NATO targeting, may enhance the credibility of the SS-20s reload capability, and, it is argued, provide an enhanced second-strike capability against NATO forces below the level of a strategic exchange.

In addition, negotiating on only the most visible systems may not adequately address the accepted arms control objective of enhancing crisis stability. "Crisis stability" is, or course, a concept of strategic origin, which may not have the same meaning in a theater context. Nevertheless, it is generally agreed that stability is promoted by the reduction of vulnerable systems, thus lessening incentives for pre-emptive attack.* But mobile GLCMs and SS-20s are among the most survivable theater nuclear systems. Negotiating reductions or specific limitations solely on these systems, while possibly supporting most of our objectives, may limit Western ability to reduce the vulnerability of its TNF. Similarly, limiting replacement of Soviet SS-4/5s with SS-20s would keep Soviet theater strike capability concentrated in a relatively vulnerable form. (Just how concentrated will depend upon permitted deployment levels.) This is not, in all respects, to NATOs advantage, since that very vulnerability could create pressures to "use or lose" the systems.

Moreover, Western sensitivities are not likely to be identical with Soviet concerns about particular systems. For example, when SALT began, the US Pershing I theater ballistic missile (which is neither long in range nor very modern in its technology), was identified by the Soviets as a candidate for negotiations in SALT. It seems unlikely that Soviet demands to include Pershing will abate, given the improvements to the system since (Pershing Ia, Pershing II development program), and given the known capability to increase Pershing's range, which would permit it to strike Soviet territory. (This capability, however, will enhance its potential importance in Western eyes as well.) Soviet criteria for inclusion or exclusion will be an important factor in theater negotiations.

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* Determining whether theater nuclear forces are vulnerable or survivable is neither clear-cut nor susceptible to static exchange analyses. "Vulnerability" in the theater varies with circumstances, and does not depend only on actual system characteristics. It is also subject to such factors as employment doctrines, warning, mobility, the type of conflict, the opponent's capabilities, and the relationship of theater to central strategic forces. For example, if there is an extended period of conventional conflict, then cumulative vulnerability to repeated conventional attacks could probably be as destabilizing as vulnerability to nuclear attack.

Finally, negotiating packages will have to be assessed for their technical feasibility--i.e., their verifiability. Verification questions are likely to be very complicated; they are discussed in section 3b, below.

2. Geographic Scope

The primary focus of theater arms control negotiations will be on Warsaw Pact weapons which are capable of striking NATO territory, and on US and other NATO nuclear systems which are capable of striking Warsaw Pact territory. However, many of the theater range nuclear delivery systems on the Pact side which pose a direct threat to Europe are Soviet weapons deployed in the USSR, west of the Ural mountains. Consequently, if geographic constraints are to be applied to threatening Pact weapons, then the geographic area would have to include at least part of the USSR.

Therefore, a useful agreement will have to include both eastern European and most of western Russia (by convention, "to the Urals," though it could be defined by longitude or distance from the western border).* For reciprocity, the Western side would have to include all of western Europe (for forces of the type and nationality covered). It would be possible not to include any further areas, and not to impose world-wide limits on testing, production, or deployment.

There are several possible problems with such a restricted geographic focus. First, most of the weapons under consideration are more-or-less mobile; even if removed from a specific area, they could be reintroduced into the area (and would be, once hostilities began in a NATO conflict). This is particularly true of aircraft; long-distance movement of mobile missile launchers would take somewhat longer. In addition, most such missiles are also dependent upon ground support facilities which are both extensive and fixed. Nevertheless, the effects of such an agreement would be on peacetime deployments only (as is the case for MBFR). This has both advantages and disadvantages. It allows R&D flexibility and avoids limits both on Soviet PRC-oriented forces and on US world-wide deployments. It may therefore be suitable for an initial agreement. On the other hand, the military impact would be less, and the Soviets might have some "reinforcement" advantage in a crisis.

A second problem could be the asymmetry which the Soviets could see in including Soviet territory in a European limit. They might resist such an approach unless the US were willing also to restrict the deployment of similar nuclear weapons in a corresponding geographic area of the continental US. On the other hand, the Soviets would be glad to exempt the PRC-oriented forces in the eastern USSR.

Sea-based systems could also present problems. Although world-wide inventories of either surface or submarine-

*The SS-20 poses a particular problem, in that it can be based somewhat East of the Urals and still strike FRG territory.

based systems are reasonably verifiable, deployments within limited areas (e.g., the North, Norwegian, and Mediterranean Seas) would be hard to verify for surface systems, and impossible for submarines.

Another problem is whether to seek an agreed basing/range criterion for inclusion (to identify the territories at risk) or only to discuss specific systems in an agreed area. Under the Soviet FBS criterion, for example, weapons located so as to strike the territory of the other side would be subject to limitation. This criterion is clearly unacceptable if applied only to the territory of the USSR and US, since it excludes Soviet theater systems from limitation. A modified and extended version of this criterion might be acceptable, however, if Allied territory (or some proxy category, such as territory where US theater forces are based) were included. Alternatively, it might be simpler only to limit particular classes of systems in a defined area, without any further rationale.

3. Types of Limits

a. Possible Form of Controls

The forms of controls which might be placed on long-range theater nuclear forces are generally well understood. They include:

--quantitative limitations, such as ceilings, freezes, and reductions. A common approach is to establish an overall numerical ceiling on the limited systems, and allow flexibility within that ceiling. Thus, the SALT I Interim Agreement established a ceiling on the number of SLBM launchers on each side, and the SALT II aggregates are ceilings and subceilings on various types of launchers. Freezes are sometimes proposed as an initial step in preparation for more comprehensive measures in the future; they are most useful as a temporary cap on impending deployments, especially when the systems and forces to be covered have not been rigorously defined.

--geographic deployment limitations. These are essentially quantitative limits applied to specified areas. As discussed above, they present special problems in the case of mobile systems such as ships, aircraft, or air-transportable systems.

--qualitative restraints, including range limitations, restrictions on testing, limits on payload and launch weight, and limits on modernization and "new types." Qualitative restrictions can apply to the characteristics of the systems, to the activities associated with the system, or to both (as in restrictions or prohibitions on the employment of a weapons system in a nuclear role). SALT experience has shown the difficulties in defining and negotiating

qualitative restraints that are both effective and equitable.

--supplemental measures to reinforce the effects of other limitations or to enhance verifiability. Such measures include non-circumvention provisions, production limitations, and cooperative measures of verification.

A key question in determining what types of controls should be sought on long-range theater nuclear forces is whether the actual item limited should be the launcher (or aircraft, as appropriate), the missile, or the warhead. The last two (and especially warheads) are extremely difficult to verify in a theater context. Moreover, SALT precedents will argue for a focus on delivery systems. Hence, with the possible exceptions noted below, this section assumes that limits would apply to aircraft and missile launchers (in the case of mobile missiles, the transporter-erector-launcher or TEL) rather than missiles or warheads. (In the case of a US-Soviet agreement in which the Allies would not accept obligations, this would mean that Allied systems would not be directly limited, even where we supply the warheads, except through the effects of non-circumvention clauses, or if Allied systems were to be used in calculating ceilings.*)

b. Problems of Verification

The general implications of and verification problems raised by given limits will depend not only on the systems to which they are applied but also on the nature of the overall package. Nevertheless, there are a number of general observations which can be made.

--quantitative limits on land-mobile systems could prove difficult to verify with national technical means, depending primarily upon how the systems are deployed. Most mobile theater missiles have thus far been deployed during peacetime in reasonably sized units (not autonomous launchers) based at known secure locations. Such peacetime deployments provide the opportunity to monitor missile activities over time, and, if continued, would considerably enhance the verifiability of deployment limits. (Thus, for example, we have a good idea of the number of SS-20 launchers being deployed.) Verifiability might also be enhanced somewhat by cooperative measures, where negotiable. However, if deceptive deployment practices were used, then quantitative limits on land-mobile missiles--both ballistic and cruise--would present serious verification problems. Quantitative limits on battlefield systems (short-range missiles and nuclear-capable artillery) would be particularly difficult to verify under these conditions.

*This is the approach taken in MBFR, where the West proposes that French forces in Germany be counted in calculating the manpower ceiling, though not themselves reduced or limited.

--quantitative limits on Soviet theater nuclear aircraft. Verification might require agreement on a mutual base of data and definition, in view of the differences between Western and Soviet approaches to aircraft nuclear capability.

--nuclear vs. non-nuclear capability cannot be distinguished for missiles, nor are there any technical requirements for nuclear-capable aircraft that produce externally observable differences. Crew training activity and storage site signatures can be indicators of nuclear capability for Soviet aircraft, but they are not necessarily reliable or consistently available indicators of such capability.

--range limitations on ballistic missiles. Verifiability is complicated by the possibility of range enhancement. For example, the Pershing can be made capable of MRBM range by using advanced fuel and a lighter warhead. The testing of such a modified missile could be verified by national (NTM) technical means at least in some cases. We have been able to detect flight testing of Soviet ballistic missiles in the past,

B1

--range limitations on cruise missiles. Given past and current Soviet practices for cruise missile testing, the US has been able to identify many cruise missile programs and to estimate cruise missile ranges, armaments, guidance types, and mission flight profiles

B1

-Establish a single range limit for all cruise missiles, thus avoiding some fungibility problems.

-Insist that telemetry not be denied.

-Limit the range to which cruise missiles can be tested in an operational mode.

These measures would apply only to a prohibition on cruise missiles which exceed a given range, and not to numerical limits on the production or deployment of such missiles. The negotiability of such measures is uncertain, to say the least.

c. Other General Considerations

Among other factors, the nature of the controls sought would depend on the underlying rationale and objectives for negotiating TNF. However, the implications of broad objectives for the selection of appropriate controls are far from clearcut; put differently, objectives would seem to have more direct implications for the systems to be included than for the specific types of limits to be placed on them.

At a very general level, of course, it seems obvious that the political objective of responding to European political concerns and of enhancing European support for SALT would call for quantitative limits and deployment restrictions on the most visible Soviet systems. Similarly, the objective of preventing a bloc-to-bloc competition in long-range TNF suggests a combination of quantitative and deployment limitations (to inhibit threatening deployment of present Soviet systems) and qualitative constraints (to inhibit the testing and deployment of new ones). Beyond saying this, however, the specific types of limits sought (or required) seem to depend much more directly on previously choices as to forum, geographic area, and systems to be included.

For instance, both a SALT forum and a multilateral Theater Arms Limitation Talks (TALT) would tend to create pressures in the direction of equal aggregates--in the former case because of the precedential effects of SALT limits and the Jackson Amendment, and in the latter because of the implicit identification of theater systems as a discrete negotiating channel. In either forum, the pressures toward equal aggregates would be intensified by the inclusion of a wider, clearly more comprehensive range of theater systems. The ambiguous case, however, is also the most likely one--where a narrow range of theater systems is tied directly to SALT III. A minimal SALT approach seems most likely to avoid Soviet pressures to make the aggregates fully comprehensive by including UK and French systems. If so, the introduction of selected long-range theater nuclear systems into SALT would seem to offer the greatest flexibility for ad hoc provisions.

The definition of the relevant geographic area will also have implications for the types of limits sought. On the one hand, it is theoretically possible to impose limits solely on systems deployed in the European theater. But, given the rapid redeployability of many theater

systems (especially aircraft), such limits on these systems would not limit the threat to Europe once a crisis or actual hostilities caused the agreement to break down. On the other hand, however, an attempt to reduce the Soviet nuclear threat to NATO by imposing strict global ceilings might not be negotiable, particularly since the Chinese would not be restricted. At a minimum, such an approach might require some offsetting asymmetries (such as the exclusion of older systems, or the toleration of a warhead advantage for the SS-20 vice GLCM, and so on).

It is also far from clear how specific forms of controls can directly enhance crisis stability; it may be that the effects of unilateral force planning decisions will be more important. If so, then this implies, first, that qualitative constraints should not seriously inhibit the modernization of vulnerable Western systems, nor should replacement rules seriously inhibit their elimination. (If a negotiation covered only SS-20 and GLCM and established very low ceilings on them, it would bar one option for the replacement of dual-capable aircraft. The US and NATO would have to assure themselves that adequate alternatives were available.) Secondly, insofar as the survivability of TNF derives not only from the characteristics of specific systems, but also from the mix of the systems, it is desirable that TNF limitations preserve freedom-to-mix.

However, apart from the specific limitations embodied in an agreement, it is worth remembering that past efforts to reduce the vulnerability of NATO theater systems--and in particular to reduce reliance on strike aircraft--have become entangled in European concerns about deterrence and decoupling. If a theater nuclear arms control negotiation can relieve these concerns, either by limiting the perceived threat or by providing a manifest of US concern for European theater nuclear issues, then reduced reliance on strike aircraft may become more feasible.

It should be noted, however, that there is one general complication inherent in the formulation of appropriate controls for long-range theater nuclear forces. This complication derives from the relationship of TNF to strategic and conventional forces--that is, from the roles and missions which long-range systems are asked to perform. So long as arms control agreements focused on central strategic systems, system characteristics seemed intruitively reasonable indicators of appropriate force reductions. Characteristics were surrogates for functions. But the selection of controls on long-range TNF will require attention not only to individual system characteristics and individual force levels, but also to the way in which such systems are likely to be employed.

4. Forums/Modalities; Participation

There are two broad issues at stake in the choice of a forum for potential negotiations on long-range

TNF: the nationalities of the forces covered, and the implications for progress in other ongoing arms control negotiations.

Since most NATO and all Warsaw Pact members possess some nuclear delivery vehicles, arms control negotiations on theater nuclear forces could encompass a variety of national participants. Besides the two extremes of US/USSR bilateral negotiations and full NATO/Warsaw Pact multilateral negotiations, there are a number of different possible combinations, such as multilateral negotiations involving only the US, USSR, UK, FRG, and France.

In practice, however, our major Allies have expressed a clear reluctance to include their own forces in negotiated limitations. This reluctance seems particularly strong for the UK and France, both of whom have force requirements for counter-value targeting that are largely unaffected by limits on Soviet theater systems. Although Allied views on this matter obviously could change over time, at present it appears that the prospects for broader national participation in the future are likely to be contingent upon visible progress in SALT III and perhaps in MBFR, as well as on successful initial experience with US-Soviet theater limits.

The implications of restricting the coverage of negotiable systems to US and Soviet forces are treated in the discussion of alternative forums below, but one in particular should be noted here--that of compensation for Allied nuclear systems not included in the negotiating framework. Soviet pressure for either inclusion of or compensation for Allied systems is likely to be strong, and is likely to focus on the long-range French and British national systems because they are not dependent upon US warheads* and are capable of striking Soviet territory.

Compensation for such systems could conceivably take the form of: larger reductions in US long-range theater systems than in their Soviet counterparts; asymmetrical ceilings; exclusion of older Soviet systems (Badger, Blinder, SS-4/5); or the de facto inclusion of European systems in the calculation of legal limits on US systems (as French forces in Germany are counted in the MBFR common ceiling). In SALT, the US has not agreed to such compensation. For instance, the US rejected the Soviet attempt in SALT I to count increases

*Most NATO and Warsaw Pact members possess nuclear delivery vehicles. The warheads for all non-Soviet Warsaw Pact theater nuclear systems are held in Soviet custody. Similarly, the US maintains control over most, but not all, of its Allies' nuclear delivery systems under the "dual-key" arrangement in which warheads are held in US custody. However, there are exceptions to the dual-key arrangement: the British and French long-range (e.g., French IRBMs and British Polaris SLBMs) and battlefield (e.g., British and French nuclear bombs for tactical aircraft) nuclear systems.

in UK or French strategic forces against the US strategic limits. However, the prospect of obtaining limits on Soviet theater systems directly threatening the Allies introduces a new factor. Therefore, the US and NATO will have to determine whether some form of compensation for bilateral coverage would be politically and militarily acceptable in such conditions.

The US will also have to consider the implications of the negotiating forum for progress in other ongoing arms control efforts. The US could be faced with extremely difficult trade-offs among our negotiating objectives. For example, incorporation of long-range TNF issues into SALT III (or MBFR) could complicate reaching agreement on significant reductions in SNDVs (or in Warsaw Pact conventional capabilities) if the Soviets attempt to offer concessions on TNF issues in exchange for US/NATO concessions in other areas. Even establishment of a separate TALT process could hinder SALT III or MBFR if either side were to link its position in the latter areas to developments in the former, or vice versa.

In general, the US will have to consider the extent to which attempts to forward the objectives of theater nuclear arms control will enhance, complicate or impede progress in SALT III or MBFR, and, if so, whether the objectives to be served by negotiating long-range TNF are sufficiently important to justify the potential costs.

a. In MBFR

MBFR was originally conceived as a means to improve the conventional balance in Central Europe, particularly through substantial reductions of and limitations on Soviet offensive ground forces and tanks. A reduction of US nuclear weapons was added only as a "sweetener" to induce the East to accept the Allied position on manpower, tank, and division reductions. In order to retain US flexibility in theater deployment and to avoid the complication of including UK and French nuclear forces, it was intended that MBFR would address only those armaments which were pertinent to the front line battlefield.

Nevertheless, MBFR could be used as the forum to deal more comprehensively with theater nuclear systems, either concurrently with or following negotiations along current lines.

A major obstacle to doing so is Allied reluctance to include their own armaments in negotiated limitations. Even the Option III offer, which does not seek reciprocal limits on Soviet nuclear systems, has led to Eastern pressure for limits on western European nuclear equipment. The current Eastern proposal is unclear on this issue, and may no longer require a commitment to such limits in an initial agreement. However, an attempt to limit Soviet

nuclear elements, most of which are based in the Soviet Union, not only could revive this issue, but that of the area of reductions as well.

The unwillingness of non-US NATO participants to participate in armament reductions in MBFR derives from real military concerns; they want to retain the flexibility to increase equipment in both active and reserve forces in order to increase overall combat capability and effectiveness. The same reasoning might well apply to their nuclear and nuclear-capable systems. But even if they would be willing to limit their own nuclear or nuclear-capable systems as an offset to limits on Soviet theater nuclear systems, they would be reluctant to do so within the context of MBFR, where such limits could set unavoidable precedents for limiting other types of equipment and possibly for national force limitations generally.

Another immediate implication of handling theater nuclear systems in MBFR concerns the purpose of the MBFR negotiations. Would we now seek to address two objectives--to improve the conventional balance and to control a theater nuclear arms race--or would we be forced to lower our objectives in the conventional field in order to gain our nuclear objectives?

In MBFR, we have advocated a mixed package of US nuclear and conventional reductions to secure Soviet/WP conventional reductions. The only obvious trade-off for Soviet SS-20 reductions would be comparable US (or UK/French or FRG) nuclear systems. A switch to mutual reduction of similar armaments would represent a change of principle for NATO which could obviate Eastern agreement to the mixed package approach. Moreover, we have already offered SSM launcher limits as part of the mixed package to gain asymmetrical Eastern conventional force reductions.

While both these negotiating problems might be surmounted (for example, by simply adding a reciprocal negotiation on long-range systems to the current mixed-package negotiation), the introduction of Soviet theater nuclear systems into the negotiations would cause some rethinking of our conception of the purpose of MBFR.

The most obvious implication of handling theater systems in MBFR would be the expansion of the area of reductions to include Soviet territory. MBFR was originally limited geographically not only to retain US and NATO flexibility in the European theater, but also because of Soviet refusal to include Soviet territory. The ramifications of extending the territory in MBFR are extensive. For the purpose of getting a handle on the SS-20, the simplest approach would be to make a one-time exception to the area rule, to include either all SS-20s wherever deployed, or only those in the western USSR. But, in return for such a concession on

the Soviets' part, they would very likely insist on a US or NATO concession beyond the offer of US SSM launcher limits. A minimum price could be FRG SSM launcher limits, and possibly limits on UK systems as well. To get a handle on other Soviet theater systems would require expansion of the area as a general rule, even if applicability were limited to nuclear systems. We would have to seek verification of such nuclear limits in Soviet territory, and perhaps stabilizing measures to cover nuclear systems in Soviet territory. Conceivably, too, such a Western attempt and Eastern rejection would make it difficult to return the negotiations to their original focus on the conventional balance.

In addition, the Soviets would be likely to seek to balance any extension of MBFR into Soviet territory by a parallel extension westward into France and the UK. The French oppose MBFR as it is; under no foreseeable circumstance is the GOF likely to consent to limit French national nuclear delivery systems in that negotiation.

Moreover, even a one-time exception would encourage our NATO Allies to insist on other exceptions. The Turks have long been seeking the extension of tank limits to Soviet territory. Making the exception for theater nuclear systems might force the other flank states to back these Turkish demands. Even more troubling would be the reaction of the FRG, which has France as an ally in supporting the extension of stabilizing measures and possibly other limits to Soviet territory. The FRG would most likely insist on the extension of stabilizing measures and other limits, e.g., tank limits, to Soviet territory if Soviet theater systems were included--especially if the price for limiting SS-20 launchers were FRG SSM launcher limits.

Unlike the negotiating problems noted earlier, the problems resulting from even a one-time exception to the geographic area of MBFR may well prove unmanageable. The Soviets would undoubtedly raise the price for any limitations on their soil. One exception would lead to demands for other exceptions, and NATO could well be seriously divided among itself. It might be very difficult to retain a negotiating focus on improving the conventional balance in Central Europe, while also seeking mutual limitations on theater systems in a more extended area.

A third implication of discussing theater nuclear systems in MBFR has already been touched on--the Allied factor. In such a forum, the Soviets could more effectively argue against limits on their territory, and on their systems designed at least in part to counter non-US NATO theater systems, without corresponding limits on these Allied systems. We know that the UK would oppose such an approach, and no other Ally has supported it. Even if most NATO Allies were ready to accept such limits as part of MBFR, and even if a suitably extended geographic area could be negotiated, the lack of French participation would probably block agreement. Moreover, it is doubtful that we could still expect to obtain

asymmetrical conventional force reductions in an extended European negotiation. Thus, while it might be possible to consider seeking in MBFR a mutual limit on all ballistic and cruise missiles in Europe, the Allies, and especially France, will not soon accept such an approach.

However, even if MBFR proves to be an inappropriate forum in which to seek limits on the SS-20, the West could at some point consider seeking reciprocal limits on Soviet shorter range nuclear delivery systems in MBFR, to complement negotiations on longer range systems in another forum. The rationale for doing so would be to dampen the long-term potential for displaced competition that an agreement only on long-range systems could create, and, more particularly, to cut off the possibility of Soviet circumvention through shorter range systems. The inclusion of short-range systems in MBFR would certainly complicate the Western objective of obtaining asymmetrical conventional force reductions and in particular would lessen the bargaining leverage of our current nuclear offer. It may therefore prove hard to reconcile with achieving our current negotiating objectives, which focus on asymmetrical manpower reductions, and withdrawal of Soviet armored forces. But it would not require an expansion of the area of reductions, and present Western preponderance in battlefield nuclear systems could provide important negotiating leverage. Under present circumstances, and unless Allied concern about Soviet modernization of short-range systems grows markedly, the Allied reaction would probably be negative, because the leverage of Option III would be reduced, and because pressure for limits on European delivery systems would be greatly increased.

b. In SALT

Using SALT III as the forum for negotiating narrowly focused limits on US and Soviet long-range systems seems to be the lowest common denominator among the major Allies. Given the alternatives, they all seem to accept a bilateral US/USSR forum--even if, like the FRG, they may prefer a more comprehensive effort, or if, like France and the UK, they are reluctant to have theater nuclear systems discussed in any arms control context. Thus, SALT discussions on this subject are unlikely to arouse major Allied opposition on procedural grounds. Moreover, the systems of major Allied concern--the SS-20, the Backfire and, on our side, the GLCM--are those which could most logically be discussed in the SALT forum because of their real or potential ability to substitute for central systems. Shorter range systems would be much harder to discuss in SALT.

Thus, treating theater nuclear systems in SALT might make it easier to negotiate limits only on certain long-range US and Soviet theater systems. There would be no way to impose direct limits on UK and French forces (although the compensation issue, discussed below, would still be a

problem). Finally, if SALT remained focused primarily on strategic systems, it might be easier to avoid a political requirement to achieve precise "equal aggregates" in theater systems (which may be non-negotiable given the current imbalance in favor of the Soviets). However, discussing theater systems in SALT requires Soviet willingness to concede that theater systems (not just FBS) are legitimate subjects of bilateral negotiations. We would also have to deal with predictable Soviet arguments about circumvention/transfer, given Allied non-participation.

Of these last two requirements, the first may be achievable if the Soviets are sufficiently concerned about US GLCMs and SLCMs, or about Allied access to cruise missiles, to be willing to limit some of their theater systems and to renounce their past arguments that Soviet systems not capable of striking the US are outside SALT. (A facesaving means for the Soviets to justify the change of position would be to explain the inclusion in SALT of US and Soviet theater systems as "FBS plus comparable Soviet systems.")

The second requirement (non-circumvention assurances) may be more difficult. The Soviets would surely seek to prevent increases in European systems to offset US limitations, either directly, through a strict non-circumvention/non-transfer provisions, or through an escape clause along the lines of their unilateral statement in SALT I, seeking to retain the right to match European increases. The US would probably have to go at least as far as it has in SALT II--non-circumvention language which could, in some cases, inhibit transfer of systems limited by SALT II.

There might also be Soviet pressure to go further and to include European systems in the SALT aggregates for calculating the legal limits on US systems (similar to the way the West counts French forces in Germany in the MBFR common ceiling). Yet, even indirect inclusion of Allied systems in a bilateral negotiation might be unacceptable to the Allies--the French in particular. Nonetheless, even though we could not hope to achieve comprehensive limitations on Soviet theater systems without constraint--even an indirect one--on equivalent Allied systems, we may be able to achieve more narrowly focused provisions (e.g., limits only on SS-20, Backfire, US FBS and/or cruise missiles) without addressing Allied systems. A limited outcome might meet Allied and Soviet concerns about the SS-20 and FBS, respectively, without arousing the Allied concerns--either about decoupling or about their own force options--that more far-reaching arms control measures might entail. It would probably be easier to keep the outcome narrowly focused if the prospects of Allied (especially FRG) acquisition of cruise missiles were low. At the same time, this possibility may be an incentive for the Soviets to agree to limits on the SS-20.

In purely negotiating terms, a bilateral forum should allow much more flexibility than a multilateral forum, as any comparison of SALT and MBFR shows. Inclusion of selected theater systems in SALT (or in a separate bilateral forum) would, of course, increase the need for consultation with the Allies and, in a considerable number of cases, might require giving the major Allies more opportunities to participate in the formation of US negotiating positions, and to be more informed in detail about the course of the talks. Nonetheless, an expanded consultative process would be more manageable than a multilateral forum. In fact, from the European point of view, this seems to be the least objectionable solution, allowing genuine pre-decision consultation from the US, yet freedom to criticize the outcome and to stress--before domestic audiences and before the Soviets--that they had made no commitments.

There are some possible variations of treatment of theater nuclear issues within SALT. At one extreme, a separate agreement on theater issues could be sought, perhaps not even linked in timing to SALT proper. At the other extreme, theater issues would be an integral part of the negotiations and of a draft agreement, with theater systems even included in SALT aggregates.

In any case, the choice of SALT as a forum could have important implications.

Substantive European security issues would not be much affected by the choice of a negotiating forum per se. Using SALT as the forum might lead to perceptions that US--rather than European--security criteria were being given greater weight. On the other hand, placing long-range theater nuclear systems in a strategic negotiation could help to reinforce the perceived linkage between US strategic forces and NATO forces, or at least avoid the doctrinal decoupling to which a separate theater force negotiation could lead.

In terms of political impact, it would be important to avoid the appearance of negotiating away Allied systems or options without Allied participation. Yet, as noted above, some Allies prefer the bilateral SALT forum--so long as US-Allied consultations were intensive--since they could avoid having to face directly such questions as which Allies should participate in the negotiations, whose forces should be limited, and by how much, etc.

With respect to other arms control negotiations, there would probably be no great impact on MBFR in its current form, unless elements of our Option III package became subject to discussion in SALT. A limited gray area agenda for SALT along the lines suggested above (e.g., limits on Backfire, SS-20, FBS and/or cruise missiles) would not substantially detract from the attractiveness of Option III;

in fact, our willingness to negotiate further cruise missile limits in SALT could assuage Soviet concerns that Option III reductions would be offset by cruise missile deployments, and covering MRBM options in SALT could compensate for restricting the range limit or dropping the Pershing element of Option III. Conversely, the Soviets may view their acceptance of the "mixed package" approach in MBFR as complementing their goals in negotiating on theater systems in SALT.

Prospects for success would depend largely on the nature of the limits being sought. However, as a general proposition, to the extent that Allied systems were excluded, the scope of the negotiating agenda (i.e., the number of systems upon which the Soviets would accept constraints) would be diminished.

c. In a Separate Forum

Instead of including theater nuclear discussions in MBFR or SALT, a separate forum could be established. In most respects, a separate bilateral forum would be similar to SALT; a separate multilateral forum would be similar to MBFR.

One potential advantage of a separate forum is that it would help preserve SALT as the bilateral focus of US-Soviet efforts to control the central strategic competition. If the talks were multilateral, a separate forum would also entail that the Allies accept direct responsibility for any agreed limitations. On the other hand, however, separate Theater Arms Limitation Talks (TALT) would effectively identify theater nuclear systems as a separate issue involving a distinct negotiating channel. This might impede focusing on marginal or potential strategic capabilities of theater systems (as is possible in SALT) or considering the relationship between conventional stability and theater nuclear issues (as is possible in MBFR). Moreover, the "Eurostrategic" concept of a separate balance would be implicit in the forum, and concerns about decoupling would be correspondingly greater.

It should be noted that, if a general conference on disarmament in Europe were to be convened, along the lines of the French proposal at the UN SSOD, and especially if such a conference were to go beyond discussion of stabilizing measures into negotiation of equipment limitations, then it might prove difficult to avoid considering at least some nuclear issues in that forum, in spite of the French insistence that their proposal would not include any nuclear equipment. This may indicate that the French in fact do not expect their Conference proposal to proceed this far; alternatively, successful negotiations on these issues could lead the French to relax their exclusion of nuclear elements.

C. Analysis of Illustrative Arms Control Approaches

In light of the objectives outlined in IIIA, and the issues discussed in IIIB, a number of possible arms control approaches could be devised. Four examples are outlined here:

--US-Soviet Freeze in Modern Theater-Range Missiles--The US and Soviets would agree to freeze the number of launchers in Europe for fixed or ground-mobile cruise or ballistic missiles with over 1,000 km range at then-existing levels.

--US-Soviet Parity in Modern Theater-Range Missile Launchers--The US and Soviets would agree to limit the world-wide number of GLCM launchers, and mobile ballistic missile launchers with a range greater than 1,000 km to an equal number of between 200 and 300.

--US-Soviet Parity in Theater-Range Systems--The US and Soviets would agree to a ceiling of about 600 to 800 on medium bombers and GLCM/MR/IRBM launchers for missiles with a range of 1,000 km or greater.

--Parity of all NATO and Warsaw Pact Theater-Range Systems--This alternative would be the same as the preceding one except that it would include equivalent Allied and Warsaw Pact systems.

It is worth noting that, in addition to actual arms control negotiations on theater systems, the United States and NATO might wish to consider possible interim political steps for dealing with the Soviet build-up of theater nuclear weapons. Such steps could be taken as a prelude to later hardware and/or arms control initiatives. For instance, one possible interim measure would be a direct political approach to the Soviets, pointing out that Western force improvements in theater range TNF will follow if the SS-20 is not restrained. This approach would establish an explicit and public linkage between Western deployment plans and the size and character of Soviet SS-20 deployments. The utility and feasibility of such interim measures are not analyzed in this paper; relevant considerations would include, inter alia, how the obligations would be defined (i.e., what would be appropriate indicators of restraint, or lack thereof?), the lessons of the ERW precedent, and the impact on Congress and NATO publics.

1. US-Soviet Freeze in Modern Theater-Range Missiles

a. Rationale-This approach is designed to meet current major European political concerns about Soviet theater nuclear modernization with a relatively quick and relatively uncomplicated bilateral negotiation, as part of SALT III or in separate bilateral negotiations. A minimal approach of this

kind could be undertaken either as a modest end in itself or--more likely--as a prudent first step. It might be particularly well suited to an agreement of limited duration.

b. Description-A bilaterally negotiated freeze on US GLCMs (and a future US MRBM or Pershing XR) would be traded for limits on SS-20s and future Soviet GLCM. The freeze would be set at then-current TEL levels in Europe (about 100 Soviet SS-20 TELs in 1981); for bargaining leverage (and to allow some modernization) we could offer to count 115 Pershing TEL's as upgradable to Pershing XR.* This would set the US limit at about 115 (the Pershing TEL's) plus any GLCM TELs deployed by the date of the agreement. (GLCM currently has a 1982 IOC.)

c. Discussion-This approach focuses on the most polititically visible systems of greatest concern to Europe, and would be based on a judgment that the Soviets are sufficiently concerned about US theater modernization options that they would be willing to limit SS-20 deployments. This may be true now or in the near future, as the development of ALCM and SLCM proceeds and deployment begins. Moreover, Soviet concern would increase further as GLCM deployment neared or began.

The approach does not establish comprehensive limits on long-range theater systems or require parity in included systems. Though the covered systems are those most likely to lead to arms race instability through increased competitive modernization, the limits could be circumvented by increases in other systems: Backfire/F-111; Soviet fixed IRMBs; US and Soviet SLCM and Soviet short-range SLBM; shorter range Pershing and Scaleboard follow-ons as well as European systems.

Nevertheless, this approach assumes both that excluded systems are, at least in the short term, roughly off-setting in their military and political impact and that narrowly defined limits have a reasonable likelihood of not leading to displaced competition in excluded systems. This approach has the collateral advantage of not establishing a "Eurostrategic" balance through any attempt at theater parity or comprehensiveness.

The limits are cast in terms of a freeze, to avoid suggesting that a permanent theater balance is being struck. Hence, the most likely outcome would be asymmetrical in terms of limited systems. A freeze might mitigate political pressures to build up to equal limits above the then-current

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*If MBFR Option III were implemented, there would be only 79 US Pershing TELs.

level. Nevertheless, the 115 upgradable Pershing TELs will about equal the number of SS-20 TELs in the Western USSR in 1981. It is therefore possible that the agreement could be cast in terms of TEL parity.

Crisis stability would not be improved by such a freeze: the limited systems are relatively survivable for land-based systems, and their limitation could inhibit reduced reliance on aircraft.

The limits would be bilaterally negotiated, most easily as part of SALT III, to stress the narrow focus of this initial attempt to set theater limits. Because of this, and because no other states now possess delivery systems of the type covered (except for FRG Pershings as discussed below and the French IRBM force) the interests of Allied states would be less directly affected than in more comprehensive approaches. Possibly, the current SALT II non-circumvention approach could be applied to cover questions of FRG GLCMs as well as future FRG Pershing XRs and UK ALCMs.

TELs seem to have advantages over launch rails as the item to be limited. Verifiability is greater. While US GLCMs would have four missiles per TEL, these could be rationalized as balancing the 3 MIRV SS-20 and the assured penetration of a ballistic missile. Limiting missiles as such, of course, could not be verified.

The desirability of explicit inclusion of US Pershing TELs in the limit points out the problem of the 72 FRG Pershing launchers. If the US does not pursue an MRBM option, particularly one based on an extended range Pershing, the German launchers may not pose a serious problem. Otherwise, the Soviets might seek compensation or US agreement not to support FRG upgrading of their Pershings to longer range.

The approach would limit only systems in Europe: the Atlantic to the Urals (or enough further East to exclude an SS-20 threat against the FRG), including the UK but excluding related ocean areas. This assumes that SS-20s directed against the PRC could not be dealt with in a simple bilateral agreement; limits on sea-based systems would similarly cause complications, and their exclusion should be tolerable short of a major program of SLCMs on either side. (To improve verifiability, we might agree to limit SLCMs, as well as GLCMs, to the SALT II maximum ALCM range.) For verifiability, conventionally armed systems would not be excluded.

A range floor--a missile range below which TELs for such missiles would not be limited--would need to be defined for covered systems. A minimum limited range of 600 km might be acceptable but would cover current Pershings and might restrict short-range GLCM options. A 1,000 km range floor would exclude current Pershings (if they could be distinguished from Pershing II XR). This would provide more flexibility for shorter range systems, but shrinks the US aggregate if ceilings are placed at then-current levels, thereby limiting our potential long-range TEL force.

This approach would be compatible, with some qualifications, with four of the eight TNF modernization alternatives articulated in the previous chapter--Null Case, Linkage Force, Routine Replacement and Maritime Emphasis. The compatibility of this approach with the latter two options, however, could depend in part on the outcome of discussions about non-circumvention issues. To varying degrees, both involve the sharing of US TNF systems with the Allies, and the heavy emphasis both place on SLCMs could raise Soviet challenges. The approach would be incompatible with the Matching, Mirror Image, Intrawar Deterrent and Flexible Forces modernization alternatives, as well as with the current Five Year Defense Program (FYDP) plan to acquire about 150 GLCM Tels for about 600 missiles. The FYDP plan to acquire some 900 SLCMs could raise non-circumvention problems.

Incompatibility with the Matching and Intrawar Deterrent Forces and with the FYDP is based on the assumption that, given the 1982 GLCM IOC, the US could not deploy forces sufficient to meet these plans before the arms control freeze.

The MRBM deployments envisioned in the Mirror Image and Flexible Forces options would exceed the freeze level as outlined in the postulated arms control proposal. The former option would add about 100 new mobile MRBMs to existing Tel levels; it could be compatible with this approach, however, if the new MRBM replaced Pershings on the existing TELs. The latter option would add some 500 new MRBMs to the existing TEL levels even with replacement of Pershings. This clearly would exceed any GLCM/MRBM TEL freeze established at the near future (e.g. , 1981) levels.

2. US-Soviet Parity in Long-Range Missiles

Description

a. Rationale: Establishing parity in an aggregate that includes only a narrow set of systems.

b. Description: The US and Soviets would agree to a world-wide aggregate ceiling on "modern" long-range

theater missile launchers (fixed or ground-mobile launchers for GLCMs, and MR/IRBMs of over 1,000 km range). This ceiling would exclude systems tested before 1965, thus excluding SS-4/5s. Pershings would be included because of their upgrade potential. The ceiling could be set at 100-300 launchers* depending on whether we wished to increase the number of launchers over the 115 Pershing TELS we now deploy; and on the negotiability of low ceilings on the SS-20.

c. Discussion: This approach is likely to be more politically viable as a long-term solution than is approach 1, because it establishes parity (in a narrow category) and because world-wide limits have more military meaning than geographical restrictions. On the other hand, world-wide limits will raise, for the Soviets, the disadvantages of counting and limiting PRC oriented missiles. Approach 2 could also be compatible with additional force modernizations options (Matching Force and Mirror Image Force). In other respects, however, it is generally similar to Approach 1.

3. US-Soviet Parity in Modern Theater-Range Systems

a. Rationale: A more comprehensive bilateral approach could include numerical limits establishing parity in major long-range systems (GLCM, MR/IRBM, and medium bombers). (We might also seek to impose controls on qualitative characteristics and modernization broadly comparable to those achieved in SALT III for central systems.)

b. Description: The content would depend on the approach adopted for the central system aspects of SALT III, but would presumably include at least an equal delivery system aggregate analogous to SALT II covering missile launchers and bombers.

There would be world-wide parity in a "theater nuclear delivery vehicles" aggregate which would include TELs and silos for GLCMs and MR/IRBMs of over 1,000 km range and "medium bombers" (F/FB-111, LRA Backfire, and Blinder, and their successors). The US now has about 500 F/FB-111 worldwide; the Soviets have about 380 more modern systems: SS-20 TELs, SS-5 launchers, LRA Blinders and Backfires, plus about 400 older systems: LRA Badgers and 410 SS-4s. Setting parity at 600 with Badgers and SS-4s excluded under a "grandfather clause," would severely restrict US force improvement options (GLCM/MRBM), but would also limit

*Excluding launchers at declared test ranges.

the Soviet ability to replace SS-4s with SS-20s or Badgers with Backfires. Parity at 800 would allow more modernization on both sides.* Nuclear-capable carrier-based aircraft would not be included, though deployments in the Mediterranean, North and Norwegian Seas might be covered by a "current practices" provision. Numerical limits on SLCMs would be excluded because of lack of verifiability, and because many, if not most, SLCMs will be anti-ship variants not intended for land attack. Moreover, as discussed above, we might agree to a range limit on SLCMs.

As an alternative to establishing parity levels for TNDV in a separate bilateral agreement, a variant of this approach could consist of establishing this parity in the context of a SALT agreement, with higher SNDV and MIRV ceilings set to include TNDV.

c. Discussion: The very narrow focus in Approach 1 may be inadequate if a freeze at asymmetrical levels is judged politically undesirable. Moreover, Europe-only limits would not affect world-wide inventories and massive reintroduction of mobile systems would be possible. Therefore such limits may have too much danger of breaking down in crisis. Also, excluded elements may cause too many instabilities and negotiating problems. Finally, we may want to press reductions in the nuclear role of land-based aircraft for crisis stability reasons. To avoid these problems this approach would limit almost all the major elements of US and Soviet long-range theater nuclear capability.

An agreement on this basis would therefore be more effective than Approach 1 or 2 in controlling theater nuclear modernization and preventing European perceptions of a medium-range imbalance. Moreover, it could allow changes in the US TEL/F-111 mix if aircraft survivability becomes of greater concern. Its greater comprehensiveness, however, raises significant problems. It could be seen as establishing an explicit theater-level aggregate, raising doctrinal issues of decoupling. On the other hand, the limits on US theater improvements help reduce any real decoupling. More immediately, it seems doubtful that such an approach would be acceptable to the Soviets without explicit inclusion of Allied systems

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*Since large numbers of obsolete Soviet systems are excluded from the calculation of parity, but cannot be replaced, this is roughly equivalent to an agreement with initially asymmetrical ceilings, with movement towards parity over time.

(at least for purposes of calculating limits) and with only a "SALT-like" non-circumvention provision. Yet, the Allies would probably accept limits on their systems, and would likely be reluctant to consider counting Allied systems in calculating US and Soviet ceilings. Any such inclusion would undercut one of the principal reasons for keeping the agreement bilateral.

SLCMs are excluded from numerical limits because of the difficult of verifying SLCM deployments (especially on submarines). (As in Approach 1 and 2, we might agree that SLCMs would have the same maximum range as ALCMs and GLCMs.) Such an exclusion, however, might lead to Soviet pressure for an almost equally hard-to-verify worldwide ban on testing and production; the exclusion might be particularly hard to negotiate if the US (or UK) were to deploy larger numbers of the land attack version of Tomahawk (or a land-attack oriented UK SLCM). Also, this exclusion tends to require a similar exclusion of short-range SLBMs. Carrier aircraft are limited only loosely, to allow normal fluctuation. Soviet medium bombers in naval aviation are not controlled, on the SALT precedent (though provisions to prevent circumvention might be considered).

With this relatively comprehensive list of included systems but with limits only on US and Soviet forces, it would be desirable to limit such systems worldwide, not just in the European area. This would allow more effective restrictions on testing and production, but would raise the complicating issues of Soviet forces directed against the PRC and of US F-111s and carrier aircraft deployed outside Europe.

This broader arms control approach has a different effect on Chapter II's TNF modernization proposals depending on whether the parity level is set at 600 or 800 TNDV's. In the former case, the more restrictive parity level would be compatible with the Null Case, Linkage Force, Routine Replacement and Maritime Emphasis alternatives. However, the Soviets might raise non-circumvention issues about the latter two postures, especially given their heavy reliance on SLCMs. The other force postures and the FYDP proposal would be incompatible.

With the higher parity level, the Matching Force, and Mirror Image Force alternatives also are possible, although the latter's compatibility with the broader arms control approach would require retirement of the US Pershing TELs. The Intrawar Deterrent Force would be compatible now, although its "International Force" could pose non-circumvention

problems. Routine Replacement and Maritime Emphasis postures still might have non-circumvention problems, and the Flexible Force posture remains incompatible.

The FYDP's current GLCM/SLCM programs would be compatible, however, under the higher parity level.

4. Parity of NATO and Warsaw Pact Theater-Range Systems

a. Rationale: A comprehensive approach to world-wide stability in theater nuclear systems.

b. Description: The elements included in Approach 2 (GLCMs, TELs, MR/IRBM mobile TELs, and fixed silos, medium bombers) would be limited here, but equivalent Allied systems would be controlled or accounted for as well, and the negotiating forum would be multilateral (an extended MBFR or a separate forum). UK and French SLBMs might also be included, allowing coverage of the Soviet SS-N-5 SLBMs. (SS-N-4s would be excluded by a range floor. SS-22s and Scaleboards might also be included.) As in 3, parity in European-based TELs, silos, and medium bombers, would be a principal negotiating objective. However, the inclusion of Allied systems would force parity higher, perhaps to a 1,000 "TNDV" level, allowing more Soviet modernization. Grandfathering older Allied systems, like the UK Vulcan, would reduce this problem.

c. Discussion: A multilateral approach has, for now, the major disadvantage that no Ally supports it. In particular, the UK and France clearly oppose it, and while the FRG has shown tentative interest, it is clearly unwilling to press the point. Moreover, as compared to Approach 3, Allied systems are placed under limitation with no additional Eastern systems covered in return.

Nevertheless, if Allied view change (perhaps in the longer run, after an initial US-Soviet agreement or as a follow-on to MBFR), it might be possible to consider this approach. In that case, direct inclusion of Allied systems would make the focus on parity common to Approaches 3 and 4 more negotiable, might allow more effective limits on Soviet modernization, and might avoid the strains on Alliance cohesion involved in having the US act as intermediary between Soviets and Allies on non-circumvention. Its merit would lie in the Allies' accepting direct responsibility for limits on Western systems principally designed for use in the European theater.

Under the "multilateral" approach, non-circumvention issues presumably would not be raised, and setting parity at 1,000 TNDVs would be compatible with the Null Case, Linkage Force, Routine Replacement, Maritime Emphasis and FYDP modernization alternatives. The Intrawar Deterrent Force would be compatible if its new MRBM was deployed on existing Pershing TELs. The Matching Force is marginally incompatible, with compatibility dependent on reduction, attrition, or exclusion (i.e., as EF-111's) or about 50 F-111's.

This arms control approach would be incompatible with the Mirror Image and Flexible Forces alternatives.

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Section IV -- Choices: Basic Overall Courses of Action

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IV. CHOICES: BASIC OVERALL COURSES OF ACTION, INCLUDING THE POSSIBILITY OF INTEGRATING DECISIONS ON FORCE POSTURE AND ARMS CONTROL OPTIONS

For a variety of historic, technological, and political reasons, the US encounter with the theater nuclear problem has always tended to be piecemeal and episodic, more a spin-off from other issues than a central policy focus. Yet, the latest manifestation of the theater nuclear problem involves to an unusual degree not only the political and military aspects of longer-range nuclear systems, but the interdependent issues of SALT and East-West relations. If the problem is to be dealt with successfully, it will need a thorough US strategy, which is capable of handling all of these dimensions.

The preceding sections of the PRM have attempted to define the problem and to examine both arms control and force posture approaches for dealing with it. This section attempts to put these elements into context with each other and the political and military environment we will be facing in the next several years. To do this, four broad alternative strategies are presented below.

No effort is made here to present specific options, but rather to identify as intellectual constructs four basic overall approaches from which options might subsequently be developed. It should be noted that pursuit of one strategy would not rule out subsequent pursuit of another; in fact, one strategy might inevitably evolve into another as a result of its success or lack thereof.

Strategy A: Reinforce the Status Quo

Under this strategy, we would conclude that the problem of Allied confidence is primarily political and assume that, in terms of their purely military aspects, the SS-20 and the Backfire, together with other improvements in Soviet longer-range nuclear capabilities, marginally increase an existing threat, but do not require any fundamental shift in the Alliance's approach to deterrence. We would take political and other measures in an attempt to enhance Alliance confidence in the coupling of US strategic systems to the theater, and we would reject all arguments that strategic parity created any new conditions with respect to theater deterrence.

This approach could logically lead the US to reject the HLG's recommendations regarding long-range systems. We would choose to make no new departure -- evolutionary or otherwise -- in the Alliance nuclear posture. Having made this decision, we would also elect against an arms control initiative.

Such an approach would seek to avoid the political, strategic, and negotiating difficulties inherent either to enhancement of long-range TNF or to arms control. One major problem under this course would be to find means other than deployment of additional long-range systems and/or arms control adequately to enhance Allied confidence in the deterrent value of existing TNF, and in the coupling of US strategic forces.

To promote such an outcome, we might consider other forms of TNF modernization focusing primarily on increases in the quality and, perhaps, the quantity of short- and medium-range systems (e.g., deploy new 750km Pershing II, short-range GLCMs, etc.). The military objective would be to strengthen the perceived linkage between conventional forces/battlefield nuclear systems and strategic systems by increasing NATO's capabilities for strikes against second-echelon forces and other medium-range targets in Eastern Europe, but short of Soviet territory. Targets beyond the Soviet border would continue to be covered principally by SIOP forces.

Since upgrading NATO's short- and medium-range capabilities might, in itself,prove to be an insufficient response to Allied concerns about NATO's TNF posture, it might be necessary under this approach to consider a number of non-hardware measures designed to enhance confidence in the coupling of US strategic forces. The common denominator of such measures would be to increase the operational ties between US strategic forces and NATO defense, by way of increased Allied participation in planning for the use of US central systems, and possibly an expansion of the planned role of those forces in applications for the European theater.

There might also be a number of other political or institutional measures we could take to enhance Allied confidence and give them a greater sense of participation in our decisions affecting European security. We might, for example, consider ways of regularizing or intensifying SALT and other arms control consultations in NATO, or take steps to improve the coordinating and force planning roles of the Nuclear Planning Group.

Discussion

This strategy would enhance theater nuclear capabilities at levels of conflict short of attack on the USSR. The possible decoupling effects of increased long-range NATO capabilities would be avoided, and external strategic forces would continue to form the backbone of NATO's threat to targets within the USSR. The West would not enter into a potential race with the Soviets in the deployment of in-theater long-range systems, relying instead on the overall continuum of deterrence provided by the full range of nuclear forces in the NATO Triad.

By eschewing arms control for longer-range systems, this strategy would avoid the need to alter the terms of reference of SALT or MBFR, or to create a new negotiating mechanism. It would permit us to carry through the one-time nuclear reductions of MBFR Option III. Also, in theory, it might enable us to negotiate limits on cruise missile options in SALT III against constraints on Soviet central strategic systems -- although this might well produce very grave political stress in NATO. It would also avoid a potential source of intra-Alliance tension between the UK and France, wary of arms control, on the one hand, and the FRG on the other.

The biggest draw-back, of course, is that such an approach -- however well founded we might deem it to be -- might appear to our Allies, and especially to the FRG, as a completely inadequate response to their concerns about the implications of strategic parity and the Soviet build-up in longer-range systems. It would require NATO to rely on its current range of escalation options -- which, in the view of many Allies, suffers from a gap in the area of long-range systems which, in turn, weakens the credibility of NATO's deterrent and the linkage to US strategic systems. Expanding programs in short- and medium-range forces, while serving to increase flexibility at the lower rungs of the escalation ladder, would not offset growing Soviet long-range capabilities. The latter systems, in the absence of arms control, would continue to run entirely free. The strategy might conceivably have the effect of stimulating additional development and deployment of nuclear weapons by the Allies.

Under this circumstance, any US effort to use cruise missile options for bargaining in SALT III would appear to our Allies -- all of them, not just the FRG -- as a conscious rejection of concerns they have been stressing throughout SALT II. Such an effort would reinforce the opinions in some quarters in the Alliance that the US places greater priority on preserving SALT and its bilateral relations with the USSR than on a strong and cohesive NATO.

Strategy B: Initial Emphasis on Arms Control

Under this approach we would defer a final decision on long-range TNF deployments, while giving top priority to a strong arms control effort to deal with the theater nuclear problem. The arms control initiative might seek a freeze on SS-20 deployment at some level, and/or propose a more formal negotiating approach in SALT, MBFR, or some new forum. The continued development and testing by the US of long-range theater systems and the pending US decision on ERW production, together with the prospect of future deployments at the time of system IOCs in the early-to-mid 1980s, would serve as incentives for Soviet interest in engaging in such negotiations. No commitments to deploy new systems would be made at the outset, however, and NATO's negotiating leverage would come primarily from programs in development, prospective new programs, and warnings to the Soviets that future deployment decisions were a certainty should they not be forthcoming in negotiations. It is implicit in this approach that the Alliance and the US would be prepared to trade constraints on future options for limits on on-going Soviet deployments, as well as future options (e.g., a new generation of Soviet GLCMs).

In the interim, the Alliance might also continue with modernization of short- and medium-range TNFs and political/consultative innovations along the lines discussed under strategy A, as means to bolster Allied confidence and to increase Soviet interest in finding ways to prevent this dynamism from spreading into the area of longer-range systems. Deployment of medium-range systems which could later be upgraded to have a long-range capability (e.g., sub-1000km GLCM, Pershing II) might be one effective way of inducing the Soviets to negotiate under this strategy.

As the IOCs for US long-range TNFs approached, this strategy could evolve either into strategy C, if the arms control initiative were a failure and it was decided to abandon the effort in favor of deployments, or into strategy D, if the arms control effort, while successful in engaging the Soviets in the process, had not produced a satisfactory enough outcome to warrant the foregoing of all long-range deployments.

Discussion

This approach would represent a first step aimed at eliminating the possibility of a theater arms race. An early, strong and sustained arms control effort would be one way to attempt to settle Allied concerns regarding the US commitment to deal with Soviet systems which threaten their territories. On-going TNF modernization in the short

and medium ranges, and/or some new approaches to improving the organizational coupling between US strategic and NATO theater systems, could be useful -- aside from their military value -- as ways to take up whatever psychological "slack" there might be as the result of our deferral of the decision to procure new, longer-range systems for Europe. If successful in halting or controlling deployment of the SS-20 and Backfire, this approach could eliminate much of Allied anxiety, while avoiding the many risks and intra-Alliance and East/West strains which would be involved in carrying out new NATO deployments. Even if unsuccessful, the approach would not have impeded the development of long-range theater systems, which could be deployed without delay as soon as they achieved IOC, if the Alliance so decided.

This strategy might not be appealing to the principal Allies, for various reasons, however. The Germans, it is true, would prefer for political reasons to emphasize arms control and diplomacy in addressing the theater problem. They believe, however, that some level of increased long-range TNF deployments is necessary regardless, and thus could consider this strategy -- which would defer decisions on new deployments in the fashion of our ERW strategy -- as unlikely to succeed, and worse than the present situation. They would probably prefer an approach which embodied a specific commitment at the outset to some deployments in the event the arms control effort proved unable to significantly limit SS-20 deployments. The more SS-20s and Backfire the Soviet Union actually deployed while NATO was striving to avoid a theater arms race by exercising self-restraint, the more disturbed the Germans and the other Allies would likely grow about an approach based on arms control alone. Many Allies would fear that in the end, the Soviets would accomplish their entire projected theater deployments without any corresponding NATO response, save for some improvement of short- and medium-range systems. At the same time, the UK and France would doubtless fear that an arms control approach would be an opening for the Soviets to seek constraints on their own nuclear forces.

As for the Soviets, it is conceivable that they would be sufficiently concerned about potential Allied deployments to pay for constraints on these out of actual Soviet programs. However, nothing in our experience suggests that the Soviets will accept limits on their own programs or systems unless they are faced with the near-certain prospect of deployment of systems of concern to themselves. Moreover, even if the Soviets were to accept arms control under

strategy B, without new NATO deployments of long-range systems, or even with moderate deployments, a likely outcome could be asymmetrical ceilings, codifying a visible Soviet advantage. While arguments for the acceptability of such an outcome in force posture and arms control terms are possible, we would have to reckon on a strong negative political reaction in Europe and here as well.

Strategy C: Rely on Deployments

Under this approach we would accept as necessary a Western response to Soviet long-range nuclear capabilities in the form of offsetting deployments of systems of comparable range and capability. There are many possible mixes of systems which could be deployed, and a variety of methods for sizing this force, ranging from the symbolic to other options of more formidable dimensions. Assuming, however, that we wish to avoid doctrinal and political problems, are realistic about cost, about the impact on other NATO priorities, and about the domestic political saleability of such new deployments, it would be best to think in terms of some relatively moderate step: one which would be consistent with the HLG call for an "evolutionary adjustment" in NATO longer-range capabilities, while at the same time increasing theater escalation options, SACEUR's selective employment capabilities, and, by extension, the credibility of the linkage between theater and strategic forces (even here, of course, there would be many possible combinations).

Such an approach would not rule out an eventual arms control initiative, but rather would reflect a judgment that strong TNF modernization must be accomplished first, before the West could pursue arms control on equal terms and for objectives consistent with overall NATO security. Since a program of new TNF deployments would take several years to complete, arms control involving theater systems would be pushed off into the future. It would thus respond to the UK's concern that the West would have little to gain from engaging at this time in arms control for long-range theater systems.

Discussion

A significant deployment in NATO of new and/or modernized long-range systems would deal with the political and strategic concerns of the FRG and others about the theater balance, the gap in NATO's escalation options, and the implications of strategic parity for deterrence below the strategic level. This kind of commitment would reinforce confidence in the

US nuclear guarantee -- so long as the force were not seen as being so large and self-contained as to raise the coupling problem in a new way. Force mixes would need to be tailored with this concern in mind. The Allies, in the HLG, have made clear they do not wish any TNF modernization program to be of such a size or character that it would itself contribute to decoupling or signify a new role for TNF.

The military rationale for the force would be to enhance SACEUR's ability to execute a wide range of selective employment options, including small, escalatory strikes into the Western USSR. In the flexible response strategy, the force would represent greater escalatory potential and deprive the Soviets of any perceived ability to gain escalation dominance through restrained, selective use of the SS-20. Such a force, once deployed, would also add high priority targets which the Soviets would have to cover, and would complicate any Soviet effort to acquire a meaningful first-strike capability against either NATO or US strategic nuclear systems. It could also improve NATO's conventional capabilities by releasing some of the dual-capable aircraft now reserved during the opening stages of conflict, in case of need for nuclear strikes.

With respect to a possible future arms control effort, an ongoing or accomplished NATO program would likely increase Soviet interest. The West's negotiating position would be improved by actual possession of the systems to be limited, as well as the prospect of further deployments, and it would be much more feasible to think of negotiating on the basis of a parity outcome -- more attractive politically than unequal aggregates.

On the other hand, a Western arms buildup to be carried out prior to an arms control effort could easily cause a serious general down-turn in East-West relations. The extent of the deterioration in relations would probably be related to some degree to the level and character of Western deployments, as well as to any NATO declaratory policy about future arms control. Even if the Soviets chose not to react hostilely, which is unlikely, such a program would very likely complicate SALT III, and could be seen by the Soviets as a US effort to circumvent SALT II by exploiting inherent geographic asymmetries between the US and the USSR. A significant sector of European and US public and political opinion might well agree, thereby undermining support for US/NATO deployments. Finally, since the Soviet Union already has programs in being, it is possible that they would respond

by increasing deployments beyond levels we presently anticipate, and/or by developing new systems of their own. The outcome might be a theater action/reaction cycle, leading to new counterdeployments by each side, with an arms control agreement based on parity remaining elusive. NATO security might be the net loser. In addition, this strategy could fail to respond to the perceived political need on the part of some Europeans (especially the FRG) for a parallel arms control effort, as a possible alternative to TNF deployments if the Soviets could be persuaded to limit their deployments, or as a justification for NATO deployments if the effort should fail.

Strategy D: Integrated Force Deployments and Arms Control

Under this approach, NATO would adopt a planned program of force developments and deployments designed to provide a balanced long-range theater nuclear force, as well as to modernize existing short- and medium-range capabilities. The military rationale for this program -- as with the deployments under strategy C -- would be to increase theater escalation options, to expand SACEUR's selective employment capabilities, to make the linkage from TNF to strategic forces more credible by providing theater responses short of the strategic level, and thereby to strengthen deterrence of Soviet conventional and nuclear attacks.

In combination with this TNF modernization program, the Alliance would also adopt a sustained, realistic arms control effort -- presumably involving only US systems on NATO's side and with the US as negotiator. The objective of this initiative would be to establish some form of essential equivalence in long-range theater systems, thereby preventing an action/reaction cycle in theater deployments from taking hold, restraining destabilizing deployments of new systems on both sides, and protecting the viability and focus of SALT as the mechanism for controlling the strategic balance. In the event the initiative were unsuccessful, it would still serve as a political "cushion" for deployments.

Numerous combinations of force posture decisions and arms control outcomes can be devised for such a strategy. The essential objective would be that theater force modernization and arms control efforts be carefully coordinated in an integrated strategy designed to promote theater stability and enhance NATO's overall security. The basic pre-

requisite would be that decisions affecting either branch of the problem be taken with a view toward mutual compatibility.

For example, decisions on the size and characteristics of NATO's long-range force would be based not only on baseline military and doctrinal criteria (force requirements for carrying out a given set of targeting objectives and escalation options; force requirements for purposes of political perceptions, deterrent credibility, etc.) but also on arms control-related factors: compatibility with acceptable and plausible arms control outcomes (conformity with launcher ceilings, range limits, geographic restrictions, possible political requirements for parity, etc.), bargaining effect vis-à-vis the Soviets, impact on Western objectives in other arms control fora, etc. Conversely, the selection of arms control objectives (parity versus asymmetry or "rough equivalence", high versus low aggregates, geographic versus global ceilings, launcher versus missile limits, etc.) would affect decisions taken on the character of NATO deployments while the arms control initiative was underway. Force sizing, deployment rates, and arms control objectives would also be keyed to estimates of the pace of projected Soviet deployments. In addition, choices among systems for deployment in NATO would be influenced by considerations of verifiability in a potential arms control agreement.

Perhaps the most important consideration underlying an integrated strategy would be the need to synchronize NATO decision-making on both force posture and arms control, in order to use timing in a supportive way. For example, it might be feasible to proceed on the basis of a two-phased approach involving an announced initial cycle of deployments, together with a second pending cycle -- the latter contingent on the outcome of arms control efforts. In this context, the types of long-range systems deployed in the first phase could center on those involving modernization of already-dpeloyed TNFs (e.g., Pershing II-XR, FB-111H) and/or shorter ranges (e.g., 1500km) -- the rationale being to induce the Soviets to negotiate seriously to avert deployments in the second phase of new and/or longer-range systems, which Moscow would perceive as even more threatening. Alternatively, the decision on the final size and structure of NATO's projected long-range TNF deployments could be made at the same time the arms control initiative began, with the prospect of limiting NATO's already-programmed, but not yet fielded, deployments serving as the inducement for the Soviets to negotiate. In either case, NATO could decide on a minimal level of force improvements sufficient to meet its perceived security requirements independent of the success or failure of arms control, and these would serve as the irreducible

base beyond which NATO would be prepared to accept limits in return for appropriate limits on Soviet systems.

Discussion

This approach would aim to provide a comprehensive strategy taking account of our East-West and arms control, as well as Allied political and military, interests. It would respond both to the High Level Group recommendations and to Allied concerns for detente and interest in arms control. It would reflect the conviction that some new TNF deployments were necessary to deal with Soviet TNF modernization and Allied security concerns, and to make arms control a viable endeavor. It would recognize at the same time that there was no politically practical way to carry out deployments without a parallel arms control effort aimed at limiting the longer-term need for such deployments. Finally, it would reflect the belief that certain arms control outcomes were feasible and could enhance NATO's overall security. It might permit us to decide on a way to deal with cruise missiles in SALT promptly enough so as to facilitate the development of an early ingoing position for SALT III.

There could be considerable flexibility through this strategy for designing force postures and developing arms control objectives. Force planning and TNF programs could be designed to produce an optimum level and mix of deployments, determined in the HLG and based, in part, on the projected Soviet threat. Deployments, however, could be carried out in phases, with Alliance decisions required to move from one milestone to the next (development, testing, procurement, initial deployments, follow-on deployments).

If successful, the effort to impose a ceiling on selected theater systems of both sides and to create an arms control process for these systems could be a major factor in maintaining a stable framework for further negotiations on both strategic and theater systems, and for limiting theater deployments on both sides. Should the approach prove unsuccessful, the West might elect to stop when it had completed its initial rounds of deployments, or it could go beyond these, depending on circumstances.

On the other hand, the complexity of this approach could give rise to serious trouble. The timing of system IOCs would need to be carefully coordinated in a phased deployments approach (GLCM IOC is currently 1982; Pershing II-XR could not be available before the mid-80s). We might

find ourselves compelled to deploy systems which were most difficult to deal with in arms control simply because of program lead-times. Moreover, developing an integrated approach in the Alliance would require a good deal of procedural innovation, and would certainly raise substantive issues among our Allies (or between the US and the Allies) about force size, mix, system characteristics, military rationale, or arms control objectives, which might frustrate the effort at any point along the way.

It is also possible that the integrated approach, rather than promoting necessary force posture decisions in NATO and agreement with the Soviets, might instead tend to jam both processes so that in the end nothing significant was achieved in either track. Moreover, if the negotiating side of the strategy were to be carried out in SALT, the progress of negotiations on central systems might be made more difficult, rather than easier.

Timeframe for Decisions

The foregoing strategies are not presented as vehicles for immediate decision, but as ways to think about the many arms control and force posture issues raised in Sections II and III, and as points of departure for more detailed options which could be developed and analyzed in a subsequent effort.

Judgments about these strategies, and about any options which might be developed for them, will be difficult, and may -- in addition to our own efforts -- require a series of inputs from our allies designed to assure us that our understanding of their perceptions is accurate, and that they, in turn, are reflecting deeply about potential costs and benefits.

At this point, however, it would still be useful to consider one more question: timing.

Any strategy would have to take account of a number of already determined decision points. The most important of these are: program developments (including IOCs and other system milestones); the possible conclusion of SALT TWO later this year and the ratification process extending perhaps to next spring; the opening of SALT THREE, probably in late 1979; the pace of Soviet deployments; the Protocol expiration date; and domestic political considerations, both

here and in Europe (FRG parliamentary election in 1980; French presidential election in 1981; UK parliamentary election possibly this year).

Finally, the issue of in what, if any, forum to negotiate arms control on theater systems will have to be faced sooner rather than later.

-- For example, if SALT TWO were ratified by next spring, the US would have to develop an ingoing SALT THREE position during the second half of 1979; we could encounter pressure to define objectives in the ratification process itself.

-- As another example, the expiration of the Protocol will be a focus of both Allied and Soviet attention, and both will be pressing to see the key issues resolved to their satisfaction before the end of the Protocol period.

-- As a further example, the lead-time necessary to develop and produce new systems stretches over several years, and the degree of emphasis put on particular systems now will determine how soon we will have available options for deployment.

These factors suggest both a relatively short span in which substantive decisions will have to be taken, and an intense interaction between force planning and arms control decisions.

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SECTION V: ASSESSMENT OF SOVIET THEATER NUCLEAR GOALS AND SPECULATIONS ON SOVIET REACTION TO NATO LONG-RANGE INF INITIATIVES

In attempting to understand possible Soviet responses to a change in NATO's long-range theater nuclear posture or to an initiative by NATO to limit in some way this category of weapons,* it is helpful to review the military situation in which the Soviets found themselves vis-a-vis NATO in the mid-to-late 1960's and to describe the evolution since then of both their forces and nuclear war-fighting doctrine. This section is therefore divided into two parts. The first lays out the background aspects of the problem, and the second speculates on possible Soviet responses to a change by NATO of the long-range theater nuclear situation in Europe.

A. REVIEW OF SOVIET THEATER NUCLEAR FORCE DEVELOPMENTS

The Doctrinal Model of the Mid-1960's

NATO's doctrine in the 1950's and early 1960's was primarily one of massive nuclear response to either a conventional or nuclear attack by the Warsaw Pact. NATO's formal acceptance of the doctrine of "graduated and flexible response" recognized the growing nuclear capabilities of the Soviet Union, and represented an attempt to deter an attack on Western Europe through a controlled application of force, from conventional defense, to theater-based nuclear weapons, to US strategic weapons if necessary. The doctrine specifically envisioned the first use of nuclear weapons in the direct defense of NATO. An important feature of the doctrinal concept was the incalculability of the risk to the Pact of initiating combat at virtually any level.

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* A "long-range" theater nuclear weapon is defined here as one which is capable of reaching the Soviet Union from its most probable launch point. From bases in NATO's Central Region, this is about 1,000 kilometers.

Soviet doctrine, from the late 1950's and up until the removal of Khrushchev in 1964 held that any war between the USSR and the West would be determined by strategic nuclear weapons. Such a war would either begin with or quickly escalate to a massive nuclear exchange. This emphasis was underlined during the late 1950's and early 1960's by sharp drawdowns in Soviet conventional forces, and the buildup of strategic missile forces. Under this doctrine, the primary mission of assigned theater nuclear forces, including homeland-based, plus the then modest inventory of forward-based nuclear and chemical weapons--was to destroy the nearby nuclear attack assets of the enemy while the intercontinental strategic forces of the Soviet Union were brought to bear on the more distant threat. The doctrine--with respect to the theater at least--was primarily one of preemptive and massive nuclear strikes.

The Soviet Response

To the extent that NATO's new doctrinal concept allowed for a conventional phase of conflict in Europe at the outset of war, it presented the Soviets and the Pact with the opportunity to eliminate through nonnuclear ground and air attacks much of NATO's nuclear war-fighting potential, thus decreasing the impact of the eventual nuclear strike against the Pact which Soviet planners felt would almost inevitably occur. Due, however to the de-emphasis of conventional forces during the Khrushchev years, the Soviets felt unable to exploit fully this opportunity.

Quite aside from the inadequacy of Pact conventional forces though, NATO's tactical nuclear capabilities presented a difficult challenge to the Soviets. NATO's nuclear weapons were varied, widely-based, and sufficiently plentiful as to practically assure the survival of a threatening residual capability--even in the aftermath of nuclear and chemical strikes by forward-based Pact systems. This meant that NATO could credibly threaten to counter a ground attack by the first use of locally-based nuclear systems, at a scope and level of intensity which the Pact could not match. Thus, in order to respond to the employment by NATO of tactical nuclear weapons, the Soviets would at some point have been forced to resort to the medium bombers or missiles of homeland-based strategic forces.

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A response with homeland-based weapons would have been highly escalatory, however, and posed the risk of a devastating retaliatory strike on Soviet territory. The dilemma was perhaps complicated by the "use it or lose it" character of the largely soft-pad based SS-4 and SS-5 MR/IRBM force, which was probably viewed as vulnerable to a US/NATO preemptive strike.

Force Modernization

Soviet theater modernization programs since the late 1960's reflect an effort to redress their weaknesses in terms of NATO's new doctrine. In particular, the Soviets were concerned with: (1) The inadequacy of the Pact forward-based conventional and tactical nuclear forces, and (2) the vulnerability and limited flexibility of their homeland-based peripheral attack forces. The size and character of present Soviet theater forces--both conventional and nuclear--mirror these concerns.

The modernization of Pact conventional capabilities will not be discussed in detail. Pact ground and air forces, however, have registered important gains since the mid-sixties. They are larger, and far better equipped than previously. On the whole, they must be regarded as more capable of exploiting the high intensity conventional phase of conflict envisioned by NATO's doctrinal concept.

Important improvements have also taken place--and are continuing--among forward-based Pact tactical nuclear forces located opposite NATO's Central Region. In particular:

-- New types of dual-capable tactical aircraft with improved range, payload, and penetration characteristics have been deployed to Eastern Europe. It is expected that more effective tactical missiles will be deployed there over the next few years.

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-- Since 1968, the number of technically nuclear-capable aircraft, and nuclear-qualified aircrews increased fourfold; at the same time, there has been a twofold increase in surface-to-surface missile and rocket launchers.

-- Nuclear weapons allocations for the theater have increased substantially.

-- Warhead yields for tactical missiles have increased substantially, and a wide range of yields--including sub-kiloton--have been noted for air-delivered weapons.

Tactical aircraft--used primarily for battlefield air defense in the early 1960's are now allocated a substantial share of the nuclear weapons of a Pact front. Judging from the limited evidence of sub-kiloton bomb yields, it is possible that Soviet planning calls for aircraft to provide battlefield nuclear support, a task fulfilled by NATO with artillery. This may be only an interim measure though, since the Soviets have demonstrated a resurgence of interest in nuclear artillery, and are developing new weapons. While several such artillery units have been formed in the Soviet Union--equipped primarily with older artillery pieces--none have yet appeared in Eastern Europe.

Until recently, there have been few improvements in Soviet-based peripheral attack forces opposite NATO. The size of the medium bomber force has remained relatively stable since the mid-1960's though small numbers of the newer Blinder aircraft have replaced older models. The survivability of this aging bomber force was incrementally improved by a program begun in the mid-1960's to equip them with nuclear-armed air-to-surface and antiship missiles. The land-based ballistic missile component of those peripheral attack forces oriented on Western Europe actually decreased in numbers since the mid-1960's as over 100 SS-4 MRBM and about 10 of the far less numerous SS-5 IRBM sites were deactivated. As in the mid-to-late 1960's, Soviet homeland-based

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peripheral attack forces opposite NATO now are fairly equally divided between medium bombers and MR/IRBMs.

Perhaps to offset SS-4 and SS-5 follow-on weapons development failures, the Soviets are believed to have sites in the late 1960's some 120 SS-11 ICBM silos in a manner which permitted coverage of targets in Europe. In addition, several G-class ballistic missile submarines were redeployed to the Baltic, while evidence indicates that certain other ballistic missile submarines may also have target assignments in Western Europe.

Two new weapons of pertinent interest have recently begun entering the Soviet strategic inventory. One, the Backfire bomber, with range, payload, and penetrability characteristics much superior to those of the Badger and the Blinder, has assumed both a naval and land-attack role. The Backfire is available in substantial numbers opposite NATO, and barring deployment constraints in SALT II, is expected to comprise by 1985 about 25 percent of the total aviation component of Soviet peripheral attack forces.

The SS-20 IRBM system, now in the early stages of deployment, is superior in several respects to the present SS-4 MRBM and SS-5 IRBM systems, which it will eventually replace. It possesses a shorter response time--it can be fired within minutes, directly from its storage facility--and has a mobile mode of operation, which enhances survivability of a large portion of the force from a possible NATO preemptive strike. The SS-20 missile itself has three MIRVs, with a significantly improved CEP over that of the SS-4 or SS-5. In addition, SS-20 launchers will eventually have two or three refire missiles. Depending upon the number of launchers and refire missiles actually deployed opposite NATO, it is estimated that the Soviets will have, by the mid-to-late 1980's about 40 percent more RV's (including refire missiles) than are presently available for employment in the European theater.

Arms Control Efforts

In addition to the above force improvement measures which are now coming to fruition, the Soviets have pursued a parallel strategy of

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arms control, at both the intercontinental strategic and lower levels. SALT I, from the Soviet standpoint, registered gains achieved from their buildup and slowed US competition in areas which the Soviets perceived to be to their disadvantage. Equally important, it signified recognition on the part of the US and NATO that rough strategic parity now exists between the intercontinental arsenals of the United States and Soviet Union.

The Soviets are sensitive to any potential threats that might diminish the strategic gains which they have achieved since the mid-1960's, and have attempted to slow down, through diplomatic or political means, the deployment of classes of weapons systems for which they perceive the advantages to lie with the US and NATO. The present generation of long-range cruise missiles may constitute a case in point. Also, and to an unknown extent, the cruise missile, because of its relative low cost and potential ease of production, may impact on the further development of British and French nuclear capabilities, or on another Soviet concern--the development of possible new nuclear powers. The efforts of the Soviet Union to incorporate a nontransfer/noncircumvention clause in SALT II constitute, in part at least, an attempt to utilize an arms control forum to delay or prevent such an eventuality.

The Soviets have not so far succeeded in including in arms negotiations a category of weapons which they regard as threatening--US/NATO forward-based nuclear-capable systems. According to the broad Soviet definition of strategic systems--forces capable of striking homelands--these will continue to interest the Soviets, and they will probably continue to press for their limitation.

New Nuclear Employment Options

Since the late 1960's the Soviets appear to have moved away from theater scenarios calling exclusively for massive nuclear preemptive or retaliatory strikes, and toward greater experimentation with various options and contingencies for conducting a nuclear war. Among the most pertinent of such options are:

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-- Delaying a response to NATO's first--and limited--use of nuclear weapons, but intensifying an intelligence watch for signs of a transition to a more extensive phase.

-- Responding to NATO first use at the lower end of the nuclear spectrum with limited intensity strikes by forward-based systems.

-- Escalating gradually, over a few days, the scope and intensity of nuclear strikes with tactical systems in support of specific defensive or offensive ground force operations.

-- Preempting massively in the theater when indications appear that NATO is preparing to deliver widespread nuclear strikes. (This differs from the 1960's when massive response was prescribed for a nuclear strike of any scale whatsoever by NATO.)

Targeting policy and readiness are also salient features of the Soviet nuclear posture with respect to Europe. Options and contingencies aside, it appears clear that the primary mission of Soviet nuclear forces remains the destruction of NATO's nuclear warfighting capability. Consequently, the present employment doctrine probably demands assured coverage of all NATO systems capable of striking the Soviet Union.

The Soviet nuclear posture--although less now than in the 1960's--appears predicated on the presumption that political or intelligence indicators will afford them adequate time to disperse nuclear forces. Hence, neither the homeland-based M/IRBMs nor the Soviet forward-based theater nuclear systems are at a high state of peacetime alert. This is in contrast to NATO, which always keeps a substantial fraction of its aircraft and missile systems on alert.

During a period of increased tensions or actual combat, however, it is estimated that the Soviets would withhold up to one-third of their bomber and tactical aircraft for possible escalation to nuclear conflict.

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Conventional Counternuclear Operations

In addition to the above nuclear options, the Soviets, in order to take advantage of a conventional phase of warfare lasting at least a few days, have developed plans to conduct coordinated and massive air strikes against NATO military targets, including especially airbases, missile sites, and nuclear depots. In order to maximize the effect of this preemptive counternuclear option, the Soviets have considered it important to operate, both in their forward-based tactical systems and in their homeland-based theater strategic forces, large fleets of aircraft capable of both conventional and nuclear operations. A tactical or strategic force based on mobile missiles would be potentially more survivable, but would lack the conventional flexibility of aircraft delivery systems.

The Current Situation

It is uncertain to what extent the Soviets view the theater force developments undertaken since the mid-to-late 1960's as working to their favor--and in particular, enabling them to exercise some or all of the options described above. On the one hand, Soviet writings and other evidence indicate that Soviet planners see little prospect of limiting escalation once the nuclear threshold is crossed by either side.

On the other hand, however, the improvements in forward-based forces which have so far taken place enhance the Pact's capability to wage nuclear war in Central Europe, at whatever level NATO chooses, without having to resort immediately to strategic forces based on Soviet territory.

The Soviets may reason that intercontinental strategic parity has diminished substantially the threat of escalation to central systems. At the same time, the increased survivability of the new IRBM force--once the SS-20 is deployed in large numbers--will enable the Soviets to behave with greater confidence and restraint in a nuclear or near-nuclear situation and, in the abstract at any rate, enhances Soviet ability to execute some of the above options.

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Soviet leaders probably now consider that the military advantages to NATO of using nuclear weapons have been substantially offset and may believe that the Alliance would be more reluctant to use them in response to a conventional attack. If so, Soviet planners might calculate that the risks of a military conflict with NATO escalating to nuclear warfare have been reduced. They would almost certainly still regard the risks as substantial however.

They may believe that if present trends in theater nuclear forces continue, the basis for military dominance in Europe could shift more to conventional forces--an area in which the West has long found certain difficulties in competing.

At the political level, the Soviets probably view their theater nuclear improvements, particularly the Backfire and SS-20, as enhancing their prestige, and as strengthening their influence on Western European affairs. At a higher level of generality, the Soviet goal has for several years been to lever the United States out of Europe. Equally, however, the Soviets are sensitive that in so doing they may galvanize European concerns sufficiently as to initiate closer and more effective defense cooperation, including possibly in nuclear weaponry. Consequently, it is expected that the Soviet Union will be very cautious in exploiting the growing imbalance in long-range theater nuclear forces.

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B. SOVIET RESPONSES TO A CHANGE IN THE FORCE TRENDS: SOME SPECULATIONS

The Current Outlook

Since the late 1960's, the Soviets have devoted considerable resources to improving their theater nuclear force posture. They are probably satisfied with their accomplishments to date, and may reckon that force developments in train--if allowed to run their forseeable course and not offset by countervailing NATO developments--will by the mid-to-late 1980's confer on them a variety of military and political advantages.

With the notable exception of the GLCM/SLCM, there are relatively few programmed NATO long-range theater nuclear force improvements which would impact on the situation as the Soviets might see it. The US Tomahawk cruise missile, however, may have an initial operational capability as early as 1982, and will have sufficient range to strike the interior of the Soviet Union from almost any point in European NATO.

While the French are currently replacing their present inventory of SLBMs and IRBMs, none of the new missiles are known to be MIRVed. The British Vulcan long-range bombers are obsolescent even now and will probably be retired without comparable replacement by 1983.

NATO has some medium- and short-range nuclear modernization programs under way which will provide incremental improvements in capability. The F-16 and Tornado dual-capable aircraft will have an increased bomb load, a substantially greater nuclear strike radius, and improved penetrability over the aircraft they are replacing. The US F-16, however, will lack the all weather nuclear delivery capability of its predecessor, the F4C/D. The version of the Pershing II missile currently programmed for deployment, while having much improved accuracy over the Pershing I, will have the same range.

A development to which the Soviets reacted vigorously was the US move to win acceptance for the deployment in Europe of the enhanced

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radiation warhead. To a large extent, Soviet reaction was opportunistic. Real concern may also have been aroused, however, by the weapon's possible effectiveness in the battlefield support role. In addition, the Soviets may have reasoned that, due to its low collateral damage, it was more likely to actually be introduced into combat.

Although the US President decided for a number of reasons not to deploy the weapon at this time, the Soviets may feel that the large-scale public and private campaign which was waged in Europe against the weapon, influenced--if indirectly--the President's decision.

General Considerations

The prospect of any delay or halt in the--to them, favorable--long-range theater nuclear force trends described above would in all likelihood be displeasing to the Soviets. However, the degree of their displeasure--and the character of their response--would depend upon a variety of considerations: the nature and pace of the change, the associated political atmospherics, and the impact on other areas, such as the economy, treaty obligations, etc. In short, the reaction would be highly scenario dependent.

The Soviets have indicated annoyance and some bafflement over Western expressions of concern with respect to the Backfire and the SS-20, both of which they suggest are routine modernization programs. From the Soviet standpoint, their medium bombers and MR/IRBM forces, while long threatening to European NATO, have--for a variety of reasons--been tacitly accepted by both the US and European NATO.

Another consideration touches on China. Given the SALT-imposed ceiling on intercontinental range strategic systems, the most reasonable way to maximize coverage of US targets is to deploy more and better medium bombers and MR/IRBMs opposite China. Hence, Western actions affecting Soviet long-range theater nuclear forces could have considerable backward linkage to SALT.

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A possibly important factor in considering Soviet reactions to a theater nuclear force buildup or modernization effort by NATO, is Brezhnev's necessarily limited duration in office. As the matter of leadership succession becomes more urgent, the support of the military will be solicited by all aspirants to the chairmanship. The result of this situation is uncertain, but could conceivably lead to a more vigorous reaction to a NATO nuclear force buildup than otherwise.

It is also important to note--that aside from public pronouncements and political pressure--the Soviets rarely act precipitously or publicly on important issues. Decisions affecting military programs and strategy are usually made in an especially deliberate and integrative way, and their rationale and effect are frequently not known in the West for several years.

Soviet Sensitivities

The two principal options which NATO has in redressing the growing imbalance in long-range theater nuclear systems are: (1) to initiate a weapons development and/or deployment program of its own, of sufficient pace and magnitude to offset Soviet advances in this area; (2) to halt or attenuate Soviet advantages through a specific arms control initiative aimed at this category of weapons, either independently of any NATO weapons program, or in tandem, or sequentially.

Of any possible NATO theater nuclear development, the Soviets would exhibit the greatest sensitivity to programs to enhance NATO's capability to strike Soviet territory--especially in depth. In all probability, the Soviets would be concerned in direct relation to the change in magnitude, general character, and physical direction of the threat.

In addition, to the extent that it added a new degree of risk and instability to the situation, the Soviets would be apprehensive about any increase in British or French capabilities, or a significant change in NATO institutional arrangements which would give the Europeans in

general, and the West Germans in particular, more influence over nuclear planning or employment doctrine.

Soviet military planners have always exhibited respect for large numbers. In all likelihood, therefore, the force which would alarm them most quickly and most certainly would concentrate on magnitudes. Sheer numbers of aircraft delivery systems, air-to-surface missiles, ballistic or cruise missile launchers, reloads, warheads, and the size of individual weapon yields, would all be relevant in this context.

The Soviets would also be sensitive to the technological "state of advancement" of any prospective weapons system. This is particularly true to the extent that it might confer unique advantages to the US or NATO, or represent difficult to duplicate "break-throughs."

General qualitative characteristics in long-range weapon systems to which the Soviets would probably be sensitive are range and targeting versatility, vehicle penetrability, on-target effectiveness, pre-launch weapon and force survivability, and overall force readiness and reaction capability. The various weapon deployment options which the US and NATO have would probably be assessed in terms of these qualities, or combinations thereof.

An IRBM or long-range cruise missile system might be most alarming to the Soviets in the real military sense. Their concerns would be heightened by the fact that there is at present no means of defending against ballistic missiles. The new generation of cruise missiles is also practically invulnerable in this regard, although their subsonic mode of flight makes the prospect of defense generally feasible.

The survivability of a ballistic or cruise missile force--particularly if mobile or sea-based--would also be regarded with concern by the Soviets. Such a force would be kept at a higher sustained rate of readiness than dual-capable aircraft and would severely complicate, or make unfeasible conventional or nuclear targeting.

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The Soviets have a high regard for US and NATO aircraft, and the deployment of additional or new dual-capable aircraft would enhance both NATO's conventional and nuclear delivery posture. A new aircraft system with enhanced penetrability and possibly armed with medium-range ACLMs, would probably be viewed with particular respect by the Soviets.

However, the bases out of which NATO's dual-capable aircraft presently operate--including the dispersal bases--are relatively few in number. To the extent that new aircraft are deployed to these same bases, it could be viewed by Soviet military planners as simply enriching the target set.

While the Soviets would be concerned at the basing of more nuclear systems in Central Europe, from the military standpoint they might well be more distressed at deployments elsewhere on their periphery. The Soviets might feel especially vulnerable to additional aircraft delivery systems [redacted] since their air defenses in this direction are not as fully developed as in Eastern Europe and the Western military districts.

The ownership and operational aspects of any new long-range theater nuclear force would concern the Soviets. A NATO-wide force would be most difficult to deal with from the political or negotiating standpoint. An ownership or operational arrangement that gave the West Germans more influence over planning and targeting would be especially provocative in the view of the Soviet leadership. A significant buildup or change in the character of the independent British or especially French long-range nuclear forces would also be worrisome, as it could add an additional degree of unpredictability to any major conflict in Europe.

The composition of a force reflects--theoretically--its doctrinal and employment concept. A vital consideration is that aircraft can be used in either the conventional or nuclear mode, while a missile force is fundamentally nuclear. A discernible shift by NATO toward a theater nuclear force based predominantly on missiles--as opposed to a more flexible mixed aircraft missile force--might be construed by Soviet military planners as a change in doctrine.

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Similarly, a shift by NATO toward a more survivable nuclear delivery force--regardless of its composition--could be regarded by Soviet planners as rendering most conventional counternuclear operations impractical. These developments would concern the Soviets.

From the Soviet standpoint, one of the principal benefits of SALT is that it put a rough ceiling on the number of intercontinental strategic systems directed against the Soviet Union. It is probable that the number of forward-based theater nuclear systems directed against the Soviet Union was factored into Soviet calculations as to the overall benefit of SALT. Hence, the prospect of a net increase in the number of forward-based delivery vehicles capable of reaching the Soviet Union would be alarming, and could impact adversely on Soviet willingness to discuss limits on their own intercontinental strategic systems in SALT III. Soviet distress would probably be greatest, though, with those systems whose numbers are least amenable to verification. Cruise missiles, especially SLCM and GLCM types, are especially pertinent in this regard.

Soviet Responses

The Soviet reaction to a decision by NATO to modernize or increase significantly its theater nuclear forces would depend critically upon the scenario. In general, however, almost regardless of the scenario, the Soviets would find the prospect of almost any type of buildup *ipso facto* objectionable.

In all probability, the most certain and immediate reaction would be to initiate a propaganda campaign, supported by political pressure and other coercive measures wherever applicable. As with what they probably regard as a successful delaying effort against the enhanced radiation weapon, there would very likely be a well orchestrated public and bilateral campaign, with features designed to appeal to the sensitivities of specific audiences and countries. Communist and leftist parties in France, Italy, and elsewhere would doubtless serve as a ready sounding board for a counter-modernization campaign.

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A campaign of this kind would be more difficult for the Soviets if long-range theater nuclear modernization were supported NATO-wide, with broad program participation. Any real or imagined increase in German participation would be regarded by the Soviets as a profitable propaganda theme, and might well fall on receptive ears in Western Europe.

The question of basing is certain to be raised in any public and private campaign against theater nuclear modernization, and the Soviets are aware that this is potentially a vexing and divisive issue. "Non first use" and "negative security assurances"* are almost certain to be proposed once more by the Soviets in this connection.

[redacted] The threat of economic pressure, however, on the more advanced countries of Western Europe would not be generally credible, as the Soviet Union invariably derives at least as much benefit from the economic and technological relationship as do the countries involved.

The initial Soviet military response to an increased NATO theater nuclear modernization program would probably be subdued, as the Soviets assessed the size and character of the program and the likelihood of sustained public and Congressional/Parliamentary support for it.

For the short term, the military response could include minor but visible redeployments, designed more for demonstrative effect than military value. Certain conceivable redeployments would constitute

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* Proposed in the SSOD. Basically a variant of non first use, in which the Pact assures a country that nuclear weapons will not be used against it, if it does not tolerate basing by NATO of nuclear weapons on its territory.

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significant changes and as such could be counterproductive in terms of impact on US and European publics and governments. An example of the latter might be the home-porting of Soviet ballistic missile submarines, or the basing of Soviet aircraft in Cuba. Another might be an increase in conventional ground or air forces based in Eastern Europe.

Certain actions would have more military than demonstrative effect. A limited number of strategic bombers could be reassigned from the Far East to European USSR. As NATO's theater nuclear buildup progresses, there would almost certainly be readjustments in strategic targeting. While the benefits would not be clear, the Soviets might also establish a limited peacetime alert--similar to NATO's--among some of its dual-capable aircraft units in Eastern Europe.

Over the longer term, the Soviet response would be dominated by the established tendency to at least match the US and NATO at every level of military capability. The drawdown of the older MR/IRBM force, and the decline in the medium bomber force since the mid-sixties as well as the deliberate pace of deployment for the newer systems, suggest that the Soviets have some concept of sufficiency--or at least of force sizing--for these weapons.

If there is a concept of force sizing, it is probably keyed, among other things, to the number of US and NATO nuclear weapons deployed in Europe. An increase in NATO theater nuclear forces which the Soviets perceived as threatening, would almost certainly result in a long-term counterdeployment of peripheral strategic forces. The Soviet medium to long-term reaction will probably depend additionally, however, on their perceptions of the character and priority of the buildup, their assessment of NATO's motives, and a variety of other considerations, including arms control.

Given a relatively low-keyed, gradual buildup of theater-nuclear forces by the US and NATO, with no sharp changes in the composition of the force, the character of threat, or significant new basing or weapon ownership arrangements, it is believed that the Soviet medium- to long-term military reaction would be minimal. Incremental adjustments could be expected, however, in both SS-20 and Backfire deployments, while forward-based lower-level nuclear modernization would continue at approximately its present pace.

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In all likelihood, the deployment to Europe of larger long-range forces, including an extended range Pershing, or advanced FB-111 would result in a somewhat stronger reaction, keyed ultimately to the degree of what the Soviets perceived to be the real military threat. The deployment of an entirely new weapon system such as an IRBM or GLCM in meaningful numbers would be regarded by the Soviets as particularly alarming and might well result in a significantly higher level of deployment effort for peripheral strategic forces.

Under these circumstances, it is projected that the number of delivery vehicles deployed in the mid-to-late eighties might exceed by about 50 percent the otherwise more moderate level of deployments projected for forces assumed to develop much as we see them doing at present. The total number of available RV's (including refire missiles) from this high projection might exceed otherwise anticipated deployments by about 75 percent. Such a force could derive from a slowdown in the rate of retirement of older weapons, the speedup of new weapons acquisitions, or possibly a shift in emphasis from forces opposite China to those opposite NATO, or a combination of all three.

To a degree, the increase in this force could be motivated not only by military reasons but by also the desire to accrue additional negotiating capital in anticipation of future negotiations with the US/NATO on these systems.

Defense is also an entrenched Soviet reactive tendency, and given the deployment by the US or NATO of systems which the Soviets might see as vulnerable to defensive measures, they would almost certainly initiate defense programs. The Soviets are presently working on an advanced surface-to-air missile system, designed to counter very low altitude penetrating aircraft. The deployment by NATO of more or better long-range nuclear capable aircraft would probably justify a higher level of development effort by the Soviets for this system.

The deployment of cruise missiles by NATO would necessitate a particularly expensive and technologically challenging program to defend against them, and might result in the expansion of a ground and airborne detection network, and an intensification of the development of an advanced AWACS, and "look-down/shoot-down" aircraft.

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The Soviets and the Pact are also likely to implement improvements in forward based defensive systems, particularly against aircraft. Some improvements, however, are in train regardless. The SA-5, for example, is believed to be scheduled for introduction into Eastern Europe, and possibly will be made available to non-Soviet forces.

Soviet reaction to a Western proposal to negotiate ceilings on long-range theater nuclear systems would depend upon a variety of factors, not the least of which would be the prospect that without negotiations, the US and NATO might deploy threatening numbers of such weapons. In general, the Soviets would be most likely to agree to negotiate in order to delay or block systems which the US or NATO does not yet possess. Conversely, they would probably not negotiate on a category of systems in which they have not yet matched the US or NATO.

The Soviets would almost certainly respond to any Western initiative to place ceilings on its peripheral attack systems with a demand that non-comparable systems--in particular, forward-based medium-range aircraft and Pershing systems--also be incorporated. The Soviets would also be concerned that any negotiations capture in some manner long-range French and British theater nuclear systems, and perhaps inhibit the transfer to these countries of relevant technologies.

Other things equal, the Soviets would probably prefer to deal on these issues bilaterally with the US, perhaps within the framework of SALT, rather than in a less predictable multilateral forum. The preference for a negotiating forum, however, would be strongly influenced by the basing and ownership of any prospective US/NATO long-range theater nuclear delivery systems. If located inside the present NATO guidelines area--and especially in the FRG--the Soviets could be attracted to dealing with them in MBFR. If located outside, for example in [redacted] then conceivably a third forum might be considered.

The decision by NATO to proceed with substantial and threatening deployments of long-range theater nuclear forces would result in a reevaluation by the Soviets of their arms control goals and approach. Most foreseeable NATO long-range nuclear force buildup scenarios, however, would probably not result in either the termination of the SALT process or the termination of MBFR talks.

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The Soviets would reason that to stop SALT would alarm the US, and possibly initiate a costly and uncertain competition in intercontinental strategic weapons. The continued existence of MBFR would seem to be assured by what would appear to the Soviets as the sheer difficulty of disengaging from the forum without galvanizing the Europeans into closer defense cooperation and perhaps even a major conventional buildup.

With or without negotiated ceilings on the Soviet Backfire and SS-20 force, there are a number of steps the Soviets could take which could tend to offset the worth of a balance between these forces and any long-range theater nuclear force which the US or NATO could deploy. These steps would essentially amount to a diversion of the competition into other military development channels, either within or outside the European theater.

The Soviets could, for example, retarget a limited number of ICBMs or SLBMs from China or the US to Western Europe. Such a possibility may be hastened by the development by the Soviets or more efficient replacement systems, or new, unconstrained systems.

There is in this context evidence that a new long-range heavy bomber and a long-range GLCM are in development. An emphasis by NATO on long-range theater nuclear forces could conceivably result in a faster development and deployment of the new bomber. The same might be said of the cruise missile. The motives for developing the cruise missile--which is perceived as being more advantageous technology for the US/NATO--do not necessarily parallel those of the US. Some feel, however, that if the US deploys the cruise missile, the Soviets will do likewise if for no other reasons than mastering the technology, and maintaining prestige. At present, the Soviets probably prefer to ban it.

Another possible channel of competition into which the Soviets might choose to divert their efforts is the modernization of forward-based lower-level nuclear systems. An extended range Scud tactical missile or the new Scaleboard replacement missile, if based in East Germany, could strike most important military targets in Western Europe.

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In any case, certain programs which will impact on the lower-level nuclear situation are almost certain to occur anyway. It is believed, for example, that by 1983 essentially all tactical aircraft assigned to Eastern Europe will be technically nuclear capable, while the number of nuclear trained pilots will have doubled. Also, new nuclear capable self-propelled artillery has been developed, and is a good candidate for deployment to Europe. If deployed, it will free tactical aircraft from present nuclear battlefield support requirements, thus making them available for longer-range strikes.

It is also conceivable that the Soviets might respond by competing in nonnuclear areas. Depending upon the basing, and types, of new nuclear weapon deployments by NATO, the Soviets and Pact might respond by straightforward improvements in conventional air and ground forces, the intent being to enable such forces to more quickly destroy or overrun these weapon systems.

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