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NATO'S NUCLEAR CHALLENGES

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Fresh from its INF success, NATO again faces severe tests which will demonstrate whether the Alliance can retain its political cohesion and its military doctrine of flexible response. This time the multiple challenges will be less dramatic but more complicated than the INF deployment decisions of the early 1980s. They include the related challenges of Mikhail Gorbachev's New Thinking, the U.S.-European burdensharing debate, the declining credibility of America's extended deterrence, and the short range nuclear forces (SNF) modernization decision.

While NATO focuses its attention on the dramatic changes emanating from Moscow and on determining the future of conventional force levels in Europe, trouble is brewing in the nuclear field. The nuclear policies that have yielded forty years of peace in Europe are under challenge. Basic decisions need to be taken. The new U.S. Administration must seek ways to enhance the credibility of its extended nuclear deterrence. And the Federal Republic of Germany, together with its NATO allies, must reach decisions about the nature and condition of SNF modernization. This paper analyzes the nuclear challenges facing NATO in the decade ahead.

PART I – THE POLITICAL SETTING

A. The Decline of Extended Deterrence

The credibility of America's willingness to extend nuclear deterrence to NATO has suffered during this past decade. The inherent incredibility of one state's willingness to commit nuclear suicide for the security of another has been papered over since 1967 under NATO's flexible response doctrine. The cracks began to show again after the INF Treaty was signed, but the underlying stresses are long standing.

With flexible response, a seamless web of escalation is said to exist, beginning with a conventional response to aggression which is linked in turn to the potential of battlefield and ultimately to strategic nuclear responses. But geographic disparities have led Europe and the United States to stress different aspects of the escalatory response and at times to sever the seamless web. During the past decade, the United States has tended to stress policies which Europeans interpret as a U.S. desire to contain war to the European battlefield and thus avoid attacks on American territory. While stressing the conventional build-up, the United States simultaneously adopted a long term goal of eliminating nuclear weapons. To the extent that nuclear weapons might be retained, emphasis was given to planning for a limited nuclear war intended to defeat the enemy.

The apparent American focus on trying to contain a European war has been bipartisan, though specific initiatives have often been strongly opposed by members of the other

political party. In Europe, however, the message of this steady drum beat sounds much the same: "strengthen NATO's capabilities to fight in Europe and reduce the prospects of escalation". Several examples demonstrate this trend.

– In 1980, Henry Kissinger wrote "our European allies should not keep asking us to multiply strategic assurances that we cannot possibly mean or if we do mean, we should not want to execute because if we [do] execute [them], we risk the destruction of civilization."¹ Basically, the former Secretary of State said that extended nuclear deterrence is not credible.

– In 1982, the "Gang of Four" (McGeorge Bundy, George Kennan, Robert McNamara, and Gerard Smith) wrote in *Foreign Affairs* that the United States should not be the first to use nuclear weapons.

Yet maintaining the seamless web of flexible response implies retaining the option for first use to escalate war both in and beyond Europe.

– In 1983, President Ronald Reagan ushered in the Strategic Defense Initiative to find an alternative to mutual assured destruction and eventually to make nuclear weapons obsolete. Europeans saw in this further evidence of American unease with doctrine that relies on the threat of nuclear weapons use.

– In 1984, Senator Sam Nunn offered 2 troop reduction amendment intended to force Europeans to bolster conventional defenses and raise the nuclear threshold.

– During the 1986 Reykjavik summit, President Ronald Reagan nearly agreed with Gorbachev to eliminate all nuclear weapons.

– The 1987 INF Treaty removes the weapons that had been deployed expressly to couple war in Europe more closely to strategic nuclear weapons.

– The 1988 Pentagon-commissioned report on Discriminate Deterrence concluded that "The Alliance should threaten to use nuclear weapons not as a link to a wider and more devastating war (although the risk of further escalation would still be there) but mainly as an instrument for denying success to the invading Soviet forces"².

– During the 1988 Presidential campaign, Democrat Michael Dukakis emphasized strengthening conventional weapons at the expense of nuclear weapons.

¹ "The Future of NATO" in Kenneth A. Myers, Editor, *NATO: The Next Thirty Years - the Changing Political Economic and Military Setting* (Boulder Co: Westview Press for the Center for Strategic and International Studies, Washington D.C., 1980).

² *Discriminate Deterrence - Report of the Commission on Integrated Long-Term Strategy*, Washington D.C., Government Printing Office, page 30.

Conservative Europeans react with unease to efforts which delegitimize nuclear weapons and attempt to contain war to Europe. While they favor strengthening conventional defenses, they fear the risk of decoupling European security from the central strategic balance. Whenever possible, they try to enhance strategic coupling by stressing the need to maintain nuclear deterrence. Generally, they support nuclear modernization to enhance the credibility of flexible response. They emphasize the importance of the U.S. troop presence in Europe as INF missiles are withdrawn, an effort which the burdensharing debate will complicate. As a hedge, they are developing closer intra-European security relationships and discussing the prospect of closer nuclear co-operation between France and Britain.

Many Leftist parties in Europe have had quite a different reaction. They are encouraged by the INF agreement, and by US anti-nuclear rhetoric. They see an opportunity for rapid progress in arms control, especially in the area of short range nuclear missiles. Thus the "post INF period" has witnessed a polarization of European opinion, between those who fear further progress in nuclear arms control in Europe and those who encourage it³.

B. The Rise of Reasonable Sufficiency and Defensive Defense

As the United States expresses unease about mutually assured destruction (MAD) by focusing attention on containing war in Europe, the Soviet Union is now warming to the concept of MAD. While President Gorbachev's rhetoric continues to include the need for abolition of nuclear weapons, Soviet strategists are now exploring the nature of reasonable sufficiency. In strategic nuclear terms, Soviet civilian analysts are studying force structures of 400-600 mobile nuclear missiles on either side. Some have adopted the old McNamara-Enthoven standard of 400 equivalent megatons as adequate to destroy 200 of the enemy's cities. Soviet military leaders from Marshal Ogarkov to ex-Marshal Akhromeyev have also appeared relatively willing to explore deep cuts in Soviet and U.S. strategic systems.

The Soviets have had more difficulty in defining reasonable sufficiency for the European theater. They say their goal is to reconfigure the military forces in both NATO and the Warsaw Pact so as to preclude a surprise attack by either side. NATO shares this goal. Ultimately the Soviets seek a cooperative transition to a "non-offensive" posture.

³ For more on the post-INF situation in Europe, see Lewis A. Dunn (NATO after Global "Double-zero") and Robert Hunter ("Will the United States remain a European Power?") in the May 1988 issue of *Survival*.

But the Soviet military has been less willing to accept reasonable sufficiency for conventional forces than for nuclear forces. While Soviet military manuals for the first time now contain references to more defensive operations, the Soviet general staff remains wedded to their longstanding concept of counter-offensive operations. For example, the Soviet Defense Minister, General Dimitri Yazov, states in October 1987 that "it is impossible to rout an aggressor with defense alone... After an attack has been repelled, the troops and naval forces must be able to conduct a decisive offensive"⁴.

President Gorbachev's December 7, 1988, US speech demonstrates that he has asserted political control over the military concerning conventional force reduction. Gorbachev's speech was an important first step in reducing the asymmetries in the NATO Warsaw Pact balance along the front lines. The concessions were apparently too much for the health of Chief of Staff Akhromeyev.

But the important question is can Gorbachev sustain his bold efforts to reshape the Soviet government, society, economy, foreign policy, and defense policy all at the same time. His efforts will be painful for most Soviet institutions, and reforms remain under constant threat by the nationalities problem and by potential unrest in Eastern Europe. The goal for the West is to take advantage of these new opportunities for peace whenever possible, without disregarding the continuing Soviet military threat.

Thus, as questions arise about the credibility of the US commitment to NATO, the nature of the Soviet threat is also changing. If properly managed, these two trends can be compatible. Greater allowances might be made in Europe for US sensitivities if the threat appears less imminent. If, however, NATO cannot respond with some cohesion to Gorbachev's new initiatives, then these two trends can badly divide NATO.

C. Shifting Sands in the Federal Republic

Mikhail Gorbachev is probably the most popular statesman in the Federal Republic of Germany. A recent FRG poll shows that on a thermometer scale, Gorbachev had a 1.5 rating while Reagan scored minus 0.2 and Thatcher trailed at minus 0.5. That was before Kohl's visit to Moscow and Gorbachev's UN speech. Gorbachev's ratings have probably gone up. CCCP sweatshirts and Aeroflot underwear are the rage in Germany. The sense of threat from the Warsaw Pact has dropped correspondingly⁵.

⁴ Portions of this analysis are taken from Edward L. Warner III, "New Thinking and Old Realities in Soviet Defense Policy", *Survival*, January 1989. Also see Seweryn Bialer, "New Thinking and Soviet Foreign Policy", *Survival*, July 1988 and Michael Howard, "The Gorbachev Challenge and the Defence of the West", *Survival*, November, 1988.

⁵ *The Guardian*, 19 October, 1988. Based upon a Sinus Poll in October, 1988.

The political impact is felt across the political spectrum. The Social Democratic Party (SPD) is, according to some polls, the most popular party in Germany. Their policies of nuclear free zones, defensive defense, and common security are in principle closer to Soviet policy than NATO policy. They oppose replacement of the Lance missile yet claim they might support airborne stand off missiles. They have been surprisingly quiet about the modernization of nuclear artillery shells⁶.

Conservatives in the Christian Democratic Union (CDU) are also concerned about nuclear modernization issues. They believe FRG security rests with shared nuclear risks within NATO. They further believe the INF Treaty reversed NATO's previous trend toward longer range nuclear systems as confirmed by the 1986 General Political Guidelines. They are thus particularly anxious to reduce the number of short-range nuclear artillery shells to as much as 20% of the current total. Once reductions of the shortest range systems is accomplished, they would be more likely to support a longer range (ie 450km) replacement for Lance.

Foreign Minister Hans Dietrich Genscher dominates Germany's political center. A consummate politician, he is in no hurry to make a decision on modernization and wants to avoid making it in isolation. He might support elements of nuclear modernization as a compromise, but his price will be early arms control negotiation with the Soviets on short-range nuclear weapons. He supports nuclear deterrence but hopes to use arms control to draw NATO into further constructive relations with the Soviets. He was particularly influenced by Gorbachev's December 7 UN speech and reportedly stated that Soviet cuts would "further marginalize" the question of modernization. The FRG decision on whether and how to agree to deployment of a Lance replacement will be a test of how well Kohl can manage Genscher.

Thus far, Chancellor Kohl has walked a fine line between nuclear modernization and arms control. NATO communiqués reflect this ambiguity. For example, the March 3, 1988, NATO Summit Communiqué stated:

- "...This is a strategy of deterrence based upon an appropriate mix of adequate and effective nuclear and conventional forces which will continue to be kept up to date where necessary".
- "...the comprehensive concept for arms control and disarmament includes ...in conjunction with the establishment of a conventional balance and the global elimination

⁶ Matthew A. Weiller "SPD Security Policy", *Survival*, November, 1988.

of chemical weapons, tangible and verifiable reductions of American and Soviet land based nuclear missile systems of shorter range, leading to equal ceilings"⁷.

Kohl has tried to place his SNF modernization decision in a broader context by calling for a comprehensive concept, which is due to be produced by NATO next spring. By this he means a broad plan to coordinate security policy and arms control priorities. His decision on replacing Lance may well depend upon how much of a commitment he can get from Washington to proceed with SNF arms control⁸. All parties in West Germany support such a negotiation, with the SPD favoring elimination of all SNF weapons, and the CDU/FDP believing they can hold the line at some minimal number of missiles.

PART TWO – THE NUCLEAR CHALLENGES

A. The Changing Nature of Deterrence

Anti-nuclear sentiment in the United States and in the Federal Republic of Germany, combined with Moscow's new doctrine of nuclear reasonable sufficiency, have caused strategic thinkers in the West to reconsider the nature of deterrence. Most tend to argue that the West can get by with less. Adjectives now precede the word 'deterrence'. Deterrence can be "existential", or as Lawrence Freedman stated "I exist; therefore I deter"⁹.

Deterrence can be "minimal", as Volker Ruhe argues, so as to strengthen public support for Western strategy¹⁰. Deterrence can be "general", requiring only the "conveyance of a sense of risk to a potential adversary to ensure that active hostilities are never seriously considered"¹¹. Deterrence can be "finite", according to researchers

⁷ "Declaration of the Heads of State and Governments Participating in the Meeting of the North Atlantic Council in Brussels (2nd-3rd March, 1988)". NATO Press Service, Press Communiqué M-1(88) 13, page 2, 5. The FRG interprets "in conjunction with" to mean simultaneous negotiations while the United States stresses that the formulation implies SNF negotiations only after the results of other negotiations are completed.

⁸ For a good discussion of this issue, see Ronald D. Asmus, "West Germany faces Nuclear Modernization", *Survival*, November, 1988.

⁹ Lawrence Freedman "I exist: Therefore I Deter", *International Security*, (Summer 1988), and McGeorge Bundy "The Bishops and The Bomb", the New York Review (16 June 1983).

¹⁰ Volker Ruhe, "A Comprehensive Concept for Security, Arms Control and Disarmament". *Comments*, 14 March 1988.

¹¹ Lawrence Freedman, "The Evolution and Future of Extended Nuclear Deterrence". IISS Annual Conference Paper, September 1988, page 2.

at Princeton University¹². And deterrence could even be exclusively conventional¹³, though European history is filled with examples of failed conventional deterrence.

Others disagree for political and military reasons. Edward Luttwak has been most vocal in arguing that assessments of deterrence preceded by an adjective contain "a hidden assumption of Soviet restraint"¹⁴. And former SACEUR, General Bernard Rogers argued implicitly against qualified deterrence claiming that Pershing II missile withdrawal would remove NATO's "ability to strike, with certainty, targets deep in the Soviet homeland" and would thus interfere with execution of the 1986 General Political Guidelines¹⁵.

Both sides avoid fundamental realities. The minimalists would create a deterrence that many in Western society believe is militarily inadequate. The maximalist school disregards Western public opinion and the importance of alliance cohesion. So if adjectives must be added, I suggest two – "maximum feasible". Deterrence should be maximum to be most credible to your opponent. In Europe, this means maintaining the survivable capability 1) to threaten escalation by striking countervalue and some counterforce targets in the Soviet homeland from Europe with a high degree of assurance, and 2) to strike a broad range of military targets between the front lines and Soviet territory. But the deterrent must also be politically feasible both for the European and American public. The ideal deterrent force thus lies between the two bounds of maximum military capability and reductions required for political feasibility.

The question facing NATO nuclear planners, therefore, is how to enhance the credibility of America's extended nuclear deterrence and how to attain maximum feasible deterrence for Europe. Part of the answer is obviously political. The new US Administration must be careful to make nuclear deterrence and not just nuclear reductions the focus of its arms control policies.

In its efforts to strengthen conventional forces, it must minimize the impression in Europe that the US is unwilling to escalate conflict if necessary. But the other part of the answer lies with enhancing NATO's ability to meet its nuclear targeting requirements. The more extended deterrence is in doubt at the political level, the more

¹² See the work of Frank von Hippel at Princeton University.

¹³ John Mearsheimer, *Conventional Deterrence*, Ithaca: Council University Press, 1983.

¹⁴ Edward Luttwak "The Evolution and Future of Extended Nuclear Deterrence" IISS Conference Paper, September 1988, page 4.

¹⁵ Bernard Rogers, "Why Compromise our Deterrent Strength in Europe?", *New York Times*, 28 June, 1987, Section IV, page 25.

important it becomes for NATO to meet these targeting requirements to demonstrate its resolve.

B. Theatre Nuclear Weapons Reductions and Modernization

During the past decade, NATO has reduced its theatre nuclear weapons arsenal by over 40 percent. (See table 1). The first reduction came in 1979 as part of the INF dual track decision, when 1000 weapons were unilaterally removed. The second decision came in October 1983 at the Nuclear Planning Group meeting in Montebello, Canada. NATO planners there agreed to further reductions of 1400 weapons in exchange for modernization of the remaining weapons. The 1985 SHAPE Nuclear Weapons Requirement Study proposed removal of obsolete Honest John missiles, atomic demolition mines, and Nike-Hercules air defense weapons. Those reductions were completed in 1988. The third reduction decision was part of the 1987 INF Treaty, which will remove about 500 deployed warheads from NATO. After the INF reductions, about 4100 theatre nuclear weapons would remain in Europe¹⁶.

Table 1 – Theater Nuclear Weapons in Europe

<u>Year</u>	<u>Number of Nuclear Weapons</u>
1979	7,000
1983	6,000
1988	4,600
1991	4,100
1998	2,500 (illustrative)

The modernization element of the 1983 Montebello decision has been more difficult to implement than the reductions. A series of NATO studies since then has reinforced the need for a three part modernization program to include 1) new artillery shells, 2) a follow on to the aging Lance missile, 3) and stand off airborne missiles to replace gravity bombs.

¹⁶For a more complete discussion see Ivo H. Daalder, "NATO's Nuclear Forces: Let's Go To Where We Came From". IISS Research Paper, 1988. Also see Daalder, "NATO Nuclear Targeting after INF" in *Journal of Strategic Studies*, Volume 11, N.º 3, September, 1988, for a good discussion of nuclear targeting and force modernization. Some of the material presented in this section is drawn from the two Daalder papers.

C. Enhancing Europe's Long-Range Forces

The ability for NATO to threaten escalation by retaliating against the Soviet homeland with European based nuclear weapons is considered by many to be vital to the strategic coupling that guarantees extended deterrence. This was the strategic rationale for the original INF deployments and this capability was diminished somewhat by the INF Treaty. Table 2 shows that after INF Treaty reductions are completed in 1991, only US submarine launched ballistic missiles (SLBMs) assigned to NATO, F-111s stationed in Britain, and the British and French independent nuclear forces will retain long range capabilities¹⁷.

With these remaining systems NATO would retain the potential to deliver over a thousand nuclear warheads on Soviet soil from Europe. But for various reasons these systems are not as reliable as the INF systems being removed. The United States would be reluctant to use SLBMs early in any conflict both because this would immediately engage central strategic systems and because even a demonstration shot would reveal the submarine's position. The F-111s are twenty years old and are vulnerable both to surprise attack and to heavy Soviet air defense. The current British and French nuclear forces have only small numbers of weapons on station, weapons that might be countered by Soviet anti-ballistic missiles (ABMs) if their target is Moscow. They also do not have the benefit of coupling Europe to America's full nuclear arsenal. The INF missiles by contrast are more available, survivable, and accurate.

The remaining post-INF long-range nuclear forces in Europe may provide an existential deterrence – especially if they are perceived as being backed up by U.S. strategic systems. But this level of deterrence will not satisfy those who doubt Soviet restraint or those who believe that meeting NATO targeting requirements is vital for deterrence. Simply maintaining the post-INF NATO longer-range force levels will certainly not reassure those who already doubt the validity of American extended deterrence.

Several proposals are currently under consideration that would enhance NATO's ability to hold targets in the Soviet Union at clear risk despite the INF reductions. For example:

- U.S. nuclear sea launched cruise missiles (SLCMs) could be assigned to NATO despite U.S. Navy objections. There are currently already about 150 U.S. nuclear SLCMs in European waters, so the shift to NATO control would be for command and control and for psychological reasons.

¹⁷ For a more complete discussion, see Ivo H. Daalder, "NATO Nuclear Targeting after INF", 1988. Parts of this section draw from Daalder's paper.

– Up to 60 FB-111s could be forward deployed to Europe. The British are inclined in principle to accept them but may require the existing force of F-111s to be drawn down correspondingly.

– F-15Es may be deployed in Europe in the early 1990s and would supplement the capabilities of the F-111s.

– F-111s and F-15Es could be fitted with long range air launched cruise missiles (ALCMs) to penetrate Soviet air defenses.

Implementation of these plans to enhance extended deterrence might be relatively easy since they are either fairly uncontroversial or they require the approval of only the U.S. or US/UK governments.

Table 2 Nuclear Capable Systems Currently in Western Europe

<u>Artillery</u>	<u>Number of Systems</u>	<u>Range</u>
US	644 tubes	Short
European	2, 378 tubes	Short
Sub-total	3, 022 tubes	
<u>Aircraft</u>		
Unites States F-111	152 aircraft	Longer
Other US Land Based Aircraft Short/Medium	368 aircraft	
European Land Based Aircraft Short/Medium	1, 014 aircraft	
US/European Maritime Aircraft	614 aircraft	Short/Medium
Sub-total	2, 148 aircraft	
<u>Missiles</u>		
US SLBM assigned to SHAPE Longer	32 missiles	
* US GLCM	309 missiles	Longer
* US Pershing II	114 missiles	Longer
French SLBM	96 missiles	Longer
French S-3D	18 missiles	Longer

UK SLBM		64 missiles	Longer
* FRG Pershing IA		72 missiles	Medium
US Lance	(36 launchers) }		
		} 700 missiles	Short
European Lance	(52 launchers) }		
French Pluton	(32 launchers) }	32+ missiles	Short
	Sub-total	1, 437 missiles	

* Will be eliminated under the INF Treaty or in conjunction therewith.

Source: The Military Balance 1988-89, page 220-221; plus interviews with US and NATO officials. This includes only those systems based in Europe or on European waters. Longer range includes 1000 – 5500 km, medium range is 500 – 1000 km, short range is up to 500 km.

British and French efforts to modernize their independent nuclear deterrent forces will provide a further capability to hold targets in the Soviet Union at risk. Both are building a more available, survivable, powerful, and accurate force. By the end of the next decade, the British will replace their existing four Polaris submarines with four quieter Trident II submarines carrying the highly accurate D-5 missile. By 1995, the French will upgrade their nuclear submarines and replace existing missiles with the M4 carrying six accurate warheads each. Eventually, they plan to introduce the 8-12 warhead M5 submarine launched missile. The French further plan to modernize their 18 S3 intermediate range missiles with the S4¹⁸. Both nations also have plans to upgrade their airbreathing deterrent forces.

Table 3 below demonstrates the impact of the British and French longer range missile modernization programs. After the programs are completed, the number of British/French missile warheads capable of striking Soviet territory will more than double. The number carried on alert submarines could more than triple.

TABLE 3 – FRENCH AND BRITISH LONG RANGE MISSILE FORCES

<u>SYSTEMS</u>		<u>NUMBER OF WARHEADS</u>	
		<u>1988</u>	<u>After Current Modernization</u>
<u>FRENCH</u>	6 SSBNs	256	576+

¹⁸ International Defense Review, March 1988, page 235; and U.K. Statement on the Defence Estimates 1988, pages 18 and 40.

	18 IRBMs	18	18+
<u>UK</u>	4 SSBNs	<u>192</u>	<u>512</u>
	Total Warheads	466	1,106+
	Total Warheads on alert	(176)	(544)

Source: International Defense Review, March 1988, p.235; and UK Statement of the Defence Estimates 1988, p.18 and 40. Also see François Heisbourg “The role of British and French Nuclear Weapons”. (Conference Paper on “Ways Out of the Arms Race”, London, December 4, 1988.)

Note: Today’s alert rates assume one British submarine and three French submarines on station. Future alert rates assume two British and three French submarines on station.

At least three observations flow from these developments. First, by the year 2000, either nation could overwhelm Moscow's current ABM force with just its alert submarines. Second, either nation would have the ability to modify its current doctrine to include a more credible counterforce option. And third, the two nations together would have an SSBN force more than half the size of the likely post-START US SSBN force. The credibility of the two independent deterrent forces will thus grow significantly during the next decade.

While the INF Treaty has hampered current Europe-based capabilities to hold Soviet targets at risk, other developments under consideration or underway can offset this liability. The standard of maximum feasible deterrence is likely to be met for long range systems, but increasingly it will be met by British and French systems.

D. Short Range Nuclear Modernization

Short range nuclear weapons provide the middle rungs in the escalatory ladder of flexible response. They provide NATO with the capability to target Soviet front line troop concentrations, logistics and command and control centers, transportation links, second echelon forces, and other targets deep in non-Soviet Warsaw Pact territory. NATO currently has over 4,000 nuclear warheads dedicated to these shorter range missions.

Table 4 shows the current NATO short range nuclear force in Europe and projects a possible force structure for the late 1990s. The current force is less than an ideal deterrent. The gravity bombs would be carried by bombers on suicide missions if they intend to strike targets behind the front lines. The older artillery shells have ranges of less than 15 kilometers and if the front line is compromised, they could easily fall on West German territory. The Lance missiles are mobile but not particularly accurate.

Their relatively short ranges of 110 kilometers limits their utility, as does the 4 hour reload time. They were first deployed in 1972 and are now experiencing metal fatigue and problems with liquid fuel corrosion. Lance needs to be replaced or completely overhauled by 1995.

Table 4 – Nuclear Weapons Modernization in Europe

<u>System</u>	<u>Number of Warheads</u>	
	<u>1988</u> (est)	<u>After Modernization</u> (illustrative)
Stand Off Missiles	–	800
Gravity Bombs	1, 630	500
Artillery Bombs	1, 830	800
Lance/FOTL Missiles	700	400
INF Missiles	<u>501</u>	<u>0</u>
	4, 661	2, 500

Sources:

- Ivo H. Daalder “NATO’s Nuclear Forces: Let’s Go to Where we came from”, IISS research paper.
- Survival, March 1988, p. 180
- Discussions with US and NATO officials.
- Dan Plesch of the British American Security Information Council, “NATO’s New Nuclear Weapons”, January 1988. (The Council’s projected figures seem exaggerated).

Note: These figures exclude French systems, including ASMP and 32 Pluton launchers. They further exclude about 400 nuclear bombs on carrier based aircraft, about 190 nuclear depth charges, and about 150 US nuclear SLCMs in European waters.

Table 4 also indicates that if a modernization program is undertaken, the overall number of weapons could once again be dramatically reduced. Since the stand-off missile has a high probability of penetrating Warsaw Pact air defenses, large reductions could be made in the number of gravity bombs required. With longer range and more accurate surface to surface missiles, a smaller number of missiles would provide comparable target coverage. In addition, the number of artillery shells could be

dramatically reduced since their missions could be covered by the new missile and by the new longer range artillery shells.

The modernization program for the Artillery Fired Atomic projectile (AFAP) is underway. The ten kiloton yield W79 shell for 8" artillery was first deployed in Europe in 1985. It is produced as both a nuclear and enhanced radiation weapon, though only the former are being deployed in Europe. European deployment of the 1 kiloton W82 shell for the 155mm artillery is to be completed by 1993. The two shells will be produced in roughly equal numbers. The new shells double existing ranges to about 30 kilometers, they significantly improve their accuracy, and they improve the response time from one hour to 15 minutes. What is most surprising about this deployment is that there has been little opposition to it on the part of West Germans who are normally quite concerned with shortest range systems¹⁹.

The follow on to Lance will be more difficult to sell in Europe. Plans call for deployment of about 400 new nuclear missiles on the M270 Multiple Launch Rocket System (MLRS). The new missile will reportedly have a range of about 450 kilometers, which will remove some West German concerns about all remaining ground based systems falling on German soil. Each launcher would hold two MLRS/Nuclear missiles, but externally it might look just like the conventionally armed MLRS²⁰. The missiles would contain modern permissive action links and special on-board disabling devices, thus providing additional safeguards against unauthorized release.

The new missile will not require much new technology, and could be built in a few years' time. The US Army hopes to conduct full scale engineering by 1990. To meet that timetable, it will seek Congressional approval in the Spring of 1989. But the new missile is not needed to replace Lance until the mid-1990s, so there may be some flexibility in the schedule to allow for political adjustments.

The MLRS/Nuclear missile could be fired from any one of about 1000 M270 launchers to be deployed in Europe. That provides several advantages from the NATO perspective. First, the Soviets would not easily know in which of the MLRS launchers the nuclear missiles were deployed, so that the mobile launchers would be highly survivable against preliminary attacks. Second, manpower requirements would be significantly reduced with a dual capable system. And third, arms control efforts to limit

¹⁹ Based on interviews with U.S. officials.

²⁰ The new missile would not be simply a nuclear version of the Army Tactical Missile System (ATACMS) because of ATACMS range limitations and because Congress prefers two separate systems so that nuclear functions would not overwhelm conventional functions.

missiles fired from dual capable launchers will be more difficult to negotiate and verify than missiles fired from dedicated nuclear launchers, thus reducing somewhat the risks for NATO of a third zero. The drawback of deployment on MLRS launchers is that the Belgians have not purchased MLRS²¹.

In September 1988, the US Defense Department decided that the Short Range Attack Missile II (SRAM II) would become the model for its NATO tactical air to surface missile. The new missile would be called SRAM-T (for tactical). Like SRAM II, the SRAM-T would be smaller, more accurate, and faster version of the SRAM. It would be supersonic, incorporate stealth technology, contain advanced navigation systems, have ranges of well over 200 kilometers at low altitudes, and be ready for deployment in 1995. It would be compatible with the F-111, the F-16, the F-15, Tornado, and most other fighters in the NATO inventory. Its mission would be to "penetrate advanced defensive threats from stand-off ranges, and strike hardened, defended, and mobile targets"²².

But the SRAM-T has competition from France. The Air-Sol Moyenne Portée (ASMP) has a range at low altitudes of about 100 kilometers. Its supersonic Mach 3 engine combines solid-fuel rocket technology for rapid acceleration with a ramjet engine for cruising speeds. It went into service in 1986 and is now deployed with the Mirage-IVP and the Mirage 2000²³.

Britain intends to deploy a stand-off missile and is currently inclined towards the SRAM-T. The Royal Air Force favors the American model because of its longer range, accuracy, and stealth technology. Some in the Foreign Office and Defence Ministry prefer co-development of a newer ASMP as a way to enhance nuclear cooperation with France, but that would require Britain to bear major development costs. Prime Minister Thatcher is thought likely to support the US missile for political, technical, and financial reasons.

Because of its hybrid qualities, the stand-off missile is both versatile and relatively non-controversial. While some will oppose its deployment, the fact that it is carried on aircraft and replaces gravity bombs seems to make it politically more acceptable than ground based missiles. Yet, it can perform tactical and if necessary strategic nuclear

²¹ Based on interviews with U.S. officials. Also see "MLRs – The New Artillery", *Military Technology*, Special Supplement, Volume XII, Issue 9, 1988.

²² Based on interviews with US officials. Also see Marvin Leibstone "Short Range Attack Missile II: How Feasible?", *NATO's Sixteen Nations*, December 1985.

²³ "Anglo-French Nuclear Missile Under Study", *Science*, 12 February, 1988, pages 239-240.

missions with great accuracy and with a "man in the loop". Some believe it to be so versatile that they feel no other SNF weapons would be necessary. But the stand-off missile still requires an aircraft to deliver it and thus remains vulnerable to weather conditions and to attacks on airfields²⁴. It also ties up dual capable aircraft with nuclear missions, thereby reducing NATO's conventional capabilities.

If NATO wishes to live with existential deterrence, then all three elements of SNF modernization may not be necessary. But if it wants to retain a credible option – implicit in flexible response to escalate to short-range nuclear weapons without necessarily exercising strategic nuclear options, then implementing the three nuclear modernizations becomes an important objective for NATO.

PART III – PROBLEMS, OPTIONS AND CONCLUSIONS

A. Congressional Restrictions

The fiscal year 1990 legislative proposal to the US Congress will contain provisions to overcome three limitations on short range nuclear modernization. These limitations are:

- a worldwide ceiling of 925 warheads and \$1.1 billion on the number of AFAPs to be produced;
- restrictions on the use of funds for development, testing, and deployment of nuclear Army Tactical Missiles (ATACMs); and
- lack of authorization to fund modernization programs.

Consideration of these proposals will stimulate Congressional debate on the issue. Problems will be complicated by the severe pressure that overall budget constraints will place on the 1990 defense budget.

Like Chancellor Kohl, Congress will require its own comprehensive concept for nuclear deployments. Once a complete plan is presented to Congress, however, it is expected that limitations will be eased. According to Congressional sources:

- the ceiling on warhead numbers and expenditures on AFAPs will be raised enough to accommodate perhaps a 25% increase.

²⁴ Peter Wilson has suggested that some of these disadvantages of the stand-off missile could be offset if it were deployed on Harriers. They could be more widely dispersed, thus increasing their survivability, and they can take off in adverse conditions. See October 2, 1988 letter from Peter Wilson to Hans Binnendijk.

– the U.S. decision to build a new missile deployed on MLRS rather than to simply put nuclear shells on ATACMs will allow removal of the second restriction.

– Congress will seek NATO endorsement of the modernization plan prior to providing funding, but the Federal Republic of Germany may not be required to give a firm deployment commitment.

Thus, while the U.S. legislative process may force early consideration of the nuclear modernization issues, Congress may not create insurmountable roadblocks as long as a NATO approved plan is presented.

B. Dynamics of the Slippery Slope

In communiqué after communiqué, NATO ministers appear determined to avoid the denuclearization of Europe²⁵. They recognize that conventional military parity does not historically mean stability. They further recognize, as Secretary of Defense Frank Carlucci reminded them last February, that US conventional forces could well be withdrawn if their nuclear protection disappears²⁶.

But fears of denuclearization remain and may be warranted. The momentum is moving in that direction. The rhetoric of both superpowers calls for a non-nuclear world. Short range nuclear weapons in NATO have been reduced unilaterally by over 40% in a few years. All INF missiles will be removed. If Labour comes to power in the United Kingdom or the SPD wins in West Germany, their non-nuclear policies would have a profound impact on NATO.

The most immediate fear is that the West could not resist a "third zero", this time the negotiated elimination of remaining short range nuclear missiles. The Soviets have an estimated 1400 short range launchers capable of carrying nuclear weapons as compared to 88 for NATO. Both US and Soviet launchers have reload capabilities. From the accountant's perspective, the West would appear to have the better deal in terms of missiles which would have to be destroyed in any third zero bargain. In addition, the short range Soviet missile threat against NATO airfields would be removed and the expensive NATO anti-tactical missile force would not need to be built. The German Democratic Republic and the Soviet Union both have pressed for a third zero, as have many socialists in Europe.

²⁵ For example, see NATO communiqué, NATO Press Service Press Communiqué M-1(88) 13, 3 March, 1988, page 2.

²⁶ *International Herald Tribune*, February 8, 1988, page 1.

Yet a third zero would make it extremely difficult for West Germany to maintain nuclear artillery on the front line. A third zero would shift ranges of land-based nuclear weapons to the even shorter systems, which is probably not sustainable in the long run. Thus a third zero would likely leave Europe with only one land-based nuclear deterrent system, fighter aircraft possibly with a stand-off missile. These systems are also likely to be under pressure – in the conventional stability talks for dual capable aircraft and in the START talks for long range ALCMs. Even the sea-based deterrence – SLCMs and SLBMs – could be under intense pressure as a result of START.

President Gorbachev's UN concessions may further complicate efforts to avoid denuclearization. Soviet tank withdrawals will make it politically much more difficult for Chancellor Kohl to agree to the Lance replacement program because opponents will argue that a new conventional balance exists on NATO's front lines, if not in the Atlantic to the Urals area. Nuclear weapons have often been justified in NATO as necessitated by the conventional imbalance, so for some that justification may diminish. A decision not to upgrade or replace Lance would ultimately be tantamount to a unilateral third zero.

The Soviets have long sought to remove nuclear weapons from Western Europe, knowing that it would undermine NATO strategy and split the US from its European allies. While NATO ministers resist at every turn, the potential is there for a dynamic process which could yield a large victory for the Soviets.

C. Deployment Options and Conclusions

Two sets of decisions must be made by NATO and its member nations concerning nuclear deployments in Europe. The first set relates to longer range systems capable of striking Soviet territory. The United States and Britain can together agree to approve FB-111 deployments while the US alone can assign SLCMs to NATO. These deployments will help restore confidence in America's extended deterrence. It would also demonstrably shift the range of European-based nuclear weapons to the longer ranges, thus reassuring many politicians in West Germany. These deployments should be approved before Chancellor Kohl is asked to make his fateful decision on a new surface to surface missile.

The second set of decisions on short range systems is more difficult, especially in light of reductions in the Soviet front line tank force. Chancellor Kohl has had no lack of advice, with Prime Minister Margaret Thatcher urging him to proceed quickly while French Foreign Minister Roland Dumas has cautioned him to wait until after West

Germany's 1990 federal elections. Both pieces of advice were scorned in Bonn, and in the final analysis Kohl knows German politics better than anyone.

Four basic alternatives might be used by Kohl. First, he could use salami tactics, making the decision a piece at a time. He could let NATO make a final decision on a comprehensive concept and on the desired deployments, but delay the final deployment decisions for several years. This seems unwise because the decision must be made eventually and indecisiveness could hurt him in the 1990 elections. The election campaign itself could also force him to make decisions in a supercharged political setting.

The second option is some times called Montebello II. Kohl would agree to modernize and unilaterally reduce the overall nuclear force structure at the same time. Some are concerned, however, that Montebello I promised modernization for reductions and only reductions occurred. Others disapprove because it leaves no room for negotiations with the Soviets, and hence for verifiable Soviet reductions to offset NATO reductions.

The third option is another dual track approach of modernization plus negotiations with the Soviets. This appears to be Foreign Minister Genscher's minimal requirement for agreeing to SNF modernization. Opponents fear another zero outcome and stress the massive verification problems involved. NATO might also be unwilling under this option to make needed SNF force reductions unilaterally for fears of giving up bargaining chips. The US is unwilling to agree to a comprehensive concept which includes the prospect of near term negotiations with the Soviets on SNF.

The final option is a major life extension program for the existing Lance missile. This would require major overhauls of the liquid fuel rocket system, the guidance systems, the warheads, and the launchers. The costs might exceed those of a new missile system; and the product would be a twenty year old shorter range system and a major political defeat for NATO.

The ideal alternative from NATO's perspective is for Kohl to make a quick decision early in 1989, once the comprehensive concept paper is finished. It might include some reductions in SNF force levels in exchange for a Lance replacement, and it would contain no firm pledge to negotiate with the Soviets on remaining SNF weapons in the near term (Option 2).

Gorbachev's December 7 UN speech and the recent A-10 crash in Remscheid may make it difficult for Kohl to get Genscher's agreement on this ideal formula. It is now more likely that either the decision will be made in parts (option 1) or NATO will be asked to agree to enter early negotiations on SNF systems with the Soviets (option 3).

A delay of two years in a final decision would create serious problems for Congressional approval of the overall nuclear modernization program, but there might still be enough slack in the lead times to accommodate both a 1991 decision and 1995 deployments. The risks inherent in a SNF negotiation with the Soviets might also be reduced if prior to that: 1) NATO heads of state solemnly agree to a specific floor for short range nuclear systems below which they would not negotiate and 2) the Soviets publicly accept the concept on nuclear deterrence in Europe. The nature of that floor would depend upon progress in the conventional stability talks, but in any event it would have to include a reasonable number of surface to surface missiles.

An even more complicated possibility under consideration in Bonn is some combination of options 2 and 3. NATO would agree to limited unilateral reductions in warhead numbers in exchange for Kohl's agreement to modernize. But NATO would also agree to fairly early arms control negotiations. This would get the Lance replacement program underway, but the problems inherent in both options would also be combined. Finally, if Kohl is simply unable to agree to any Lance replacement, Option 4 would be the remaining alternative.

NATO must continue to stress the importance of SNF modernization without appearing to threaten or unduly pressure Kohl for an early decision. The SNF deployment must not be made a NATO loyalty test for West Germany. In today's West Germany, intense US or allied pressure on Kohl would backfire. In the final analysis, NATO will have to trust Kohl to make the right decision.

The SNF force deployment in the late 1990s will be a function of negotiations within NATO and possibly negotiations with the Soviets. The deployment will probably be less than what NATO military planners believe is necessary to guarantee that all target sets in the Warsaw Pact are covered. It will also probably be a larger deployment than that favored by supporters of minimal deterrence. Hopefully it will provide a "maximum feasible" deterrent.