Changing Targets

Nuclear Doctrine from the Cold War to the Third World

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1. Executive Summary: Nuclear Counter-proliferation vs. Non-proliferation

When the nuclear Non-Proliferation Treaty (NPT) was agreed to in the 1960s, the essential logic of non-proliferation, as captured in Article VI of the treaty, demanded complete nuclear disarmament. In the 1990s, the nuclear weapons states have stood this logic on its head. Proliferation of nuclear weapons and other weapons of mass destruction has become a main rationale for the nuclear weapons states to keep and upgrade their own nuclear arsenals.

Since the fall of the Berlin Wall in 1989 and particularly after the 1991 Gulf War, the U.S. military has been steadily developing the procedures needed to allow it to use nuclear weapons against countries it believes have, or are working to develop, so-called weapons of mass destruction. The Joint Chiefs of Staff has issued a new nuclear doctrine which encompasses using nuclear weapons in regional contingencies against weapons of mass destruction. The Strategic Command (STRATCOM), Air Force, and Navy are upgrading their strategic intelligence and nuclear missile systems so they can more rapidly identify and strike targets around the globe. Reportedly, STRATCOM is developing a list of regional targets for U.S. geographic commanders.[1] Finally, the military leaders have advocated and the nuclear weapons laboratories have pursued the development of new low-yield nuclear weapons such as mini-nukes and "exotic nukes". A new exotic nuclear warhead is scheduled to reach an engineering development decision in March 1995, one month before the U.S. is seeking indefinite and unconditional extension of the NPT at the multilateral conference in April-May. France and to a lesser extent England and Russia are also developing radically different nuclear doctrines than those held during the Cold War.

This fundamental shift in nuclear weapons strategy to counter weapons of mass destruction with nuclear weapons has gone largely unchallenged, particularly in the case of the United States. Public and high-level official concerns have been diverted from this question due to attention being focused on START treaty ratification and implementation, loose-nukes in the former Soviet Union, plutonium smuggling, U.S.-Russian summit talks, and regional hotspots from North Korea to the Caribbean. As a result, the U.S. military has had a relatively free hand to expand its nuclear planning to include new targets in Third World countries.

These changes in nuclear policy, however, have profound implications for the future of the NPT. In April, over 160 countries will meet in New York to decide the future of the treaty. The nuclear weapons states hope to convince the signatories to extend the treaty indefinitely and unconditionally. Yet, many countries and observers argue the nuclear weapons states have not lived up to their Article VI obligations to seriously pursue total nuclear disarmament (reductions under START cannot be equated with steps toward complete nuclear disarmament). Also, non-nuclear states are demanding "security assurances" from the nuclear states that they will not be threatened or attacked with nuclear weapons before they agree to an indefinite extension of the treaty.

Linking nuclear weapons strategies to Third World contingencies and counter-proliferation scenarios is an expansion -- not a reduction -- of the role of nuclear weapons. It is another sign that the United States and other nuclear weapons states are still far from fulfilling their Article VI obligations. **Increased planning for the possibility of using nuclear weapons in regional conflicts threatens to increase north-south animosity, and also makes security assurances pledged by the nuclear weapons states look meaningless.**

Obviously what is most needed to stop nuclear proliferation is a firm commitment by the nuclear weapons states to fulfill their Article VI obligations to work toward complete nuclear disarmament and to stop promoting nuclear weapons as instruments of military doctrine and national status. U.S. government officials have occasionally acknowledged that the NPT requires more than just reducing the number of nuclear weapons. The NPT "does **not** legitimize the permanent possession of nuclear weapons," Ambassador Thomas Graham of the U.S. Arms Control and Disarmament Agency pointed out in a September 1994 speech to the Third NPT Preparatory Meeting.[2] Indeed, under Article VI, "the nuclear weapons states promise measures to reduce **and eliminate** their nuclear arsenals," U.S. Arms Control and Disarmament director John D. Holum told the U.S. Congress in January 1995.[3]

In a little noticed statement, President Clinton did refer to the need for eliminating weapons of mass destruction when he met with Indian Prime Minister Rao in Washington in May 1994. Russian President Boris Yeltsin even called for talks between the nuclear weapons states to discuss further steps in nuclear disarmament in his September 1994 speech to the United Nations. However, neither President Clinton nor President Yeltsin has repeated these statements loudly or consistently, and neither has moved to implement them as real policies.[4] On the contrary, the nuclear weapons states are far from such goals.[5]

Greenpeace's "Changing Targets" report traces the policy statements and decisions which have transformed U.S. nuclear doctrine since 1989 from one primarily oriented toward the Soviet Union and its allies to a more precarious one focused on fighting a nuclear war in other, and possibly any, regions of the globe. It also provides details on new in U.S. nuclear weapons programs that run parallel to the United States' so-called global counter-proliferation initiative. In addition, this report describes similar developments in French, British, and Russian nuclear strategy.

2. U.S. Defense Department's Nuclear Counter-proliferation Strategy 1990-1995

The Defense Department's January 1994 Annual report made nuclear proliferation a center of U.S. nuclear planning. In addition to Russian nuclear weapons, the report noted, consideration would also be given "to whether and how U.S. nuclear weapons and nuclear posture can play a role in deterring the acquisition of nuclear weapons by other nations." A review of U.S. nuclear forces (the Nuclear Posture Review) would study the relationship "between U.S. nuclear posture and its counter-proliferation efforts."[6]

As concern about nuclear proliferation increased in the early 1990s with revelations of Iraq's clandestine nuclear weapons program, press reports of "loose nukes" in Russia and other former Soviet republics, smuggling of plutonium and other bomb-making materials, and the stand-off with North Korea over that country's nuclear ambitions, four decades of "nuclear roulette" with the Soviet Union attained almost an aura of stability and consolation in the eyes of military planners: "By comparison," Paul R. S. Gebhard, director for Policy Planning and Regional Strategies in the Secretary of Defense Office of Counter-proliferation Policy, wrote in the *Washington Quarterly* in December 1994, "the Soviet Union after Stalin, although it was an undemocratic, hostile state, was also in some sense conservative and stable, and provided a certain force restraint against some regional conflicts."[7]

Yet, "new proliferators might not be susceptible to basic deterrence as practiced during the Cold War," Defense Secretary Les Aspin warned in his January 1994 report. "New deterrent approaches are needed as well as new strategies should deterrence fail," he added.[8] By 1994, however, military planning for the new era was already well underway.

Dramatic changes took place is U.S. nuclear targeting in the late 1980s and early 1990s,[9] and one result was a geographical broadening of the targets selected, spurred by the proliferation of weapons of mass destruction. When the results of the Nuclear Posture Review were announced in September 1994, Deputy Secretary of Defense John Deutch confirmed that proliferation concerns had influenced the composition of the nation's nuclear arsenal and was now a prominent factor in U.S. nuclear planning:

> "An examination of the remaining nuclear threat from Russia and the non-Russian republics that possess nuclear weapons **as well as the emerging threat from other countries around the world** indicate that the United States will continue to need nuclear weapons for deterrence for the foreseeable future...."[10]

These statements attest to what has been developing since the end of the Cold War: the United States is gradually adjusting its nuclear war plans to include fighting a nuclear war against a Third World nation or group of nations which may acquire weapons of mass destruction. Deterring remaining Russian nuclear forces remain paramount, but "countering" the acquisition and use of weapons of mass destruction by regional proliferators is now a central focus of nuclear strategy.[11]

a. 1990-1992: Planning to Target the Globe[12]

In March 1990, less than six months after the fall of the Berlin Wall, the Joint Chiefs of Staff put out their annual Military Net Assessment. For the first time, the assessment pointed to "increasingly capable Third World threats" as a new justification for maintaining U.S. strategic nuclear weapons. The assessment also endorsed new roles for non-strategic nuclear forces: "The possibility that several emerging powers will develop nuclear capabilities in the coming years underscores the potential need for [non-strategic nuclear forces] in other theaters" than Europe.[13]

The commander of the U.S. Strategic Air Command (SAC), John T. Chain, testified before Congress in May 1990 that expanding nuclear doctrine beyond the traditional nuclear enemies presents new challenges because, "the more varied threats one faces (**in addition to the Soviet threat**) the more difficult deterrence becomes."[14] Yet the United States was determined to maintain its strategic nuclear forces, Defense Secretary Dick Cheney told Congress in June 1990, "not only because the Soviets give every indication of wanting to maintain theirs ... but also, obviously, because there is a growing proliferation of weapons of mass destruction and sophisticated weapons technology in the Third World."[15] The proliferation of ballistic missiles around the world, capable of delivering nuclear, chemical, or biological weapons, "adds uncertainty to regional nuclear stability," Cheney stated in his report to the President and the Congress in January 1991,[16] as U.S. forces amassed in the Middle East to dispel Iraq from Kuwait.

Disclosure of Iraq's clandestine nuclear weapons program and its use of ballistic missiles during the Gulf War accelerated the expansion of nuclear doctrine. The war had just ended when Secretary Cheney issued the post-Gulf War top secret Nuclear Weapons Employment Policy (NUWEP) which formally tasked the military to plan for nuclear operations against nations capable of or developing weapons of mass destruction.[17]

The Joint Military Net Assessment issued by the Joint Chiefs of Staff in March 1992 predicted that, "the number of nations with long-range nuclear weapons will very likely increase." The assessment concluded: "Therefore, even under the most optimistic assumptions about future US-Soviet relations, our nation requires a capable strategic Triad of survivable [nuclear] systems to deter any potential adversary...."[18]

The Chiefs specifically suggested that non-strategic nuclear forces "could assume a broader role globally in response to the proliferation of nuclear capability among Third World nations." Proliferation of nuclear weapons, however, demanded increasing the Command, Control, and Communication (C^3) capabilities of U.S forces, and planned systems should meet these requirements. The C^3 of non-strategic nuclear forces would be improved by the fielding of new systems such as MILSTAR/SCOTT satellite communications systems.[19]

Defense Secretary Cheney's NUWEP tasking had profound impact on U.S. nuclear doctrine. One result was that SAC commander General Lee Butler established a Deterrence Study Group to examine the role of nuclear weapons in the post-Cold War era. The group was chaired by former Secretary of the Air Force Thomas Reed, and was known as the Reed Panel. A draft version of the report was completed in October 1991 and was briefed to General Butler. One conclusion was that missions for nuclear weapons should be expanded, even against non-nuclear foes:[20]

> "We recommend a new SIOP.... SIOP Echo would constitute a Nuclear Expeditionary Force" with "A handful of nuclear weapons, on alert, day to day.... Primarily for use against China and Third World targets."[21]

The Reed Panel's final report was published in January 1992. Although mention of a Nuclear Expeditionary Force had been deleted,[22] the report concluded that, "No despotic leaders should be allowed to believe that they can embark on major aggression against the United States, its deployed forces, or its allies and friends, while enjoying personal sanctuary from American weapons, including nuclear weapons." The report added that, "While it is unlikely that the United States will use nuclear weapons in such regional conflicts, it is in the U.S. interest to maintain a deliberate ambiguity when facing aggressors like Saddam Hussein who are armed with weapons of mass destruction."[23]

Later that month, when testifying before Congress, the report's authors went further in describing the possible uses of nuclear weapons:

> "It is not difficult to entertain nightmarish visions in which a future Saddam Hussein threatens American forces abroad, US allies or friends, and perhaps even the United States itself with nuclear, biological, or chemical weapons. If that were to happen, US nuclear weapons may well be a resource for seeking to deter execution of the threat...."[24]

Planning for nuclear war with the Third World was described by Defense Secretary Cheney in his February 1992 report to the President and the Congress, where he reported that "the possibility that Third World nations may acquire nuclear capabilities have led the Department to make adjustments to nuclear and strategic defense forces and to the policies that guide them." As a result, U.S. nuclear strategy "must now also encompass potential instabilities that could arise when states or leaders perceive they have little to lose from employing weapons of mass destruction."[25] In the 1992 "National Military Strategy," the Joint Chiefs of Staff openly endorsed maintaining a strategic nuclear arsenal referring to "the threat posed by the increasing number of potentially hostile states developing weapons of mass destruction."[26]

Air Force leaders also spoke openly about the need for nuclear counter-proliferation. SAC commander General Butler endorsed the Reed report's basic conclusions in his April 1992 testimony to Congress. "A US nuclear deterrent force encourages non-proliferation, albeit

within limits bounded by rational calculations," Butler said and added, "Some contend that deterrence is not applicable outside the classic Cold War paradigm -- especially when such weapons are in the hands of seemingly irrational leaders. In my view, the very fact that such leaders pursue nuclear capability implies a certain lethal rationality."[27] Assistant Secretary of the Air Force, John W. Welch, told Congress later the same month that, "the emphasis of the deterrence equation has been shifted from just deterring the development or use of nuclear weapons by the Soviet Union, to deterring the development or use of nuclear weapons by other countries, as well."[28]

The Navy also finished a major study in June 1992, known as STRATPLAN 2010, that was intended to provide the Chief of Naval Operations with long-term guidance for decisions about naval forces beyond 2010. The study had conclusions similar to the Reed Panel, SAC, and the Air Force. It envisioned the sea-based "offensive strike and secure reserve nuclear deterrence roles evolving primarily to a singular secure nuclear reserve role with low-yield nuclear weapons providing a wider range or targeting options for maintaining a credible nuclear deterrence in the new world order."[29]

Up to this point, the Joint Chiefs of Staff had referred to **nuclear** proliferation. Their Joint Military Net Assessment from August 1992, however, for the first time adopted the terminology of **weapons of mass destruction** as a justification for keeping U.S. nuclear weapons, thus expanding the concept of nuclear deterrence to also countering biological and chemical weapons. "The purpose of nuclear forces is to deter the use of weapons of mass destruction," the assessment concluded.[30]

With both Defense Secretary Cheney and the Joint Chiefs of Staff consenting to the new missions for nuclear weapons, STRATCOM began the process of expanding nuclear targeting. In December 1992, it formed a 10-person Strategic Planning Study Group (SPSG) "to develop a flexible, globally-focused, war-planning process known as the Strategic War Planning System (SWPS)." The group developed procedures for what they called "a living SIOP," a real-time nuclear war plan which could receive virtually instantaneous warfighting commands. Even during peacetime, the SWPS would allow daily automated target changes for a variety of potential adversaries in addition to Russia (e.g., China, North Korea, Iran, Iran) and wholesale revision of an attack plan for a new enemy would be possible in a matter on months.[31]

b. 1993-1994: Clinton Administration Policy and Targeting the Third World

When the Clinton Administration took office in 1993, it initiated a major review of the nation's defense aimed at "shifting America's focus away from a strategy designed to meet a global Soviet threat to one oriented toward the new dangers of the post-Cold War era." The final report from October 1993, called the Bottom-Up Review, concluded that this required "maintenance of flexible and robust nuclear and conventional forces to deter WMD (weapons of mass destruction) attacks through the credible threat of devastating retaliation."[32]

The Bottom-Up Review attempted to place less reliance on nuclear weapons, but essentially shifted a scaled down Soviet-oriented strategy onto the new nuclear enemies in the Third World. Expanding nuclear deterrence to also include counter-proliferation missions in the Third World was not surprising since nuclear planners had already reached similar conclusions about the role of nuclear weapons and nuclear deterrence.

"Deterring nuclear attack and containing communism," the Joint Chiefs of Staff said in their Roles and Missions report from February 1993, one month **before** the Bottom-Up Review was initiated in March 1993, "have given way to a more diverse, flexible strategy which is regionally oriented."[33] "Our focus now is not just the former Soviet Union," STRATCOM commander General Butler echoed in February 1993, "but any potentially hostile country that has or is seeking weapons of mass destruction." STRATCOM in turn began to plan how to change targets quickly against possible threats in geographical regions, like North Korea, Iraq, Iran and Libya.[34]

This expansion of the role of nuclear deterrence coincided with the centralization of all U.S. strategic nuclear forces under one command: STRATCOM. Rather than being split between the Air Force and Navy, "for the first time," the Joint Chiefs of Staff's February 1993 Roles and Missions report announced, "all of America's strategic bombers, missiles, and submarines are under one commander, either an Air Force general or a Navy admiral." This was described as "perhaps the most dramatic change in the assignment of roles and missions among the Services since 1947."[35]

STRATCOM's monopoly on nuclear targeting was accompanied by a push to develop more flexible targeting capability to deal with the post-Cold War world. STRATCOM Commander General Butler told Congress in April 1993 that the operational planning capability of SAC, which STRATCOM had replaced, was "tailored to the Cold War, and, therefore, was not well-suited to the far more dynamic environment of the emerging era." As a result, STRATCOM was "developing a flexible, adaptive operational planning capability that will be much more responsive to the potential for spontaneous threats that defy precise preplanning. This will provide senior decision makers with an array of options to apply in acute crises requiring a prompt exacting response." In addition, a new globally oriented Joint Intelligence Center was created for monitoring forces and analyzing targets, "to assess from STRATCOM's operational perspective the growing threat represented by the global proliferation of weapons of mass destruction."[36] According to General Butler:

> "Adaptive planning challenges the headquarters to formulate plans very quickly in response to spontaneous threats which are more likely to emerge in a new international environment unconstrained by the Super Power stand-off. We can accomplish this task by using generic targets, rather than identifying specific scenarios and specific enemies, and then crafting a variety of response options to address these threats. To ensure their completeness, these options consider the employment of both nuclear and conventional weapons. Thus, by its very nature,

adaptive planning offers unique solutions, tailored to generic regional dangers involving weapons of mass destruction."[37]

Also critical to the expansion of nuclear deterrence strategy to the Third World has been the formulation of a new nuclear doctrine by the Joint Chiefs of Staff for use by the military commands and services. In April 1993, the Joint Chiefs of Staff published the new official U.S. military "Doctrine for Joint Nuclear Operations," which states, "the fundamental purpose of US nuclear forces is to deter the use of weapons of mass destruction (WMD), particularly nuclear weapons." It also says, in addition to deterring a large scale military attack, nuclear weapons are useful in "regional contingencies" for deterring weapons of mass destruction.[38]

The process of planning to attack targets around the globe continued in 1994. STRATCOM commander Admiral Henry G. Chiles testified to Congress in April that the proliferation of weapons of mass destruction was a possible evolving threat, that national planning was taking into account the end of the Warsaw Pact and Soviet Union, and that U.S. strategic forces were shrinking due to arms control and financial constraints. Thus, STRATCOM needed to be able to respond "rapidly to unplanned situations as they emerge." He reiterated that STRATCOM was developing an "adaptive planning process to produce a variety of options for crisis response." The purpose was to provide greater "adaptability and responsiveness to reduce the time necessary to provide the President with viable options."[39]

He added some new information, however, noting the adaptive planning process was being implemented through modernizing STRATCOM's Strategic War Planning System with "hardware and software upgrades." The system is supposed to become operational in 1999 and completed by 2003. Maintaining and upgrading the system through 2003 will cost some $578 million. Upgrading the strategic war-planning systems will also reduce the time to generate major strategic plans, i.e. the SIOP, from 18 to some 6 months.[40]

In addition, Admiral Chiles described how STRATCOM's Joint Intelligence Center is an "integral component of the adaptive planning process." In a related development he stated that a Rapid Execution and Combat Targeting (REACT) program for the Minuteman III ICBMs was being implemented. Although REACT is primarily to replace aging equipment, the new computers installed as part of the program will allow more rapid retargeting of the missiles.[41]

c. Strategic and Tactical Nuclear Counter-proliferation Targeting Intertwined

The new nuclear doctrine is blurring the distinction between strategic and tactical nuclear weapons. In its 1992 report, the Reed Panel pointed out that "the distinction between strategic and theater nuclear weapons is fading."[42] The new Joint Nuclear Doctrine formalized these conclusions in the guidance for military planning, stipulating that in addition to non-strategic nuclear forces, "strategic nuclear forces may also be used to target and hold **regional** targets at risk."[43]

The distinction between strategic and tactical nuclear weapons has been further eroded as STRATCOM has been given an increased role in planning and targeting of non-strategic nuclear weapons which might be employed by the separate European, Pacific, Atlantic, and Central Commands.[44] STRATCOM commander General Butler told Congress in April 1993 that at the request of the Chairman of the Joint Chiefs of Staff he was, "working with selected regional Unified Commands to explore the transfer of planning responsibilities for employment of nuclear weapons in theater conflicts." He noted this initiative could "save manpower and further centralize the planning and control" of U.S. nuclear forces.[45]

One year later, the process had advanced enough that, General Butler's successor, Admiral Henry G. Chiles, Jr., said in his congressional testimony that STRATCOM "has been tasked to extend its resident planning expertise in a supporting role to geographic unified commanders for the contingency planning of theater nuclear forces." According to Admiral Chiles, "Systems and procedures to accomplish this task have been developed, and planning coordination with regional commanders has begun." He added, "In a supporting role, STRATCOM will provide its planning expertise to assist geographic unified commanders when required."[46]

STRATCOM briefed the Chairman of the Joint Chiefs of Staff, General John Shalikashvili, in late 1994 on its role in counter-proliferation. One STRATCOM official was quoted as saying, "You ought to think about this kind of problem ahead of time, so you know what the potential targets are, and you know what kind of force would be the best to take that out, whether they are special operations forces or conventional weapons or some kind of nuclear weapon."[47] Reportedly, STRATCOM officials argue that STRATCOM deserves a stronger role in the counter-proliferation effort because:

> "We can kind of bring a global perspective to any counter-proliferation strategy, because the kind of targets you'd be looking at are the same kind of targets we already look at for our strategic purposes, and the same kind of interactions that you'd have with the National Command Authority for strategic weapons, would probably be very similar to the kind of interaction you'd have in some kind of counter-proliferation scenarios."[48]

STRATCOM's counter-proliferation proposal would involve developing classified target lists, or "Silver Books," for the European, Atlantic, Pacific, and Central commands. One source says that a proposed Silver Book already exists for the European Command and a prototype is being developed for Pacific Command. One military official familiar with the concept told *Jane's Defence Weekly* in January 1995 that a "Silver Book" would include "different options with regard to countries or organizations or groups that would pose a significant proliferation threat." Under the plan, STRATCOM would compile a target list and a full range of weapons and platforms that could strike the particular target with nuclear or conventional weapons.[49]

This process may be more advanced than generally realized. A forthcoming book by the

Brookings Institution's strategic analyst Bruce Blair entitled *Global Zero Alert For Nuclear Forces* says that the U.S. Air Force is identifying hundreds of potential targets in Third World nations, and that "U.S. strategic nuclear reserve forces are already preprogrammed with target options in Iran, Iraq, Libya, and North Korea," according to a report in *U.S. News & World Report*.[50]

d. The Navy and Nuclear Counter-proliferation

Since 1991, the Navy has expressed increasing interest in the counter-proliferation mission. In a April 1991 report to Congress on naval arms control, the Defense Department incorporated a new justification for the non-strategic naval nuclear arsenal saying they "contribute to the overall U.S. effort to deter the use of weapons of mass destruction against the US and its allies."[51]

In January 1992, the Navy published a paper on the role of submarines in the 1990s and beyond. Destined to host most of the nation's future strategic nuclear weapons, the Navy argued ballistic missiles submarines (SSBNs) had a counter-proliferation role:

> "In the near term, ballistic missile submarine deterrent patrols are not likely to change in nature or scope. However, if nuclear, chemical, or biological weapon proliferation continues and adversaries other than the successors to the Soviet Union develop a capability to strike the United States or a close ally, patrol patters, targeting packages, and command control procedures can be easily revised to account for these changes."[52]

As noted above, the Navy also finished a major study in June 1992, STRATPLAN 2010, which was intended to provide the Chief of Naval Operations with long-term guidance for decisions about naval forces beyond 2010. It, too, argued for an expanded role for nuclear weapons in countering regional proliferation threats and identified several low-yield nuclear weapons requirements for future theater warfare. The report noted: "In the new world order the Navy will require a greater ranger of graduated response options," including, "a smaller, more flexible nuclear deterrent force." The SSBN mission would evolve "primarily to a singular secure nuclear reserve role," and low-yield nuclear weapons would provide "a wider range or targeting options for maintaining a credible nuclear deterrence in the new world order."[53]

The bulk of the Navy's future role would evolve around theater support missions such as strike operations in support of amphibious and expeditionary forces in conflicts involving "Third World/Nth nations." Although the report foresaw that most operations would be conventional, it also said that using "low-yield nuclear (in some very special cases) warheads on cruise and ballistic missiles" could be envisioned in certain contingencies. The report also studied the use of nuclear-driven radio frequency warheads.[54]

The report called for the development of a whole new generation of nuclear-capable

missiles called Common Delivery Vehicles (CDV). CDVs would come in different sizes and with different payloads, could be air-delivered or launched from missiles from submarines or surface ships.[55] While mainly intended as conventional weapons, the CDVs could also carry low-yield and exotic nuclear warheads. "Nuclear warhead payloads for the surface ships and submarine launched CDV strike missiles and air-delivered CDV strike missile," STRATPLAN 2010 states, "should be considered where assured high lethality is required. Nuclear warheads options are attractive against hard targets (e.g., hardened underground bunkers and storage sites) and area targets (e.g., airfields, troops/armored vehicles)."[56]

STRATPLAN 2010 explained that, "while existing nuclear warhead technology is generally sufficient to fulfill these missions, advanced technology concepts for nuclear weapons are designed to minimize the political and economic factors associated with the maintenance and deployment of nuclear weapons. The most appealing concepts focus on nuclear warheads with very small yields and with design and delivery techniques that minimize fallout, residual radiation, and collateral damage."[57] These so-called low-yield "Mini/Micro Clean Nukes"[58] included:

- Micro-nukes (yield about 10 tons): Theater offense cratering weapons with application to buried bunkers or runways while limiting collateral damage;
- Mini-nukes (yield about 100 tons): Theater defense applications in ATBM [anti-tactical/theater ballistic missile] role. Small nuclear warheads provide the only current method to destroy or neutralize incoming nuclear, biological, or chemical warheads with a high probability of kill;
- Tiny-nukes (yield about 1000 tons): Theater offense applications include battlefield use to prevent Third World nuclear weapon use or to destroy company-sized enemy units in extreme scenarios.[59]

STRATPLAN 2010 also identified two multi-kiloton yield warhead designs for delivery by Common Delivery Vehicles, Air-Launched Multi Mission System (ALMMS), and Counter Measure (CM) payloads. One is a 70-pound warhead which would have a yield of 10 kilotons, and a larger 250-pounds warhead of 100 kiloton. Budget estimates were provided, and the report concluded the warheads could be delivered in only 3-5 years.[60]

Other desired new nuclear weapons listed by STRATPLAN 2010 included:

- **Earth Penetrating Warheads**: for strikes against buried targets, such as bunkers and command centers;[61]
- **Nuclear Pulse Weapons**: for creating an extremely intense electromagnetic pulse (EMP) that damages enemy military and civilian electronic and electrical systems;
- **Convertible Warheads**: where a section of a conventional warhead is removed and a nuclear device is installed. This is important for easing the burden of keeping versions of nuclear and conventional weapons on ships;
- **Anti-Air Nuclear Warheads**: for use in theater anti-ballistic missile defense against

nuclear, biological, or chemical warheads.[62]

Although new nuclear weapons developments have been limited by congressional strictures (see below), the Navy continues to seek and work on a nuclear counter-proliferation role. The Navy FY 1994 Posture Statement from March 1993 reiterated a role for ballistic missile submarines in counter-proliferation contingencies: "The proliferation of weapons of mass destruction, plus the continued presence of thousands of nuclear warheads in the newly independent states, requires the United States to continue the vigil of deterrence. The survivability and accuracy of the Navy's Trident submarine fleet provide the critical leg of American deterrence. By 2003, under the new START treaties, Trident submarines will carry 50% of the total United States strategic nuclear inventory."[63]

Also, like STRATCOM, the Navy is acquiring the hardware necessary to implement a nuclear counter-proliferation mission. In April 1993, director of the Navy's Strategic Systems Program Office, Rear Admiral John T. Mitchell, described to Congress how the Navy had begun "installing "an SLBM [submarine-launched ballistic missile] Retargeting System" in three phases from 1992 to 1998 in order "to provide increased SLBM retargeting capability, thus enhancing the flexibility of the Nation's sea-based deterrent." The upgrade would enable the strategic submarines "to quickly, accurately, and reliably retarget missiles to targets." Increasing the submarines' retargeting capability was taking place "to allow timely and reliable processing of an increased number of targets." Rear Admiral Mitchell explained that this was both an important and timely investment "in a world of more diffuse threats than those imagined even five years ago."[64] As of 1994, this program was still underway.

3. Creating Nuclear Weapons for Use in the Third World

To complement the new nuclear missions, new nuclear weapons designs have been advocated by military planners and nuclear weapons scientists. Strong efforts were made during 1989-1993 to develop new, low-yield nuclear weapons for use outside of a U.S.-Soviet/Russian conflict. Although these efforts have slowed in 1994, new nuclear weapons whose ultimate missions remain unclear are still under design at the U.S. nuclear weapons laboratories.

As the Berlin Wall fell in Europe in 1989, the thousands of high-yield strategic nuclear warheads on submarines, intercontinental missiles, and bombers in the U.S. nuclear arsenal became increasingly unfit for the kind of nuclear deterrence nuclear planners envisioned for the post-Cold War era. The Defense Department's highly classified Nuclear Weapons Development Guidance from 1989 outlined a number of nuclear technologies that the laboratories should investigate: "tailored" and "enhanced" effects warheads; electromagnetic pulse (EMP) weapons; and insertable nuclear components (INCs) or "generic" warheads. In 1990, the Nuclear Weapons Council endorsed new low-yield earth-penetration warheads for hard targets and surface attacks.[65] By 1991, low-yield nuclear weapons concepts for regional contingencies began to appear everywhere in the nuclear weapons establishment.

a. 1991-1993: Developing Low-Yield Nuclear Weapons

In March 1991, partially declassified minutes of the annual nuclear weapons development meeting showed that the Pentagon's European Command had pressed for new nuclear weapons with lower yields. A few weeks later, on 30 April, a report from the Los Alamos nuclear weapons laboratory proposed a so-called mini-nuke concept.[66]

The Pentagon's Defense Science Board followed suit later that summer, recommending that the Department of Energy create a prototype generic warheads. And, in late 1991, the Air Force formally established a new nuclear weapons program -- Project PLYWD (pronounced Plywood, for Precision Low-Yield Weapons Design) -- to investigate, among other tasks, "a credible option to counter the employment of nuclear weapons by Third World nations."[67]

At the same time that President Bush announced sweeping nuclear reductions in September 1991 in response to the political unrest in the Soviet Union, including the stand-down of strategic bombers and Minuteman II ICBMs and the elimination of all short-range, ground-launched nuclear weapons, the Reed Panel was completing its report on the role of nuclear weapons in the post-Cold War era. The report concluded that, "The technology is now at hand to develop ... very low yield nuclear weapons in earth penetrators."[68]

In Fall 1991, two Los Alamos scientists recommended the development of mini-nukes to counter "well-armed tyrants" in the Third World in an article in *Strategic Review*. The authors suggested four nuclear weapons designs:

* a 10-ton yield penetrating "micro-nuke" to destroy bunkers;
* a 100-ton yield "mini-nuke" to counter ballistic missiles;
* a 1000-ton yield "tiny-nuke" for battlefield attacks; and
* exotic technology warheads.[69]

By 1992, discussions about the need for new nuclear weapons had turned into new nuclear weapons research programs. In March 1992, Los Alamos director Siegfried Hecker, told Congress in a closed session that his lab was engaged in the development of a new generation of "special purpose weapons." Only a small number of weapons would be built, he said.[70]

The nuclear weapons laboratories continued their advocacy of new nuclear weapons throughout 1992. Director of Lawrence Livermore National Laboratory, John Nuckolls, described in late 1992 the coming of a new nuclear era characterized by the advent of "new minimum lethality weapons" in the 21st century tailored for regional conflicts:

> "If the developing multipolar world exhibits dangerous instabilities, a fundamentally new class of minimum lethality nuclear weapons may also have

> deterrent roles. Special highly penetrating, very-low-yield nuclear weapons are required to hold at risk deeply buried command and weapons storage facilities. Electromagnetic-pulse weapons might paralyse electronic systems, computers and sensors, which are critical elements in modern battlefield platforms, weapons, and command and control systems. Nuclear energy's ultrahigh energy density may be harnessed to achieve much greater effectiveness, at greatly reduced cost compared to advanced conventional weapons, and with no casualties. This would be a paradigm shift from 20th century nuclear weapons that use the ultrahigh nuclear energy density to achieve mass destruction."[71]

George Miller, associate director at Lawrence Livermore National Laboratory pointed to what "we've seen in revelations about Iraq, there is the specter of other nations [than Russia] armed with nuclear weapons who could threaten U.S. interests.... [So] people are beginning to think about what kind of [nuclear] weapons will be appropriate to give the President options...." Indeed,

> "lower yields are certainly something that many people are speculating about, along with more precise delivery, as witnessed in the forces we deployed in the Persian Gulf. The kind of precision demonstrated there certainly admits the possibility of significantly reducing the yields required of our [nuclear] weapons...."[72]

The Energy Department matched its words with deeds. The Department of Energy budget request for FY 1995 specified several Phase I and Phase II studies having taken place in FY 1993 in support of Defense Department missions involving low-yield nuclear weapons, including a "phase I study for Air Force Low Yield Warhead Design."[73]

In 1993, the Joint Chiefs of Staff also endorsed the utility of low-yield nuclear weapons. In their new "Doctrine for Joint Nuclear Operations," the Chiefs advocated that, "a selective capability of being able to use lower-yield weapons in retaliation, without destablizing the conflict, is a useful alternative for the US National Command Authority (NCA)."[74]

In addition, in 1993, the Energy Department continued its initial studies of new nuclear weapon systems including a low-yield warhead. It's FY 1994 nuclear weapons research and development budget request stated the department planned to: "continue to support Phase 1 [conceptual research] and 2 [feasibility] studies for High Power Radio Frequency warhead; Precision Low-Yield warhead; Cruise Missile-type warhead; and B-61 diameter bomb." Also the budget supported a "new Phase 1 efforts for new, more robust designs; new designs with advanced concepts for use of nuclear materials; and support of the requirements in the NWDG [Nuclear Weapons Development Guidance] document."[75]

b. 1994-1995: New Nuclear Weapons...Or?

Phase 1 of the PLYWD study was scheduled for completion in 1993, including a "detailed mission area analysis" to provide the "warfighting CINCs" with new nuclear weapons. But after disclosure in 1992 and 1993 that the Energy Department and nuclear weapons laboratories were involved in mini-nukes design work, the Congress banned in late 1993 any "research and development which could lead to the production by the United States of a new low-yield nuclear weapon, including a precision low-yield nuclear weapon."[76]

Politically unacceptable and partially outlawed, the discussions of new low-yield and exotic nuclear weapons were dropped. But when the Department of Defense announced the conclusions of its 10-months Nuclear Posture Review in September 1994, Deputy Secretary of Defense John Deutch stated that "almost all" of its nuclear modernization programs had been terminated;[77] some remained.

Nuclear warhead development continued in 1994 and into 1995. The Department of Energy budget request to Congress for FY 1995 included Phase 1 and Phase 2 nuclear warhead studies for an "ICBM replacement warhead, gravity bomb studies, and enhanced safety warheads for the Navy." Also included in the request is money for study of a High Power Radio Frequency (HPRF) nuclear warhead. It is described as a "non-lethal, ICBM-delivered, and nuclear-driven ... device intended to damage electronics and/or electrical components."[78] Work is taking place at Los Alamos and Sandia laboratories together with Air Force laboratories in San Antonio, Texas.[79]

Despite Deputy Defense Secretary Deutch's assurance at the Nuclear Posture Review press conference in September 1994 that, "we do not see the need for new nuclear warheads to be added to out arsenal" and "no new designed nuclear warhead is required as a result of this review,"[80] the new HPRF warhead is scheduled to reach a Phase 3 engineering development decision in March 1995,[81] one month before the U.S. is seeking indefinite and unconditional extension of the NPT at the multilateral conference in April-May.

The Department of Energy budget request for FY 1996 states that engineering development activities will "respond to directed nuclear weapons studies." One program described as "a follow on to a Phase 2 study" will identify and characterize alternate reentry systems for use on the Trident II strategic ballistic missiles. Another will continue improvements to the B83 strategic nuclear bomb and rebuild selected B83-0 and B83-1 units. Furthermore, warhead design assessments include "advanced electronic radiation" and "insertable nuclear components."[82]

4. Counter-proliferation and French Nuclear Strategy

Among the European nuclear powers, France has moved the farthest toward expanding its nuclear strategy to regional contingencies and counter-proliferation. Officially, nuclear weapons are still viewed as "weapons of no use," yet the debate over the post-Cold War role of

nuclear weapons has increasingly shifted toward using nuclear weapons in regional conflicts and against local "aggressors." As in the United States, nuclear planners have shown an almost organic tendency to look for new nuclear enemies, and the Middle East and Northern Africa, or "the South," are frequently mentioned as potential scenarios.

a. Weapons of "No Use" or "No First Use"

Traditionally, "French defense policy rests on nuclear deterrence," the French Navy's Chief of Staff wrote in *NATO's Sixteen Nations* in September 1989. "It is supported in our concept by a conventional and prestrategic nuclear force structure." In fact, "nuclear deterrence makes improbable the eventuality of a major conflict in [the] future," he stated. Tactical nuclear air-to-surface missiles (Air-Sol Moyenne Portée) on aircraft carriers are intended to constitute such an "ultimate warning" in order to "convince a potential aggressor that the nature of the conflict has changed and that, should he continue his operation, the resort to strategic nuclear weapons would be unavoidable."[83]

Up till now, for France to cross the nuclear threshold has required an attack **on France**. More so, attacks on French **nuclear** forces would instantaneously trigger nuclear retaliation. "An attack on [France's silo-based ballistic missiles at] Albion," President Mitterrand said in October 1990, "would mean we were already in a ... nuclear war. By that token, the launching of our (submarine-borne) strategic forces would be instantaneous."[84]

French government officials have attempted to dissociate themselves from an endorsement of expanded nuclear deterrence strategies that would entail using nuclear weapons against regional aggressors armed with nuclear weapons. During the 1991 Gulf War, for example, France was the only nuclear weapons power to publicly rule out the use of nuclear weapons against Iraq. In November 1993, Defense Minister Francois Léotard declared that France would retain its "doctrine of non-use" despite advocates for change. Léotard argued that pursuing low-yield nuclear weapons for limited strikes could lead to "a sort of banalization of nuclear weapons." This would be "a profound error," he said. Besides, Leotard added, long-range non-nuclear and highly precise weapons would be better in such scenarios anyway. A few months later, in May 1994, President Mitterrand added his strong opposition to "surgical" or "decapitating" nuclear strike capabilities by condemning such proposals as "a major heresy" and in conflict with the traditional doctrine that nuclear weapons are for the protection of France's vital interests and not for use as "a nuclear gun." As for the notion of the "final warning," Mitterrand said this is a "terminal warning" which must not be misunderstood to be some kind of "nuclear artillery."[85]

Yet, as the Cold War faded, an attack on French nuclear forces in France became less and less plausible. In October 1990, Mitterrand ordered a review of French nuclear forces with the aim "to assure, on the eve of the next century, the future of the French nuclear deterrent and the maintenance of its credibility."[86]

b. Nuclear Missions in the Middle East

Unlike the United States, France formally ruled out the use of nuclear weapons in the Gulf War, even as a response to Iraqi use of chemical weapons. Such a move, President Mitterrand declared in February 1991, would represent a "retreat toward barbarism." Besides, it would be unnecessary given the coalition's conventional superiority. Foreign Minister Roland Dumas echoed that "nuclear weapons cannot be battlefield weapons, and cannot be used except as the ultimate recourse when the national territory is threatened."[87] France seemed briefly to grasp the impotence of nuclear weapons in the post-Cold War world.

Yet, the French Senate 1991 Defense Commission report on lessons of the Gulf War for the first time pointed to a southern threat against France. This threat would be more unpredictable than the "nuclear culture" France had developed with the Soviet Union over the years. The Senate warned that "a fanatic regime like the one of Saddam Hussein's Iraq, or like the one of other Third World states, who are inclined to acquire a nuclear capability, do not share this 'nuclear culture' nor the complex rationality that this culture implies."[88] The Senate's thesis of "nuclear culture" was later picked up by the National Assembly's Defense Commission. In a report from November 1993 on French nuclear deterrence, Commission Vice-Chairman Jacques Baumel pointed to the countries which obtain nuclear weapons without having "the rational knowledge of the rules of deterrence."[89]

And, in May 1992, in the midst of a sweeping U.S. and Russian nuclear stand down, French Defence Minister Pierre Joxe began hinting the potential emergence of "a new threat for which we would be much less prepared."[90] It will be necessary, said Joxe:

> "to correct programs which were started in the context of a single threat from the East.... In addition to having arms capable of massive distant strikes against predetermined targets, we should perhaps develop more flexible weapons systems that promote deterrence more through the precision with which they strike than through the threat of a general nuclear exchange."[91]

Far from expressing French unilateralism, Pierre Joxe's statement was given as part of France embracing NATO's new multi-directional threat concept adopted at the Rome summit in November 1991. New targets for French deterrence were also the main component of an article written in *Politique Internationale* by conservative leader Jacques Chirac in the summer of 1992. Entitled "Proliferation, Non-proliferation, Deterrence," Chirac strongly endorsed expanding current doctrine to counter the proliferation of nuclear weapons.[92]

Jacques Chirac's linking of French deterrence to proliferation was close to the Prime Minister's thoughts. In a speech to the French defense think-tank Institut des Hautes Études de Défense Nationale in September 1992, Prime Minister Pierre Bérégovoy acknowledged that "as

long as there continues to exist, despite the progress in East-West negotiation, an [ex-Soviet] arsenal henceforth divided between **a greater number of powers**, France must assure the credibility of its ultimate guarantee."[93]

This and similar official statements in 1992 were remarkable because previous attempts in 1986-1988 to widen nuclear deterrence and make it more flexible had been promptly rejected. At the time it was argued, that planning for such ideas would undermine the traditional French nuclear deterrence principles of "no-war" and "no-battle" since a regional aggressor could provoke France to actually use its nuclear weapons.[94]

Yet, Defense Minister Joxe specifically envisioned opening up a new nuclear front using a smaller nuclear deterrent. In order to respond to any major threat in the future, he suggested, France would maintain two components of the nuclear triad: first the SSBNs would be responsible for the "distant massive strikes against pre-determined targets," the traditional form of nuclear deterrence. The second component, Joxe described as a "more flexible, lighter, more accurate weapons system," that would be capable of responding "to all possible scenarios other than those of massive deterrence."[95]

c. "Humane" Nuclear Deterrence

In the early 1990s, members of the National Assembly from a variety of political parties called for France to renounce its anti-city nuclear deterrence doctrine and replace it with a more "humane" counterforce strategy. Not surprisingly, faced with a dwindling military threat from the East and declining defense budgets, adjusting nuclear deterrence to new contingencies found support within the defense establishment which is eager to define new missions in the post-Cold War era.[96]

In early 1993, for example, shortly before being appointed as head of the Defense Ministry's Délégation Générale pour l'Armement, Henri Conze wrote in the monthly *Défense Nationale* that the concept of "anti-cities" strikes (i.e. Moscow) must be changed toward a greater selectivity and discrimination, partly because "nuking" civilians is increasingly unacceptable to public opinion.[97]

Colonel Henry de Roquefeuil, Deputy Chief of Operations for the Strategic Air Forces, also expressed similar ideas. In September 1993, he wrote in *Defense Nationale* that France should complement its traditional nuclear capabilities and doctrine for deterring Russian coercion or aggression with deterring mischief by a regional power armed with a few nuclear devices. He called it "la dissuasion du fort au faible," or deterrence by the strong of the weak:[98]

> "By this logic, the head of state could choose to demonstrate his determination with a final warning strike by a small number of *Mirage* 2000Ns. For such a mission, a missile with a warhead of some kilotons would be sufficient and easier to use; even a limited strike would render credible the multi-megaton threat of our

strategic forces. On the other hand, this would mean abandoning the concept of weapons of non-use."[99]

In the newspaper *Liberation*, the Air Force Chief of Staff, General Vincent Lanata, argued that the necessary move toward "a capacity to strike vital centers argues in favor of high-precision systems with a modular (nuclear) warhead," or of variable yield.[100]

Publicly, these two military men have been alone in expressing such views, but behind the scenes the notion of threatening regional aggressors soon found such political support that the concept of "deterrence by the strong of the weak" in the debate quickly became "deterrence of the strong of the insane" (la dissuasion du fort au fou).

Jacques Baumel, a Gaullist hawk and Vice-Chairman of the National Assembly's Committee on National Defense and the Armed Services, urged in a November 1993 report on deterrence that the government conduct "a fundamental review" of the principle of "no use" of nuclear weapons. "The French doctrine, hitherto restricted to the strategy of massive counter-city strikes, should move toward more selective capabilities, directed against specific military forces or sensitive installations."[101] Baumel also called for the "urgent resumption" of nuclear testing, because he wants France to develop a new TN100 warhead for the ASLP (Air-Sol Longue Portée) cruise missiles intended for the Rafale aircraft scheduled to enter service on the nuclear-powered *Charles de Gaulle* aircraft carrier after the year 2000.

At the time, Baumel suggested a "dual deterrence" split between submarine-launched ballistic missiles targeted at cities and highly accurate long-range missiles launched from aircraft or surface ships. Cruise missiles would give France "more selective capabilities, directed against specific military forces or sensitive installations." Accuracy, lower yields, confined effects, earth-penetrating capabilities, and other measures to limit collateral damage could enable France to threaten "surgical strikes against potential adversaries" that might not respect the "established rule of rationality,"[102] Baumel argued.

d. Nuclear Weapons Linked to Proliferation

Setting French nuclear forces free to respond to "selective" attacks from an unspecified future opponent inevitably pulls French nuclear strategy toward counter-proliferation scenarios in the Middle East region.

Already in June 1991, only a few months after France had ruled out the use of nuclear weapons in the Gulf War, Jacques Chirac told the Academy of Moral and Political Science that nuclear weapons "will present new problems for our countries in that they are likely to proliferate, probably in Europe's Third World neighbors." Therefore, the former prime minister said, Europe and France would have to "radically review their nuclear means and strategies."[103]

In September 1994, Prime Minister Edouard Balladur gave a speech to l'Institut des

Hautes Études de Défense Nationale where he pointed to "the variety of situations" in which nuclear deterrence might play a role, including "a crisis far from our soil." He emphasized that "we refuse to envisage any drift toward what is called an 'employment strategy' for nuclear weapons or toward the notion of nuclear weapons for battle,"[104] but Balladur nonetheless endorsed expanding French nuclear deterrence to scenarios **not** involving an attack on France.

In preparation for the White Paper study on French future military doctrine, the interim report of the Long Commission, conducted at the request of President Mitterrand, outlined six different hypotheses that would justify French military intervention. Among these were threats to France's vital or fundamental interests, including threats from the Mediterranean, the risks stemming from clandestine state terrorism, and from the proliferation of weapons of mass destruction exploited by regional powers.[105]

When the final White Paper was completed in February 1994, it contained a whole chapter on proliferation. The paper, the first one since 1972 intended to define post-Cold War strategy for the next 20 years, concluded that "our defense posture must be maintained for the protection of our vital interests, whatever the origin and form of the threat." One of the crisis scenarios foresaw the emergence of a major aggression against Western Europe "from a state or coalition of states with large nuclear and conventional forces." Another scenario envisioned a threat from a southern middle-sized power equipped with highly sophisticated conventional weapons, submarines, and/or chemical weapons.[106] The objective of French nuclear forces was broadly defined:

> "The French nuclear concept will continue to be defined by the will and capability to make **any aggressor -- irrespective of who such aggressors may be or their capabilities** -- fear unacceptable damage, out of all proportion to the advantage to be gained from conflict, if they seek to attack France's vital interests. In this day and age, nuclear weapons alone have this kind of capability...."[107]

Regional proliferators may be less susceptible to existing French nuclear weapons systems, so the White Paper suggests producing a more flexible component of the deterrence force, probably a long-range air-launched missile.[108]

The controversial questions of battlefield nuclear weapons have been bypassed by a more routine adjustment of nuclear deterrence to encompass the new threats. On 4 October 1994, Jacques Baumel's report to the National Assembly on behalf of the Committee on National Defense and the Armed Services bluntly tied French nuclear deterrence to proliferation of nuclear weapons:

> "Even if France has no vital interests to defend in the Middle East, in the Indian sub-continent, or in the Pacific zone, France cannot feel uninterested in what is happening in these areas. The prospects of conflicts that exist in the various hot spots force us not to surrender to the advocates of nuclear disarmament but, quite

> the reverse, to do everything we can to maintain our instrument of deterrence in a good operational condition. In a world where crude nuclear weapons will inevitably be more in the hands of irresponsible potentates, the fact that we possess a weapon capable of inducing respect with whatever aggressor, may one day turn out to be indispensable."[109]

e. Nuclear Targeting

Actual targets have not been formally announced, but analysts suggest that they include the Middle East and Third World (especially those countries with a capability to develop nuclear weapons and/or long-range ballistic missiles). In order to justify keeping the Hadès missiles currently held in inactive reserve in the Suippes camp in Marne (Eastern France),[110] some officials in the defense establishment are talking about moving the 480-km missiles further south toward the Mediterranean coast.

Likewise, the deployment of 15 Mirage 2000N jets at Istres in southern France, according to another source, indicates a French desire to project a nuclear deterrent vis-a-vis Libya and, more in general, the whole of the Middle East. With the new nuclear-capable Rafale N aircraft entering service,[111] one aircraft armed with a nuclear ASLP cruise missile could reach targets near Moscow, anywhere in the Middle East, or in North Africa. Finally, with aircraft carriers, which in the French case still carry nuclear weapons, the range of French sub-strategic nuclear weapons could be extended even further.[112]

Moreover, strategic submarines could also be suited for new global missions. Like in the United States, there are discussions within the French military to equip submarine-launched ballistic missiles with warheads with more flexible yields, and possibly even conventional warheads. This would be better for use in Third World contingencies. Operational areas for the new SSBN class, *Le Triomphant*, have been suggested possibly to include the Indian Ocean.[113]

5. British Nuclear Counter-proliferation

> "HMG's [Her Majesty's Government] policy objective is, whilst retaining our own nuclear deterrent, to prevent the proliferation of nuclear weapons."[114]

Compared with France and the United States, British nuclear doctrine has taken limited steps toward embracing new threats such as proliferation. Yet, a similar widening of threat perceptions and a general delinking of the nuclear strategy from Cold War scenarios is taking place.

The British government first linked British nuclear thinking to the proliferation of nuclear weapons in November 1993. In a major analysis of British nuclear policy, presented to the Centre for Defence Studies at King's College London, Defence Secretary Malcolm Rifkind

explained how "we and the world community recoil at the thought of widespread proliferation of nuclear weapons." Since "nuclear weapons cannot be dis-invented," he stressed that "in terms of our security interests, therefore, nuclear weapons could be said to be simultaneously part of the solution and part of the problem."[115]

Rifkind was ambivalent about the value of British nuclear forces in facing proliferators armed with nuclear weapons. On one hand he said he was "thoroughly opposed" to using low-yield nuclear weapons to conduct "surgical" strikes. This would be damaging to the stability in Europe and counter to non-proliferation efforts. With regard to the situation in Europe, Rifkind viewed it as "difficult to see deterrence operating securely against proliferators." In fact, "it is in everyone's interest that the risks involved in introducing nuclear weapons as a new factor into regional balances is avoided.... Ideally, proliferation is best dealt with by removing the motivation to proliferate," he said. "Since the motivation for a country wanting to acquire nuclear weapons is likely to be regional, the possession of nuclear weapons by the United Kingdom is unlikely itself to affect its decision to pursue this course."[116]

On the other hand, Rifkind warned that "it would be unwise to ignore completely the potential consequences if, despite our efforts, there is proliferation of nuclear weapons." Hinting at the involvement of British nuclear forces around the world, Rifkind added, "However, while the motivation may be regional the possibility exists of a proliferator engaging in a conflict in which our interests, or even British forces, are involved."[117]

Rifkind took this logic one step further in April 1994, when he briefed the House of Commons on the Defence Estimate and British Nuclear Policy. Defending the capability to undertake "nuclear action on a more limited scale" using Trident missiles armed with tactical nuclear warheads, Rifkind offered an alarmingly vague and broad justification of protecting "our vital interests" rather than linking the role specifically to Russian nuclear weapons. "Nuclear proliferation" was specifically referred to when cautioning against complete and general nuclear disarmament. Moreover, Rifkind linked British policy on a comprehensive test ban treaty to the widest possible adherence "particularly from the countries of greatest proliferation concern or whose nuclear status is ambiguous." Verification would be essential, Rifkind said, to be confident of detecting "and therefore **deterring**, any would-be proliferator from developing a sophisticated nuclear weapon."[118]

a. Merging Strategic and Tactical Nuclear Roles

Also in a new development which has counter-proliferation implications, British strategic nuclear forces are being adjusted to fulfil **tactical** missions. The Ministry of Defence was reported in 1992 already to be investigating how to equip Trident missiles on strategic submarines with a tactical nuclear warhead,[119] and as Britain canceled the air-delivered replacement for the WE-177 free-fall nuclear bomb in March 1994, future tactical nuclear weapons roles were transferred to the strategic Trident missile force.[120] A British Defence Select Committee report from July 1993 stated that "there is no technical reason why Trident missiles

should not carry out the sub-strategic role, by the firing of a single missile carrying one warhead, whose target could be communicated to a submarine at sea.... The major constraint arises from the need to decide on a particular weapon outload mix when the submarine is in port."[121]

"We plan in the long term on exploiting the flexibility and capability of the Trident system to provide the vehicle for the delivery of our sub-strategic deterrent," Defence Secretary Malcolm Rifkind said in 1993. Rifkind explained that Britain needs to maintain a sub-strategic nuclear strike force to deter potential aggressors, who might be prepared to gamble that Britain would not launch and all-out nuclear attack. A senior Defence Ministry official added that a sub-strategic nuclear capability represents "an essential link between strategic nuclear weapons a conventional war -- a clear demonstration that aggression is not a rational option."[122]

Officials said the cost of using the Trident in a sub-strategic role will be "almost nothing" and only require some new computer software and some shore construction at the Faslane submarine base on the Clyde. It will not require building a new warhead for the Trident, because both strategic and non-strategic versions would be fitted with the same warhead.[123] Moreover, the House of Commons was told in July 1994 the "Trident in both the strategic and the sub-strategic mode" would not require further nuclear tests.[124]

6. Nuclear Counter-proliferation Doctrines and NPT's Article VI

Planning to use nuclear weapons to deter or counter proliferation of nuclear weapons and other weapons of mass destruction has serious implications for the Non-Proliferation Treaty. Paramount to the successful continuation of the NPT are indisputable steps by the nuclear powers toward total nuclear disarmament. But countering proliferation with nuclear weapons is a new nuclear mission that **expands** the role of nuclear weapons, and is further evidence that the nuclear weapons states intend to maintain their nuclear capabilities. This is in conflict with the disarmament goals of Article VI of the Treaty.[125]

a. The United States and Article VI

Already, there are some observers who note that the United States non-proliferation policy should include a goal of eliminating nuclear weapons. Barry Blechman and Cathleen Fisher of the Stimson Center foreign policy think-tank point out in the Winter 1994-1995 issue of *Foreign Policy* that the U.S. desire to keep nuclear weapons "hampers non-proliferation policy," and that a clear policy of elimination is needed.[126]

General Charles A. Horner, the U.S. Air Force commander in the Gulf War recently said, "The nuclear weapon is obsolete. I want to get rid of them all. I want to go to zero, and I'll tell you why: If we and the Russians can go to zero nuclear weapons, then think what that does for us in our efforts to counter the new war," Horner added: "Think of the high moral ground we secure by having none. It's kind of hard for us to say to North Korea, 'You are terrible people,

you're developing a nuclear weapon' [when the United States has thousands of them]."[127]

He went on to say, "I just don't think nuclear weapons are usable.... The nuclear weapon is obsolete.... I'm not saying that we militarily disarm. I'm saying that I have a nuclear weapon, and you're North Korea, and you have a nuclear weapon. You can use yours. I can't use mine. What am I going to use it on? What are nuclear weapons good for? Busting cities. What president of the United States is going to take out Pyongyang?"[128]

There is a recognition on the part of some U.S. government officials that Article VI concerns need to be addressed: U.S. Arms Control and Disarmament Agency director Thomas Graham correctly pointed out in September 1994 the NPT "does **not** legitimize the permanent possession of nuclear weapons."[129] However, the Clinton Administration's commitment to Article VI goals remains weak. Not until two years into his presidency did President Clinton suggest that the United States support the elimination of nuclear weapons. Instead of prominently promoting this policy, this comment was buried in the last paragraph of a little noticed joint statement with Indian Prime Minister Rao from May 1994.[130] Worse, because the Clinton Administration has not been able to articulate and implement a policy consistent with the NPT's goals, the U.S. civilian and military nuclear planners have been free to develop doctrines that directly undermine non-proliferation objectives.

b. Diplomatic Non-Proliferation vs. Military Counter-proliferation

"We see counter-proliferation as the major defense initiative of the '90s."
Walt Kirchner, director of Department of Defense Programs, Los Alamos National Laboratories, June 1994.[131]

Historically, negotiation and diplomacy, along with controls and prohibitions, have been the key building blocks of the non-proliferation regime. Until the 1991 Gulf War, there was a recognition that consensus around an international non-nuclear norm is best constructed through agreement and persuasion, not through force.[132]

Counter-proliferation doctrines are a major departure from past non-proliferation efforts. In the case of the United States, efforts are now more aggressive and militaristic. Since many of the military-nuclear institutions that shaped and dominated military policy during the Cold War have become involved in the Defense Department's efforts,[133] counter-proliferation efforts have also begun to incorporate a nuclear dimension. Quite obviously, the more non-proliferation measures become influenced by military counter-proliferation strategies, the less likely is nuclear disarmament going to be pursued as the ultimate solution to the proliferation problem. For example, in the Deputy Secretary of Defense May 1994 report to the Congress on nonproliferation and counter-proliferation activities and programs, nuclear disarmament is **not** listed at all as a means towards curbing proliferation of nuclear weapons. Instead, objectives are almost exclusively pursued through military means.[134]

Aside from the impact on NPT's Article VI, military counter-proliferation strategies present another important problem for the NPT: their effect on nuclear security assurances. From the beginning of the non-proliferation regime, non-nuclear states have sought guarantees from the nuclear powers not to be threatened by nuclear weapons. The United States, Soviet Union, and Britain conformed to this concern via a tripartite Security Council resolution noting that nuclear aggression, or the threat of nuclear aggression, against non-nuclear states party to the NPT was unacceptable.[135] However, this resolution has failed to meet the demand by non-nuclear states for legally binding assurances.

First formulated in 1978, the U.S. pledge not to use nuclear weapons under certain circumstances was repeated by acting director of the Arms Control and Disarmament Agency, Thomas Graham, Jr., during a visit to Argentina in April 1994:

> "The U.S. is committed not to use nuclear weapons against any non-nuclear weapon state party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devises, such as the Tlatelolco Treaty, unless the U.S. is attacked by a non-nuclear weapons state in alliance with a nuclear weapons state."[136]

The British policy is similar to that of the United States.[137]

Clearly, expanding nuclear targeting to Third World nations, even if ostensibly directed against nations acquiring weapons of mass destruction, does not send a reassuring message. Also, the nuclear aspects of counter-proliferation doctrines raise many uncomfortable questions about the details of fighting a nuclear war in the Third World. Finally, since nuclear counter-proliferation efforts are directed against all weapons of mass destruction -- that is, nuclear, biological, chemical, and even perhaps ballistic missiles -- this implies that the chances of the use of nuclear weapons in non-nuclear regional conflicts increase.

The United States' aggressive counter-proliferation doctrine also is adding to tensions between the nuclear nations. During a November 1994 conference at the National Defense University in Washington, D.C., Russian diplomats criticized the U.S. counter-proliferation initiative as being "too militaristic" and putting too much emphasis on resolving proliferation problems by "military means" which then diminishes the role of diplomacy.[138]

c. Inarticulating the Counter-proliferation Doctrine

Attacking, or threatening to attack, countries seen as Third World proliferators with nuclear weapons is a difficult and controversial policy to articulate. When asked by Congress in February 1992 whether Third World nations were being targeted as part of a revised post-Cold War nuclear war plan, General Colin Powell, the chairman of the Joint Chiefs of Staff, declined to comment. National security "does not permit discussing the specific details of SIOP targeting or whether or not Third World nations are targeted," he said.[139]

Confusing statements by top officials about the use of nuclear weapons in the Third World have served to obscure the effort already being devoted to this possibility. Reaffirming a role for nuclear weapons in such contingencies serve to legitimize nuclear weapons programs in non-nuclear states and underscore the possibility that U.S. nuclear weapons may be used first in a non-nuclear conflict in response to an attack by another weapon of mass destruction.

For example, at the Nuclear Posture Review press conference in September 1994 Deputy Secretary of Defense John Deutch was asked about the role of nuclear Tomahawk cruise missiles. He explained:

> **Q**: What is the purpose of nuclear Tomahawks? Nuclear weapons on Tomahawk missiles?
> **A**: Because of a hypothetical situation where you have an exchange or reach of nuclear weapons that do not involve the homeland of either the United States or of Russia, or which involve --- you can argue how realistic this is today, historically -- the security of NATO. The way you deter that from happening is to have an ability to respond on a regional basis.
> **Q**: Such as deterring chemical weapons use?
> **A**: No one is suggesting that if chemical or biological weapons were used that you would deter with nuclear weapons. Certainly a country who is considering using them would have to take that into account. That's how we contribute to deterrence.[140]

A few weeks later, when Deutch briefed the House Foreign Affairs Committee on U.S. nuclear policy, he further elaborated on the possibilities of using nuclear weapons in response to a non-nuclear [chemical weapons] attack:

> "Let us assume that there is a Saddam Hussein or a Colonel Qadhafi somewhere who is considering -- considering chemical attack against the United States, against one of its cities, and will eventually, unfortunately, perhaps have the ability to deliver it by, let's say, a ballistic missile.
>
> The fact that we have nuclear weapons could well deter him from that hostile action. I'm not saying that we would use it. I'm just saying to you that the deterrence in situations like that is important....
>
> I do not agree ... that nut cases cannot be deterred [with nuclear weapons]. We certainly saw the deterrence of a nut case in the situation of Iraq, where they did not use chemical weapons because they were concerned, I believe, about what our response would have been if they had been used."[141]

He went on to reaffirm the importance of nuclear weapons in responding to even a conventional attack:

Representative Lee Hamilton: We retain the option of using nuclear weapons even after a non-nuclear attack. Is that correct?
Deputy Secretary Deutch: If a party is a signatory to the Non-Proliferation Treaty, a non-nuclear power, signatory to the non-proliferation treaty, we have said we will not use nuclear weapons under any circumstances against that country if it gets itself involved in hostilities anywhere in the world. If it attacks the United States with conventional forces, I guess we would still have that prospect, sir, as remote as it is.
Representative Lee Hamilton: We would still have the prospect of what?
Deputy Secretary Deutch: Using nuclear weapons.[142]

7. Conclusions

The United States has developed a new military nuclear doctrine which explicitly sees a role for U.S. nuclear weapons in deterring and countering weapons of mass destruction in regional contingencies around the globe. There are some reports that the U.S. was targeting some Third World countries as a matter of course as early as in the late 1980s as part of its global plan against the Soviet Union and its potential allies, and as a hedge against coercion during or after a major nuclear war or exchange with the Soviet Union.[143] Now, however, some Third World countries are being targeted for their own importance: proliferators of weapons of mass destruction.

Key upgrades are being made to U.S. nuclear missile systems and strategic intelligence networks to allow more comprehensive and rapid sighting of regional targets. Nuclear warplans for regional contingencies are also reportedly being drawn up. Finally, research into new nuclear weapons designs with exotic capabilities, and perhaps smaller yields, continues. In fact, reportedly, in March 1995, one month before delegates meet in New York to determine the future of the NPT, a key decision will be made about whether to proceed with the further development of one of the new nuclear weapons under study.[144]

Of the European nuclear powers, France has moved the farthest toward a new nuclear strategy which encompasses regions outside the former Soviet Union. Only a few years ago, the use of French nuclear weapons required an attack **on France** or French nuclear forces. Accordingly, President Mitterrand ruled out the use of nuclear weapons in the 1991 Gulf War. This triggered a debate in France over the utility of nuclear weapons that gradually changed French nuclear orientation from one tied specifically to the European theater and the Soviet threat, to one envisioning new roles in Middle East or "southern" contingencies. French government and military officials are now frequently linking French nuclear doctrine to nuclear proliferation concerns and speak openly of using nuclear weapons to deter regional contingencies and counter-proliferation threat scenarios.

Compared to the United States and France, the United Kingdom has moved more slowly

to articulate a nuclear counter-proliferation doctrine. So far British officials have not expressed the same concern about attacks on British forces or the United Kingdom itself with weapons of mass destruction. Nonetheless, steps have been taken in the direction of developing a nuclear counter-proliferation doctrine since British officials have discussed assigning its strategic nuclear weapons "tactical" roles.

Although developments in Russia are much less clear, Russia, too, has expressed concern about the proliferation of weapons of mass destruction and sees its nuclear weapons as a possible counter. In June 1994, Minister of Defense General Pavel Grachev in discussing the changes in nuclear policy embodied in the new Russian military doctrine noted, "the countries of the unpublicized 'nuclear club' form a fairly dense half-circle, embracing from the south, the geostrategic space occupied by Russia and its closest neighbors, creating a vague zone of 'nuclear risk'." He asserted the first use doctrine articulated in the new military doctrine, among other things, is supposed to be a deterrent to possible nuclear proliferators who wish to attack Russia.[145]

In December 1994, Colonel General Igor Sergeyev, Commander of the Russian Strategic Missile Forces, said in words that resemble those of his U.S. counterparts "the resolution of the task of deterrence with respect to any potential enemy poses additional requirements," on the strategic missile forces, including the need to be able to be able to strike over a "broad spectrum of ranges, within the briefest time spans." He said, "this calls for the utmost accuracy, promptness of retargeting, flexibility of control, and all forms of combat provisions."[146]

Only a few years ago, nuclear weapons were focused on the East-West antagonism. Western nuclear powers oriented their nuclear doctrines toward deterring Soviet aggression and the Soviet Union aimed its nuclear weapons at the western allies. Several other countries such as India, Iran, Iraq, Israel, North Korea, Pakistan, and South Africa were widely believed to be pursuing or have already acquired a nuclear weapons capability, but they were not the object of Cold War nuclear deterrence strategies.

With the dismantlement of the Warsaw Pact and the demise of the Soviet Union the proliferation of weapons of mass destruction has risen to the top of the international security agenda. The nuclear weapons states have begun expanding their nuclear deterrence strategies to counter such proliferation and increasingly use it to justify maintaining their own nuclear arsenals. Although counter-proliferation strategies are mainly non-nuclear endeavors, nuclear weapons are being assigned new roles to deter or combat regional proliferators. Yet, the preservation of the arsenals of the nuclear weapons states only serves to further legitimize the utility of nuclear weapons and therefore hinders the nuclear weapons states' non-proliferation efforts.

8. Abbreviations and Acronyms

ACDA	U.S. Arms Control and Disarmament Agency.
ALCM	Air Launched Cruise Missile; U.S. cruise missile with nuclear or conventional warhead.
ASLP	Air-Sol Longue Portée; new French nuclear cruise missile.
ASMP	Air-Sol Moyenne Portée; current French nuclear cruise missile.
Bottom-Up Review	A comprehensive U.S. review of defense strategy, force structure, modernization, infrastructure, and foundations completed by the Department of Defense in October 1993.
CDV	Common Delivery Vehicles; missiles identified by the June 1992 Navy STRATPLAN 2010 long-term study (see below).
EMP	Electromagnetic Pulse.
EPW	Earth-Penetrating Warhead.
FBIS	Foreign Broadcast Information Service.
HPRF	High Power Radio Frequency.
ICBM	Intercontinental Ballistic Missile.
INC	Insertable Nuclear Components.
JCS	U.S. Joint Chiefs of Staff.
JPRS	Joint Publications Research Service.
NPR	The U.S. Nuclear Posture Review; results announced by the Department of Defense in September 1994.
NPT	Treaty on the Non-Proliferation of Nuclear Weapons (1970).
NUWEP	Nuclear Weapons Employment Policy (U.S.).
PLYWD	Precision Low-Yield Weapons Design.
Reed Panel	The Strategic Study Group established by Strategic Air Command in 1991 to examine the role of nuclear weapons in the post-Cold War era.
SAC	Strategic Air Command (U.S.).
SIOP	Single Integrated Operational Plan, the central U.S. strategic nuclear war operations plan.
SLBM	Submarine-Launched Ballistic Missile.
SPSG	Strategic Planning Study Group, a 10-person team established by STRATCOM in December 1992 to conduct a comprehensive review of strategic nuclear war planning process, known as the Strategic War Planning System (SWPS).
STRATCOM	Strategic Command; established in 1992 as the central command for all strategic nuclear forces. Merged Strategic Air Command and Navy strategic planning in a single command.
STRATPLAN 2010	Long-term study completed by the Office of the U.S. Deputy Chief of Naval Operations For Plans, Policy And Operations in June 1992 to assess the long-term potential for the Navy's role in nuclear strategic deterrence and emerging non-nuclear National missions.
SWPS	The Strategic War Planning System, a flexible, globally-focused, nuclear war-planning process, developed by the STRATCOM Strategic Planning Study Group (SPSG).

Notes:

1.Operational control of U.S. military forces for warfighting purposes is assigned to one of five unified geographic commanders: Atlantic Command, Pacific Command, European Command, Central Command, or Southern Command.

2.Ambassador Thomas Graham, Jr., U.S. Arms Control and Disarmament Agency, "Statement to the Third Meeting of the Preparatory Committee for the 1995 Conference of the Parties to the Treaty on the Nonproliferation of Nuclear Weapons," 13 September 1994, p. 2. Emphasis in original.

3.John D. Holum, Director, U.S. Arms Control And Disarmament Agency, "Statement Before the Senate Foreign Relations Committee on the Second Strategic Arms Reduction Treaty," 31 January 1995, p. 8. Emphasis added.

4.For example, a pledge to eliminate nuclear weapons was **not** part of the U.S. presentation to the Third Preparatory Meeting of the Non-Proliferation Treaty held in New York in January 1995. See: United States Mission to the United Nations, "Statement by Ambassador Thomas Graham, Jr., Head of the United States Delegation to the Fourth Meeting of the Preparatory Committee for the 1995 Conference of the Parties to the Treaty on Nonproliferation of Nuclear Weapons," Press Release USUN #12-(95), New York, 24 January 1995.

5.President Clinton reiterated a commitment to keeping nuclear weapons in his July 1994 "National Security Strategy," where he says, "we will continue to maintain nuclear forces of sufficient size and capability." The White House, "A National Security Strategy of Engagement and Enlargement," July 1994, p. 12.

6.Les Aspin, U.S. Secretary of Defense, "Annual Report to the President and the Congress," January 1994, pp. 61, 63 (hereafter referred to as Aspin 1994, op. cit.,...).

A National Security Council (NSC) memorandum from February 1994 on "Agreed Definitions" defines proliferation as "the spread of nuclear, biological, or chemical weapons and the missiles used to deliver them." The NSC's definition reportedly does not include other platforms that can deliver weapons of mass destruction, such as advanced aircraft. See: Zachary S. Davis and Mitchell Reiss, "U.S. Counterproliferation Doctrine: Issues for Congress," 94-734 ENR, Congressional Research Service, Washington, D.C., 21 September 1994, pp. 8, 9 (footnote 7) (hereafter referred to as Davis 1994, op. cit.,...).

7.Paul R. S. Gebhard, Director for Policy Planning and Regional Strategies in the Office of Counter-proliferation Policy, Office of the Secretary of Defense, "Not by Diplomacy or Defense Alone: The Role of Regional Security Strategies in U.S. Proliferation Policy," *The Washington Quarterly*, Winter 1994, p. 170.

8.Aspin 1994, op. cit., p. 35.

9.The Single Integrated Operational Plan (SIOP), the U.S. nuclear war plan, has been revised considerably since the late 1980s, and the number of targets reduced from 10,000 to around 5,000. For descriptions of SIOP changes see: Richard Halloran, "U.S. Revises Its War Plan For New Age," *The New York Times*, 2 November 1988, p. A7; Dick Cheney, U.S. Secretary of Defense, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearing on Department of Defense Appropriations For Fiscal Year 1991, Part 1, National Security, 101st Cong., 2nd sess., 12 June 1990, p. 340; Patrick E. Tyler, "Air Force Reviews 'Doomsday' Plan," *The Washington Post*, 11 July 1990, p. A17; R. Jeffrey Smith, "U.S. Expected to Reduce Number of Nuclear Targets," *The Washington Post*, 19 April 1991, p. A17; R. Jeffrey Smith, "U.S. Trims List of Targets in Soviet Union," *The Washington Post*, 21 July 1991, p. A1; George Perkovich, "Counting the Costs of the Arms Race," *Foreign Policy*, Winter 1991-92, pp. 83-105; William M. Arkin, "How Much Isn't Enough?," Greenpeace International, Draft Paper Prepared for the Center for Strategic and International Studies Study "Nuclear Weapons After the Cold War," 17 September 1992, pp. 5-7.

10.John Deutch, U.S. Deputy Secretary of Defense, written answer in response to question submitted by Senator Strom Thurmond, in U.S. Congress, Senate, Committee on Armed Services, "Briefing on Results of the Nuclear

Posture Review," 103rd Cong., 2nd sess., 22 September 1994, p. 56. Emphasis added. Deutch's answer to the question for the record was not received in time for printing in the hearing but is retained in committee files.

At the news conference announcing the Nuclear Posture Review, Deutch specifically linked nuclear weapons to counter-proliferation: "In arriving at our nuclear posture, we had many different considerations. Some of them quite qualitative, like counter-proliferation -- the declaratory policy we might have with respect to the use of nuclear weapons." Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), "Defense Department Briefing With Secretary of Defense William Perry, General John Shalikashvili, Chairman, Joint Chiefs of Staff, and Deputy Secretary of Defense John Deutch at the Pentagon on the Nuclear Posture Review, September 22, 1994," News Release No. 546-94, Washington, D.C., 22 September 1994, p. 6 (hereafter referred to as Deutch 1994, op. cit.,...).

11.The doctrine to use nuclear weapons to counter the acquisition or use of nuclear weapons by Third World proliferators is not thought to be a part of, but exist in tandem with, the formal U.S. counter-proliferation program. The formal program is widely understood to provide only *non-nuclear* responses to hostile use of weapons of mass destruction (WMD) in regional conflicts.

Nonetheless, references to nuclear weapons in counter-proliferation roles, such as "deter WMD acquisition or use," were featured prominently in the Defense Department's presentation of the Nuclear Posture Review to Congress in September 1994. Interestingly, several non-strategic nuclear weapons missions in support of the nonproliferation regime were deleted from the public record. John Deutch, U.S. Deputy Secretary of Defense, U.S. Congress, Senate, Committee on Armed Services, "Briefing on Results of the Nuclear Posture Review," 103rd Cong., 2nd sess., 22 September 1994, pp. 9 (chart), 10 (chart), 16 (chart), 17 (chart).

U.S. anti-proliferation terminology entails two overall definitions: counterproliferation and nonproliferation. These terms were defined in a February 1994 National Security Council memorandum on "Agreed Definitions:"

Counterproliferation: the activities of the Defense Department across the full range of U.S. efforts to combat proliferation, including diplomacy, arms control, export controls, and intelligence collection and analysis, with particular responsibility for assuring U.S. forces and interests can be protected should they confront an adversary armed with weapons of mass destruction.

Nonproliferation: the use of the full range of political, economic and military tools to prevent proliferation, reverse it diplomatically or protect our interests against an opponent armed with weapons of mass destruction or missiles, should that prove necessary. Nonproliferation tools include: intelligence analysis, global nonproliferation norms and agreements, diplomacy, export controls, security assurances, defenses, and the application of military force.

The distinction is not very clear, but counterproliferation policy appears subordinate to, and not distinct from, nonproliferation policy. Both definitions mention a broad spectrum of policies and instruments to prevent the spread of "weapons of mass destruction." Davis 1994, op. cit., pp. 8, 9.

12.As a result of bilateral agreements, the United States, Russia, and Britain are currently not targeting their strategic nuclear missiles at each other. The agreements entered into force on 30 May 1994. The U.S. says that its strategic missiles are "no longer targeted against any country" "on a day-to-day basis." Specifically, "ICBMs will continue to be targeted on broad ocean areas, but will remain manned and on alert day-to-day. SSBNs will not be targeted at any country." See: "UK, Russia agree to end targeting," *Jane's Defence Weekly*, 26 February 1994, p. 6; Department of Defense, Office of Assistant Secretary of Defense (Public Affairs), "DOD Review Recommends Reduction in Nuclear Force," News Release No. 541-94, 22 September 1994, p. 2; John Deutch, U.S. Deputy Secretary of Defense, "Testimony before the House Foreign Affairs Committee on US Policy on Nuclear Weapons," 5 October 1994, pp. 2, 3, 6.

Deployed missiles, however, can quickly be retargeted. The Commander-in-Chief of the Strategic

Command says that his personnel "retain the ability to rapidly retarget our forces if so directed by the President." Admiral Henry G. Chiles, Jr., Command-in-Chief, Strategic Command, "Statement before the Senate Armed Services Committee," 20 April 1994, p. 4.

The head of Russian Strategic Missile Forces, Colonel General Igor Sergeyev, told *Nezavisimaya Gazeta* in December 1994, that the nontargeting regime is "implemented in the form of combat duty carried on according to a plan whereby intercontinental ballistic missiles have 'zero' flight missions, i.e., they are not targeted anywhere. At the same time, the combat readiness of the Strategic Missile Forces is maintained, and they are still capable of accomplishing combat tasks when corresponding orders are issued." "Commander Discusses Strategic Missile Force," *Nezavisimaya Gazeta*, 15 December 1994, pp. 1, 3 (translated in FBIS-SOV-94-242, 16 December 1994, p. 29).

In February 1995, U.S. Defense Secretary William Perry was asked whether he thought China currently targets the United States with its long-range missiles. Perry responded that, "I am not really sure what I can say in that category. I do not believe there is a current threat from Chinese missiles." Barbara Starr, "The Jane's Interview," *Jane's Defence Weekly*, 18 February 1995, p. 56.

13.Joint Chiefs of Staff, "1990 Joint Military Net Assessment," Washington, D.C., March 1990, pp. VI-1, VI-7.

14.General John T. Chain, Jr., Command-in-Chief, Strategic Air Command and Director of Strategic Target Planning, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearings on Department of Defense Appropriations For Fiscal Year 1991, Part 2, 101st Cong., 2nd sess., 3 May 1990, p. 384. Emphasis added.

15.Dick Cheney, U.S. Secretary of Defense, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearing on Department of Defense Appropriations For Fiscal Year 1991, Part 1, National Security, 101st Cong., 2nd sess., 12 June 1990, p. 304.

16.Dick Cheney, U.S. Secretary of Defense, "Annual Report to the President and the Congress," Washington, D.C., January 1991, pp. 58, 60.

17.William M. Arkin, "Agnosticism When Real Values Are Needed: Nuclear Policy in the Clinton Administration," *F.A.S Public Interest Report*, September/October 1994, p. 7 (hereafter referred to as Arkin 1994, op. cit.,...).

18.Joint Chiefs of Staff, "1991 Joint Military Assessment," Washington, D.C., March 1991, pp. 2-8, 6-1, 7-1 (box), 7-2 (hereafter referred to as JCS 1991, op.cit.,...).

19.JCS 1991, op. cit., pp. 7-1 (box), 11-12.

20."The Role of Nuclear Weapons in the New World Order," Briefing by Thomas C. Reed, former Secretary of the Air Force, and Chairman of the Joint Strategic Target Planning Staff (JSTPS) Deterrence Study Group to General Lee Butler, Commander, Strategic Air Command, 10 October 1991; as cited in William M. Arkin, "Nuclear Junkies," *Bulletin of the Atomic Scientists*, July/August 1993, p. 24 (hereafter referred to as Arkin 1993, op. cit.,...). See also, Thomas Reed and Michael O. Wheeler, "The Role of Nuclear Weapons in the New World Order," Draft Report, undated (October 1991); Arkin 1994, op. cit., p. 7.

21."The Role of Nuclear Weapons in the New World Order," Briefing by Thomas C. Reed, Chairman of the Joint Strategic Target Planning Staff (JSTPS/SAG) Deterrence Study Group, 10 October 1991; as cited in William M. Arkin, "Nuclear Weapons Policy-Making for the Third World," Greenpeace, unpublished chronology, p. 1.

22.William Matthews, *Air Force Times*, 20 January 1992; as cited in William M. Arkin, "Nuclear Weapons Policy-Making for the Third World," Greenpeace, unpublished chronology, p. 3.

The published version only recommended the U.S. nuclear posture should be "supported by a new planning structure for the SIOP, and a new set of integrated plans.... The new plan should adapt to emerging

realities, and pay even more attention to escalation control in the emerging world." Thomas C. Reed and Michael O. Wheeler, "The Role of Nuclear Weapons in the New World Order," 13 January 1992, p. v (hereafter referred to as Reed 1992, op.cit.,...).

23.Reed 1992, op. cit., pp. 14, 16, 26.

24.Thomas C. Reed and Michael O. Wheeler, "The Role of Nuclear Weapons in the New World Order," Statement before the Senate Armed Services Committee, 23 January 1992, p. 7.

25.Dick Cheney, U.S. Secretary of Defense, "Annual Report to the President and the Congress," Washington, D.C., February 1992, p. 59.

26.Joint Chiefs of Staff, "National Military Strategy," Washington, D.C., 1992, p. 6.

27.General Lee Butler, Commander-in-Chief, Strategic Air Command, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearings on Department of Defense Appropriations for Fiscal Year 1993, Part 2, 102nd Cong., 2nd sess., 9 April 1992, p. 796.

28.John J. Welch, Jr., Assistant Secretary of the Air Force (Acquisition), and Lieutenant General John E. Jaquish, Principal Deputy Assistant Secretary (Acquisition), "Presentation to the Committee on Appropriations Subcommittee on Defense. Subject: Air Force Research, Development, Test and Evaluation," 29 April 1992, p. 4; in U.S. Congress, House, Committee on Appropriations, Subcommittee on the Department of Defense, Hearings on Department of Defense Appropriations for FY 1993, Part 6, 102nd Cong., 2nd sess., 1992, p. 318.

In response to congressional questions about why U.S. concern over accidental or unauthorized launches of nuclear weapons had not prompted the government to sign an agreement with the Commonwealth of Independent States to take most or all strategic weapons off alert, the Director of the Strategic Defense Initiative Organization, Ambassador Henry Cooper, stated: "In addition to ballistic missiles of the former Soviet Union and China, we are concerned about those that may be acquired by other countries in the future." Ambassador Henry Cooper, Director, Strategic Defense Initiative Organization, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearings on Department on Defense Appropriations For Fiscal Year 1993, Part 4, 102nd Cong., 2nd sess., 2 April 1992, p. 346.

29.Department of the Navy, Office of the Deputy Chief of Naval Operations for Plans, Policy and Operations (OP-06), Nuclear Warfare and Arms Control Division (OP-65), and Analysis Branch (OP-654), "STRATPLAN 2010," Final Report, Phase II, Volume I, June 1992, p. 21 (hereafter referred to as STRATPLAN 2010, op. cit.,....). SECRET/NOFORN. Partially declassified and released under the Freedom of Information Act.

STRATPLAN 2010 echoes the Reed Panel's doubts about the utility of the current SSBN force in the post-Cold War era. "This deterrent force alone will not be as viable against the smaller adversaries (even those nuclear-capable countries) in the new world order.... Precision, long-range non-nuclear weapons will become **more** attractive for deterrent in regional and limited-intensity conflicts because an opponent will perceive we are more likely to use them." Ibid., pp. 21, 22. Emphasis in original.

30.Joint Chiefs of Staff, "1992 Joint Military Net Assessment," Washington, D.C., August 1992, p. 2-12.

31.Planning requirements examined went well beyond the core SIOP to include items like crisis planning and non-strategic nuclear forces. General George Lee Butler, U.S. Air Force (retired), "'Reengineering' Nuclear War Planning," *Strategic Review*, Summer 1994, pp. 77, 79 (hereafter referred to as Butler 1994, op. cit.,...); Arkin 1994, op. cit., p. 6.

32.Les Aspin, U.S. Secretary of Defense, "Report on the Bottom-Up Review," Washington, D.C., October 1993, pp. iii, 6.

The regional emphasis of the Bottom-Up Review was strongly influenced by one of the Bush Administration's last defense publications, the "Regional Defense Strategy," from January 1993. The strategy also

endorsed the role of nuclear weapons for counter-proliferation purposes: "In the decade ahead, we must adopt the right combination of deterrent forces, tactical and strategic, while creating the proper balance between offense and active defense to mitigate risk from **weapons of mass destruction** and their means of delivery, whatever the source." Dick Cheney, U.S. Secretary of Defense, "Defense Strategy for the 1990s: The Regional Defense Strategy," Washington, D.C., January 1993, p. 14. Emphasis added.

33.Chairman of the Joint Chiefs of Staff, "Report on the Roles, Missions, and Functions of the Armed Forces of the United States," Washington, D.C., February 1993, p. II-2.

34.Eric Schmitt, "Head of Nuclear Forces Plans for a New World," *The New York Times*, 25 January 1993, p. B7.

35.Chairman of the Joint Chiefs of Staff, "Report on the Roles, Missions, and Functions of the Armed Forces of the United States," Washington, D.C., February 1993, p. vi.

36.General George Lee Butler, U.S. Air Force, Commander-in-Chief, Strategic Command, "Statement before the Senate Armed Services Committee," 22 April 1993, p. 3 (hereafter referred to as Butler 1993, op. cit.,...).

37.Barbara Starr, "Targeting rethink may lead to non-nuclear STRATCOM role," *Jane's Defence Weekly*, 22 May 1993, p. 19.

STRATCOM battle management assets would contribute "exquisite intelligence capability" to such a policy, including U-2, RC-135, E-4B, and E-6 aircraft. In addition, a review ordered by JCS Chairman General Colin Powell, was considering giving STRATCOM combat command of key satellite intelligence systems that could help targeting. Ibid.

38.Joint Chiefs of Staff, "Doctrine for Joint Nuclear Operations," JOINT PUB 3-12, 29 April 1993, pp. I-1, I-3 (hereafter referred to as Joint Nuclear Operations 1993, op. cit.,...). Released under the Freedom of Information Act.

39.Admiral Henry G. Chiles, Jr., Command-in-Chief, Strategic Command, "Statement before the Senate Armed Services Committee," 20 April 1994, p. 11.

STRATCOM played a central role in the Nuclear Posture Review, which endorsed the utility of nuclear weapons in counter-proliferation roles. According to Deputy Secretary of Defense John Deutch, "USSTRATCOM staff participated in all NPR working groups and supported the NPR with valuable analysis. Admiral Chiles attended all high level NPR meetings.... USSTRATCOM supports the conclusions of the NPR." John Deutch, U.S. Deputy Secretary of Defense, written answer in response to question submitted by Senator Strom Thurmond, in U.S. Congress, Senate, Committee on Armed Services, "Briefing on Results of the Nuclear Posture Review," 103rd Cong., 2nd sess., 22 September 1994, p. 57. The answer was not received in time for printing in the hearing but is retained in committee files.

40.Admiral Henry Chiles, Commander-in-Chief, Strategic Command, U.S. Congress, Senate, Committee on Armed Services, Hearings on Department of Defense Authorization for Appropriations for Fiscal Year 1995 and the Future Years Defense Program, Part 1, 103rd Cong., 2nd sess., 20 April 1994, pp. 979 and 1000-1001.

His predecessor as commander of STRATCOM said the "adaptive planning capability" will "enable planners to present to the President **within hours** viable options in response to global crises." Butler 1994, op. cit., pp. 79. Emphasis added.

41.REACT will provide, "rapid message processing, rapid re-targeting, improved launch control center hardening, and the software interface necessary to proceed with the plans for single reentry warheads." Admiral Henry Chiles, Commander-in-Chief, Strategic Command, U.S. Congress, Senate, Committee on Armed Services, Hearings on Department of Defense Authorization for Appropriations for Fiscal Year 1995 and the Future Years Defense Program, Part 1, 103rd Cong., 2nd sess., 20 April 1994, pp. 977 and 979 (hereafter referred to as Chiles

1994, op. cit.,...).

More than $2 billion are estimated to be spent on ICBMs through 2001 to upgrade the Minuteman III missiles, part of which is for the Rapid Execution and Combat Targeting project. Theresa Hitchens, "AF Reconsiders Non-Nuclear ICBM," *Defense News*, 28 November-4 December 1994, p. 24.

42.Reed 1992, op. cit., p. 33.

43.Joint Nuclear Operations 1993, op. cit., pp. II-2, III-2. Emphasis added.

44.Arkin 1993, op.cit., p. 27.

45.Butler 1993, op. cit., p. 3.

46.Chiles 1994, op. cit., pp. 979-980.

47."STRATCOM Looks to Find Niche in Counter-proliferation Plans," *Inside the Navy*, 19 December 1994, p. 14.

48.Ibid.

49.Barbara Starr, "STRATCOM sees new role in WMD targeting," *Jane's Defence Weekly*, 14 January 1995, p. 3.

50."Right On Target," *U.S. News & World Report*, 27 February 1995, p. 24.

51.Department of Defense, "Report on Naval Arms Control," April 1991, p. 8.

52.Department of the Navy, Assistant Chief of Naval Operations (Undersea Warfare), "Submarine Roles in the 1990's and Beyond," Washington, D.C., 18 January 1992, pp. 11-12.

53.STRATPLAN 2010, op. cit., pp. 18, 20.

54.Ibid., Abstract and pp. 22, 23, 72.

55.Ibid., pp. 53, 92.

56.Ibid., p. 92. See also: Ibid., Volume IIB (appendices for weapon subgroup), p. 36. Nuclear cruise missiles are also envisioned. Ibid., pp. 81, 82, 83.

57.Ibid., pp. 92-93, and Volume IIB (appendices for weapons subgroup), p. 36.

58.Ibid., p. 29.

59.Ibid., p. 93.

While favoring low-yield warheads, STRATPLAN 2010 also describe future designs with selective yields ranging from 10 tons to as much a 1 megaton, depending on mission. Ibid.

60.Ibid., Volume IIB (appendices for weapon subgroup), chart, p. 35. Both of these warheads are listed as having a diameter of 11 inches.

61.EPWs were the Navy choice when asked by the Office of the Secretary of Defense in December 1993 to nominate which weapons could be used in counter-proliferation missions to attack buried targets. Cruise missiles and SLBMs were suggested delivery platforms. The Tomahawk baseline improvement program already includes plans to develop a hard-target conventional warhead that would have deep penetrating abilities. This option is included in the Tomahawk's operational requirements document. The Navy also has conducted preliminary tests using a conventional Trident missiles with an earth penetrating warhead. "Pentagon draws up plan to fund programs to defeat buried targets," *Inside the Navy*, 12 December 1994, p. 7.

According to STRATPLAN 2010, "EPW designs can threaten the entire range of deeply buried targets, (but) there are some uncertainties in EPW effectiveness due to the target environments and geologies." Moreover,

"many deeply buried targets can be destroyed with the high yield warhead using a surface burst or near-surface burst fuzing option." Department of the Navy, Chief of Naval Operations, "STRATPLAN 2010: Long-Range Planning for Navy Strategic Forces," Strategic & Theater Nuclear Warfare Division (OP-65), (Phase I), late 1989, pp. 6-9, 6-13. Partially declassified and released under the Freedom of Information Act.

62.The concept of using nuclear weapons to destroy incoming weapons was also analyzed by the Department of Energy in FY 1993. The nuclear weapons research and development section of the DOE's "FY 1995 Congressional Budget Request" contained the language: "Investigated required characteristics of interference with potential terrorist nuclear devices. Showed with neutron-gamma Monte Carlo computations that very low-yield nuclear theater missile defense interceptors can effectively neutralize chemical, biological, or booby-trapped nuclear warheads; currently non-nuclear interceptors are inadequately effective against such threats." Department of Energy, "FY 1995 Congressional Budget Request: Atomic Energy Defense Activities," February 1994, Volume 1, pp. 39-40 (hereafter referred to as DOE FY 1995, op. cit.,...).

63.Department of the Navy, "1993 Posture Statement," Washington, D.C., March 1993, p. 8.

64.Admiral John T. Mitchell, U.S. Navy, Director, Strategic Systems Program Office, in U.S. Congress, Senate, Committee on Armed Services, Hearings on Department of Defense Authorization for Appropriations for Fiscal Year 1994 and the Future Years Defense Program, Part 7: Nuclear Deterrence, Arms Control and Defense Intelligence, 103rd Cong., 1st sess., 11 May 1993, p. 17.

65.Arkin 1993, op. cit., p. 24.

66.Ibid.

67.Ruth Sinai, "Mini-Nukes," *Associated Press* (Washington), 16 June 1993; Arkin 1993, op. cit., p. 24.

68.Reed 1992, op. cit., p. 34.

69.Thomas W. Dowler and Joseph S. Howard II, "Countering the Threat of the Well-Armed Tyrant: A modest Proposal for Small Nuclear Weapons," *Strategic Review*, Fall 1991, pp. 34-40.

70.Arkin 1993, op. cit., p. 27.

71.John Nuckolls, Director, Lawrence Livermore National Laboratory, "A Legacy of Achievement, An Agenda for Shaping the Future," *Preparing for the 21st Century: 40 Years of Excellence*, Department of Energy and University of California, UCRL-AR-108618, n.d. (late 1992), p. 164.

In addition, the Department of Defense was reported in early 1993 to be developing **non-nuclear** electromagnetic pulse warheads, some of which were being fitted on the Air Force's AGM-86 air-launched cruise missiles. David A. Fulghum, "ALCMs Given Nonlethal Role," *Aviation Week & Space Technology*, 22 February 1993, p. 20.

72.George Miller, Associate Director for Defense Systems and Nuclear Design, Lawrence Livermore National Laboratory, "Interview", *Preparing for the 21st Century: 40 Years of Excellence*, Department of Energy and University of California, UCRL-AR-108618, n.d. (late 1992), p. 32.

73.DOE FY 1995, op. cit., p. 39.

74.Joint Nuclear Operations 1993, op. cit., p. I-3.

75.Arkin 1993, op. cit., p. 23.

The Department of Energy work for FY 1994 involved maintenance of 11 different nuclear warhead types, including, "upgrade [of] the electronics of the B83 strategic bomb." Moreover, even through ground-launched cruise missiles have been destroyed under the Intermediate-range Nuclear Forces (INF) treaty, the W84 warheads are being held in "inactive reserve." U.S. Congress, Joint Committee Print, "Fiscal Year 1994 Arms Control Impact Statements," Statements Submitted to the Congress by the President Pursuant to Section 36 of the Arms Control and

Disarmament Act, 103rd Cong., 1st sess., Washington, D.C., September 1993, p. 42.

76.U.S. Congress, House, FY 1994 Defense Authorization bill, Section 3136, "Prohibition on Research and Development of Low-Yield Nuclear Weapons," *Congressional Record*, 10 November 1993, p. H.9304. See also: Keith Easthouse, "Panel Stops Work on Nukes," *The New Mexican*, November 1993; William M. Arkin and Robert S. Norris, "Tinynukes For Mini Minds," *Bulletin of the Atomic Scientists*, April 1992, pp. 24-25; Arkin 1993, op. cit., pp. 22-27.

The law, however, did not forbid research and development of a testing device with a yield of less than five kilotons. It also allowed further research on mini-nukes for defensive counter-proliferation purposes, so that the United States, if necessary, could "understand other's activities, including potential terrorist threats." In addition, such research was seen to be helpful for export control purposes and the potential damage from these types of weapons. Also, it permitted work directed toward "modifying" an existing weapon for the purpose of addressing safety and reliability concerns. U.S. Congress, National Defense Authorization Act for Fiscal Year 1994, Conference Report to Accompany H.R. 2401, House of Representatives, Report 103-357, 10 November 1993, pp. 840-841.

77.Department of Defense, Office of Assistant Secretary of Defense (Public Affairs), "DOD Review Recommends Reduction in Nuclear Force," News Release No. 541-94, 22 September 1994, p. 4.

78.Department of Energy, "FY 1996 Congressional Budget Request -- Atomic Energy Defense Activities," February 1995, Volume 1, p. 39 (hereafter referred to as DOE FY 1996, op. cit.,...); Dr. Victor H. Reis, Assistant Secretary for Defense Programs, Department of Energy, prepared statement in U.S. Congress, House, Committee on Appropriations, Subcommittee on Energy and Water Development, Hearings on Energy and Water Development Appropriations for 1995, Part 6, 103rd Cong., 2nd. sess., 15 March 1994, p. 494.

The Navy replacement warhead study is intended "to identify and quantify technical alternatives to the Mk4/W76 and Mk5/W88 reentry systems" on the submarine-launched ballistic missiles (SLBM) "because of the expected long stockpile lifetime for SLBM warheads." As of March 1994 the work was "essentially complete" with further decision awaiting a final Navy briefing to the Nuclear Weapons Council Standing Committee. Ibid.

Los Alamos plans to produce 20 nuclear warheads over the next two years, one of which would enter active service. The plan is driven mainly by the Navy's limited inventory of W88 warheads on Trident submarines. Beginning in 1997, Los Alamos will build one or two of the plutonium cores per year for the Navy. In the future, Assistant Secretary of Energy Victor Reis told a Los Alamos audience in February 1995, reproduction of aging nuclear warheads would be "in the hundreds." John Fleck, "Los Alamos Back to Bomb-Making Roots," *Albuquerque Journal*, 14 February 1995, p. 1.

79.John Flek, "N.M. Labs Help Plan New Nukes," *Albuquerque Journal*, 19 March 1994, p. A1.

Sandia is preparing to begin manufacturing neutron generators for U.S. nuclear weapons later in this decade. John Fleck, "Los Alamos Back to Bomb-Making Roots," *Albuquerque Journal*, 14 February 1995, p. 3.

80.Deutch 1994, op. cit., p. 9.

81.John Flek, "N.M. Labs Help Plan New Nukes," *Albuquerque Journal*, 19 March 1994, p. A6; Jonathan Weisman, "Lab Studying Electronic Killer," *Tri-Valley Herald*, 2 April 1994, p. A-1.

82.DOE FY 1996, op. cit., pp. 50, 51, 53, 74.

83.Admiral Bernard Louzeau, Chief of Staff of the French Navy, "Carrier Groups In French Strategy," *NATO's Sixteen Nations*, September 1990, pp. 40, 44.

84.Douglas Hamilton, "Major shift possible in French nuclear strategy," *Reuter* (Paris), 17 October 1990.

85.David S. Yost, "Nuclear Debates in France," *Survival*, Winter 1994-95, p. 121 (hereafter referred to as Yost 1994, op. cit.,...).

See also Dominique Garraud, "Mitterrand: 'After Me, No More Nuclear Tests," *Libération*, 6 May 1994, p. 6 (translated in JPRS-TND-94-012, 7 June 1994, p. 38).

86."Mitterrand orders nuclear strategy revamp by year's end," *Reuter* (Paris), 19 October 1990.

87.Yost 1994, op. cit., pp. 119-120.

88.Xavier de Villepin, et al., "Rapport (...) sur quelques enseignements immédiats de la crise du Golfe quant aux exigences nouvelles en matière de défense [Report on some immediate lessons to be learned from the Gulf crisis on new defense demands]," French Senate Report 303, 25 April 1991, p. 15. Unofficial translation by Ben Cramer, Greenpeace France.

89."Mr. Baumel Asks That France Move To Doctrine of Use for Nuclear Weapons," *Le Monde*, 6 November 1993, p. 12 (translated in JPRS-TND-93-037, 8 December 1993, p. 51).

90.Yost 1994, op. cit., p. 120.

91.Robert S. Norris, et al., *Nuclear Weapons Databook Volume 5: British, French, and Chinese Nuclear Weapons* (Boulder, CO.: Westview Press, 1994), p. 224 (hereafter referred to as Norris 1994, op. cit.,...).

92.Jacques Chirac, "Proliferation, Non-proliferation, Deterrence," *Politique Internationale*, No. 56, Summer 1992, pp. 9-34.

93.Pierre Bérégovoy, Prime Minister, speech at the Institut des Hautes Études de Défense Nationale, 3 September 1992. See: French Foreign Ministry's *Bulletin d'Information*, 7 September 1992, p. 6. Emphasis added. Unofficial translation by Ben Cramer, Greenpeace France.

94.Yost 1994, op. cit., p. 120.

95.Norris 1994, op. cit., p. 224, footnote 2.

French SSBNs leaving on patrol reportedly carry a pre-programmed list of targets, which cannot be modified before the submarines return to port. Jean-Louis Promé, "A New Era for the 'Force de Frappe'," *Military Technology*, September 1992, p. 47.

96.Spending on nuclear programs started to decline in 1990, and has dropped from 31.5 billion francs ($5.34 billion) in 1990 to 21.7 billion francs ($3.7 billion) in 1994, according to a report issued in October 1993 by the General Assembly's Defense Committee; Giovanni de Briganti, "French Seek Improved Power Projection," *Defense News*, 7 February 1994, p. 45.

97.Yost 1994, op. cit., p. 120.

98.Ibid.

99.Ibid. See also: Dominique Garraud, "Nuclear Weapons: The Strategic Quarrel Behind the Tests," *Liberation*, 29 October 1993, p. 8 (translated in JPRS-TND-93-036, 17 November 1993, p. 32).

100.Dominique Garraud, "Nuclear Weapons: The Strategic Quarrel Behind the Tests," *Liberation*, 29 October 1993, p. 8 (translated in JPRS-TND-93-036, 17 November 1993, p. 32).

101."Mr. Baumel Asks That France Move To Doctrine of Use for Nuclear Weapons," *Le Monde*, 6 November 1993, p. 12 (translated in JPRS-TND-93-037, 8 December 1993, p. 51).

102.Yost 1994, op. cit., p. 120.

103."Mr. Chirac: 'European Defense Must Be Created," *Le Monde*, 19 June 1991, p. 8 (translated in JPRS-TND-91-010, 10 July 1991, p. 21).

104.Yost 1994, op. cit., p. 121.

105.Jacques Isnard, "Presented by Francois Leotard, the Defense White Paper Contains Six 'Crisis Scenarios',"

Le Monde 24 November 1993, p. 26 (translated in JPRS-TND-03-038, 22 December 1993, p. 61).

106.Ministry of Defense, "Livre Blanc sur la Défense [Defense White Paper]," Paris, Service d'Information et de Relations Publiques des Armées (Armed Forces Public Affairs Office), February 1994, pp. 57, 70, 72, 89, 91. Unofficial translation by Ben Cramer, Greenpeace France.

107.See: Mr. De Decker, et al., "The role and future of nuclear weapons," Assembly of Western European Union, Defense Committee, 40th Ordinary Session, Document 1420, Paris, 19 May 1994, pp. 25-26. Emphasis added.

108.Giovanni de Briganti, "French Seek Improved Power Projection," *Defense News*, 7 February 1994, p. 45.

109.Jacques Baumel, on behalf of the Committee on National Defense and the Armed Services, report no. 1563 to the National Assembly on the 1995 defense budget, 4 October 1994, p. 39. Unofficial translation by Ben Cramer, Greenpeace France.

110.Marc Dufresse, "Mitterrand Abandons Final Warning," *Le Quotidien de Paris*, 13-14 June 1992, p. 1 (translated in JPRS-TND-92-022, 10 July 1992, p. 27).

111.See for example "ASMP role for Rafale," *Jane's Defence Weekly*, 24 March 1990, p. 535; William M. Arkin and Robert S. Norris, "Lesser Nuclear Powers: France," *Bulletin of the Atomic Scientists*, December 1990, p. 57; "ASLP shapes up," *Jane's Defence Weekly*, 22 June 1991, p. 1082.

112.Jean-Louis Promé, "A New Era for the 'Force de Frappe'," *Military Technology*, September 1992, pp. 46, 47, and 49 footnote 4.

The aircraft carrier *Foch* has been upgraded to carry the nuclear ASLP air-launched cruise missile, a capability it will share with the new nuclear-powered aircraft carrier *Charles de Gaulle*.

Today, only the French Navy is known to not have withdrawn its tactical nuclear weapons from its vessels. In a little noticed comment in the 1994 U.S. naval intelligence posture statement, the Office of Naval Intelligence stated: "Both U.S. and Royal Navy tactical nuclear weapons were withdrawn in 1992-93. **French weapons were not**." U.S. Navy, Office of Naval Intelligence, "DNI Posture Statement 1994," p. 11. Emphasis added.

113.Norris 1994, op. cit., pp. 224, 299.

However, apart from potentially increasing the operational patrol range beyond the North Atlantic Ocean and Mediterranean Sea by equipping the submarines with longer range M5 missiles, the French navy is constrained by its inability to transfer launch-orders as far as to the Indian Ocean.

114."UK Policy on Weapons Proliferation And Control in The Post-Cold War Era," Foreign Affairs Committee, House of Commons, Session 1993-94, Minutes of Evidence, London: HMSO, 6 July 1994, p. 1.

115.Malcolm Rifkind, Secretary of State for Defence, "UK Defence Strategy; A Continuing Role for Nuclear Weapons?," Ministry of Defense, 16 November 1993, pp. 1-2 (hereafter referred to as Rifkind 1993, op. cit.,...).

116.Ibid., pp. 9-10, 11, 12.

117.Ibid., pp. 9, 10.

118.Malcolm Rifkind, Secretary of State for Defence, "Statement on the Defence Estimates 1994," House of Commons, London: HMSO, April 1994, pp. 19, 20. Emphasis added.

119.Nick Cook, "The fight begins for the few," *Jane's Defence Weekly*, 5 September 1992, p. 52.

120.See Nick Cook, "RN probes tactical role for Trident," *Jane's Defence Weekly*, 9 May 1992, p. 789; "Charles Bickers, "UK nuclear options widen as gravity bombs soldier on," *Jane's Defence Weekly*, 6 March 1993, p. 17; "UK scraps TASM missile option," *Jane's Defence Weekly*, 23 October 1993, p. 5; Charles Bickers, "UK beginning work on sub-strategic Trident," *Jane's Defence Weekly*, 26 March 1994, p. 12; "WE177 to remain in UK

service until 2007," *Jane's Defence Weekly*, 26 March 1994, p. 15.

121.Norris 1994, op. cit., p. 132.

122.Charles Miller, "Plans for RAF's New Nuclear Missile Axed," *Press Association* (London), 18 October 1993 (reprinted in JPRS-TAC-93-020, 1 November 1993, pp. 44-45).

123.Ibid., p. 44.

124.House of Commons, "UK Policy On Weapons Proliferation And Control In The Post-Cold War Era," Foreign Affairs Committee, Session 1993-94, Minutes of Evidence, (London: HMSO), 6 July 1994, p. 27.

125.John D. Holum, Director of the U.S. Arms Control And Disarmament Agency, testified before the Senate Foreign Relations Committee on 31 January 1995, that under NPT's Article VI, "the nuclear weapons states promise measures to reduce and **eliminate** their nuclear arsenals." John D. Holum, Director of the U.S. Arms Control And Disarmament Agency, "Statement before the Senate Foreign Relations Committee on the Second Strategic Arms Reduction Treaty," 31 January 1995, p. 8. Emphasis added.

For a legal analysis of Article VI obligations, see: George Bunn, et al., "Nuclear Disarmament: How Much Have the Five Nuclear Powers Promised in the Non-Proliferation Treaty?," The Lawyers Alliance for World Security, Washington, D.C., June 1994, pp. 2-15.

126.Barry M. Blechman and Cathleen S. Fisher, "Phase out the Bomb," *Foreign Policy*, Winter 1994-95, pp. 79-95. See also: General Andrew J. Goodpaster (retired), "Beyond the Nuclear Peril: The Year in Review and the Years Ahead," The Henry L. Stimson Center, Report No. 15, January 1995; Selig S. Harrison, "Zero Nuclear Weapons. Zero," *The New York Times*, 15 February 1995.

127.John Diamond, "Air Force General Calls For End to Atomic Arms," *Boston Globe* (AP), 16 July 1994, p. 3.

128.Ibid.

129.Ambassador Thomas Graham, Jr., Director, U.S. Arms Control and Disarmament Agency, "Statement Given to the Third Meeting of the Preparatory Committee For the 1995 Conference of the Parties to the Treaty On the Nonproliferation of Nuclear Weapons," 13 September 1994, p. 2. Emphasis in original.

130."Text of Joint Statement," *India News*, Vol. 33, No. 11, (Washington, D.C.: Indian Embassy), 1 June 1994, p. 15.

This Joint Statement apparently is now only available from the Embassy of India, since neither the White House nor the State Department were able to locate it when repeatedly asked to provide the authors with the official document in January-February 1995.

131."Laboratory Could Play Key Role in Proposed Counter-proliferation Initiative," *Los Alamos News Bulletin*, 17 June 1994.

132.The earlier bombing of the Iraqi reactors by Israel was widely condemned.

133.For example, the U.S. Defense Nuclear Agency (DNA) has been assigned as "the executive agency for the Assistant Secretary of Defense (Atomic Energy) in support of," the Defense Department's counter-proliferation strategy. Yet, at the same time, the DNA "manages the U.S. nuclear stockpile, ensuring its reliability, safety, and security by conducting training, custody inspections, and applications and research and analysis;" Department of Defense, Office of the Deputy Secretary of Defense, "Report on Nonproliferation and Counter-proliferation Activities and Programs," May 1994, p. 13.

In addition to maintaining nuclear weapons, DNA's new role is to provide "critical support to the [Department of Defense's] new counter-proliferation initiative by focusing technologies in the areas of military response options. The program seeks to provide discriminate, optimized lethality against counter-proliferation targets while minimizing collateral effects. Specifically, DNA's program emphasizes hard target kill capability,

collateral effects research, targeting technical support and methodology development, and chemical weapons/biological weapon agent defense research and proliferation path assessments." Ibid.

Not surprisingly, in 1994, one DNA official recommended the use of "an earth-penetrating, sub-kiloton weapon delivered with exceptional accuracy (base on global positioning system guidance)...against 'hardened' deeply buried tunnels and facilities" in proliferating countries. Such a weapon would "enhance deterrence and possibly warfighting utilization against aggression from nations led by rational or irrational regimes." Col. Emmett E. Stobbs, Jr., Defense Nuclear Agency/DFSP, "Tactical Nuclear Weapons: Do They Have a Role in U.S. Military Strategy?," *Comparative Strategy*, Vol. 13, London, 1994, pp. 204-205.

134.Department of Defense, Office of the Deputy Secretary of Defense, "Report on Nonproliferation and Counter-proliferation Activities and Programs," May 1994.

135.U.S. Arms Control and Disarmament Agency (ACDA), *Arms Control And Disarmament Agreements: Texts And Histories of Negotiations* (Washington, D.C.: ACDA, 1982), pp. 86, 87.

136.Cited in William M. Arkin, "Nuclear Agnosticism When Real Values Are Needed," manuscript for the September/October Federation of American Scientists Public Interest Report, footnote 42.

137."We have of cause given, in common with the other nuclear weapons states," Secretary of State for Defence Malcolm Rifkind said in November 1993, "a negative assurance which precludes our using, or threatening to use, nuclear weapons against any state which is a party to the NPT or similar internationally binding non-proliferation commitments and which is not itself a nuclear weapon state or in alliance with one." Rifkind 1993, op. cit., p. 10.

138.Barbara Starr, "Counter-proliferation is 'Too Militaristic'," *Jane's Defence Weekly*, 26 November 1994, p. 3.

Deputy Minister for Foreign Affairs Georgi Mamedov, also expressed particular concern about wide-scale U.S. development of anti-ballistic missile systems under the counter-proliferation program, saying "implementation of the counter-proliferation idea will inevitably result in a new spiral in the world arms race and affect present strategic stability." Ibid.

139.General Colin Powell, Chairman, U.S. Joint Chiefs of Staff, in U.S. Congress, Senate, Committee on Appropriations, Defense Subcommittee, Hearings on Department of Defense Appropriations For Fiscal Year 1993, Part 4, Appendix: Submitted Questions and Answers, 102nd Cong., 2nd sess., 27 February 1992, p. 55.

140.Deutch 1994, op. cit., p. 16.

141.John Deutch, Deputy Secretary of Defense, Statement before the House Foreign Affairs Committee, 5 October 1994, Federal News Service Transcript, pp. 13, 15.

142.Ibid., p. 8.

143."Towards Zero Alert: Operation Path to Nuclear Safety," presentation made by Bruce Blair, strategic analyst at Brookings Institution, at the Panel on Non-Obvious Costs of Nuclear Weapons, as part of the session on International Security, Proliferation, and Weapons of Mass Destruction, at the American Association for the Advancement of Science annual conference, Atlanta, Georgia, 16-21 February 1995.

144.John Flek, "N.M. Labs Help Plan New Nukes," *Albuquerque Journal*, 19 March 1994, p. A6; Jonathan Weisman, "Lab Studying Electronic Killer," *Tri-Valley Herald*, 2 April 1994, p. A-1.

145.Interview with Army General Pavel Grachev, Minister of Defense, in *Nezavisimaya Gazeta*, 9 June 1994 (translated in FBIS-SOV-94-112, 10 June 1994, p. 22).

146.Interview with Colonel General Igor Sergeyev by Ilshat Baychursin, "Russia's Nuclear Missiles Are Not Targeted Anywhere. But the Strategic Missile Forces Are on Combat Duty," *Nezavisimaya Gazeta*, 15 December 1994, (translated in FBIS-SOV-94-242, 16 December 1994, p. 29).